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DEEP SEABED HARD MINERALS ACT

GOVERNMENT

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JOINT HEARINGS

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BEFORE THE

COMMITTEE ON COMMERCE

COMMITTEE ON FOREIGN RELATIONS

AND THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

NINETY-FOURTH CONGRESS

SECOND SESSION

ON

S. 713

TO PROVIDE THE SECRETARY OF THE INTERIOR WITH
AUTHORITY TO PROMOTE THE CONSERVATION AND
ORDERLY DEVELOPMENT OF THE HARD MINERAL RE-
SOURCES OF THE DEEP SEABED, PENDING ADOPTION OF
AN INTERNATIONAL REGIME THEREFOR

MAY 17 AND 19, 1976

Serial No. 94-85

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DEEP SEABED HARD MINERALS ACT

MONDAY, MAY 17, 1976

U.S. SENATE,
COMMITTEE ON COMMERCE;
COMMITTEE ON FOREIGN RELATIONS;
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The committees met jointly at 10 a.m., pursuant to notice, in room 5110, Dirksen Senate Office Building, Hon. Ernest F. Hollings presiding.

OPENING STATEMENT BY SENATOR HOLLINGS

Senator HOLLINGS. The hearing will please come to order.

This is a hearing jointly sponsored by the Senate Committees on Armed Services, Commerce, and Foreign Relations. The subject of these hearings is S. 713, the Deep Seabed Hard Minerals Act, which has been favorably reported by the Interior Committee and was then referred to the three committees until June 2, 1976. Hearings on this bill today and on Wednesday are intended to provide our committees with information regarding the need for this legislation.

The U.N. Law of the Sea Conference has just concluded yet another session and I am told plans its fifth session since 1974 in New York this summer. By most indications there will be more sessions of the Conference next year. What this means, of course, is that the dire prediction of our negotiators that the entire Conference would collapse upon passage of Senator Magnuson's 200-mile fishery legislation has not come true. In fact, I fully expect to hear from our negotiators today that progress has been made and a treaty is in sight. All well and good, but meanwhile Congress must continue to consider legislation which may further and protect this Nation's ocean interests. That is why we are here this morning.

Some of our more aggressive mining entrepreneurs are now on the threshold of investing in expensive, large-scale ocean mining equipment. But they are deeply concerned about the implications of any new law of the sea treaty. The deep seabed issues remain the most contentious at the Conference and will need the most time to resolve. But our Nation's need for the strategic materials contained in manganese nodules continues to intensify. Since the United States has a substantial lead in ocean mining technology, this Nation has a major interest in the future of this industry. Just how long can we wait for a resolution of the seemingly never-ending debate over the deep seabed?

Staff members assigned to these hearings: Deborah Stirling and Gerald J. Kovach.

S. 713 presents us with many important questions of national ocean policy, both domestic and international in nature. Just what are the implications for a law of the sea treaty if this bill is passed? Is this legislation really necessary? If a bill is deemed necessary, what are the provisions which should be included in it?

On the domestic side, what sort of investment protection is either necessary or workable? Should we apply land-oriented mining policies to operations on the high seas? What about tax laws, including the celebrated depletion allowance—should deep sea miners be accorded their benefits? Which agency of the Federal Government should handle questions of policy raised by deep sea mining? What about the marine environment, will it be protected?

These are a few of the questions we will be exploring in these hearings. I can say that the Senate Commerce Committee has an open mind on this question. We are very pleased this morning to join with our colleagues from the Foreign Relations Committee, Senators Pell and Percy, and I think we have at least some observer members of the staff from the Armed Service Committee.

I yield now to Senator Pell if you have any opening comments.

OPENING STATEMENT BY SENATOR PELL

Senator PELL. Thank you, Mr. Chairman.

The bill before us is an opposite number perhaps to the 200-mile fishery limit which went through at an earlier date. The problems involved here are different, however. We do not have the same problem we faced in the fisheries legislation where the fish on the east coast of the United States are being vacuumed up and disappearing as a resource. If we hold off on this bill for a little while until we reach some kind of international treaty, the nodules are not going to disappear. My hope is that we could examine this without the same sense of time pressure that we had when we were examining the fisheries bill and that we could bear in mind the excellent efforts being made by our delegation and by the administration in trying to reach some consensus and some common agreement in connection with the use of the seabed so that we can have multilateral approach when the time comes.

I think a joint hearing of this sort is a great help because it saves time for the witnesses, and we benefit by hearing the viewpoint of the other committees.

As someone who has been deeply involved in oceans issues for many years—going back to the San Francisco U.N. Conference in 1945 in fact—I have grave concerns about the proposed Deep Seabed Hard Minerals Act, particularly as it relates to the law of the sea negotiations.

Nine years ago, Arvid Pardo, the far-sighted and imaginative Ambassador of Malta at the United Nations, proposed a resumption of Law of the Sea negotiations aimed at developing a treaty for the orderly development and sharing of the riches of what he called the "common heritage of mankind". At about the same time, I drafted a suggested set of principles and a treaty to serve as guidelines for the Department of State in negotiating a treaty on ocean space. Although my idea was laughed at initially, before long it took hold, and the United

States eventually took the initiative to convene the Third U.N. Law of the Sea Conference.

The third session of this Conference took place in New York and ended on May 7, following earlier sessions in Caracas in 1974 and Geneva in 1975. Considerable progress was made during the New York session—so much, in fact, that there is a real possibility of concluding the negotiations during the next session. In striking contrast to the previous two sessions, the New York session was characterized by a broad effort to negotiate seriously and resolve differences.

One of the critical areas where progress was made was in the Committee One discussion of deep seabed issues. Major changes were made in the seabed articles of the single negotiating text in the direction of the U.S. position. Although important differences still remain, it is clear that a new spirit of moderation pervades the Conference.

It seems to me, therefore, that with the negotiations entering a promising new phase, this is not the time to enact legislation providing for unilateral action by the United States to license deep seabed mining. In my view, that would be a slap in the face to those many delegations which have come to realize that the time has come to put aside rhetorical confrontation and begin the search for practical political compromises. In fact, I believe that enactment of S. 713 would be perceived in other capitals as such blatant evidence of bad faith on our part that it would wreck the Conference.

Unlike the 200-mile fishing zone act, which was consistent with a consensus already achieved at the Conference, the deep sea mining bill reflects no consensus at the Conference. Moreover, given the kind of deep seabed regime which the United States has proposed, the very generous investment guarantee provisions in S. 713 could result in huge payments by the U.S. Treasury to compensate American mining companies for any reduction in the value of their investments resulting from a law of the sea treaty. The guarantee actually borders on the outrageous, as a company is eligible to claim compensation from the U.S. Treasury not only for expenses incurred up to the time an international regime is created but for the full "estimated monetary value of unrestricted access to hard mineral resources estimated to be contained within the block" covered by a license. I find it hard to believe that the American people will stand for that kind of raid on the U.S. Treasury.

Finally, I would like to point out that by venturing unilaterally into a new area of economic activity with uncharted implications under international law, we risk inviting conflict where none exists today. I can well imagine that if there is no law of the sea treaty—and that is very likely if this bill is enacted—the activities of U.S. mining vessels will one day be disrupted by the mining efforts or simple harassment of other countries. Such conflicts could escalate to the point where the U.S. Navy is called upon to defend the presumed rights of U.S. mining companies. I see no need to run the risks of becoming involved in a "nodule war."

I believe that it is essential that the United States continue to demonstrate good faith in the law of the sea negotiations, so that harmony, not conflict, characterizes man's activities on the deep seabed. If that means that more patience will be required until a law of the sea treaty is worked out, so be it.

Senator HOLLINGS. Senator Percy.

OPENING STATEMENT BY SENATOR PERCY

Senator PERCY. Mr. Chairman, I think these unique hearings jointly held by the Commerce Committee and the Foreign Relations Committee certainly indicate the complexity of the problem. I approach these hearings with probably as unformulated a viewpoint as I have ever had on an issue, I come to learn. Many times hearings are held with everyone having made their minds up ahead of time. I simply haven't.

I have just come back from Africa. I am deeply impressed as a citizen of a have-not nation—and we are a have-not nation so far as raw materials are concerned—with the intricacies of our dependence upon areas of the world that are politically volatile.

We can certainly see that in the area of petroleum products in the Middle East. Here we have the possibility that the development of the seabed could surely add to our domestic source of supply, and the international consortia that have been put together to develop these resources show the amount of capital, know-how, technology and experience that we have ready to be put to work. The United States is way ahead in this area; the free world is way ahead. But we want to do this in a way that is consistent with U.S. foreign policy and world stability and peace.

We have hearings this morning with the distinguished Secretary Richardson, with Tom Kleppe, the Secretary of Interior, and with my long-time friend—a man that I have great admiration for—Vince Learson, who comes out of a great corporation I think we have the technology and the know-how in this room to help guide the Congress of the United States. We earnestly seek your advice and counsel in this extraordinarily important matter.

Senator HOLLINGS. Thank you.

[The bill follows:]

94TH CONGRESS
2D SESSION

S. 713

[Report No. 94-754]

IN THE SENATE OF THE UNITED STATES

FEBRUARY 18, 1975

Mr. METCALF (for himself, Mr. BARTLETT, Mr. FANNIN, Mr. HANSEN, Mr. JACKSON, Mr. JOHNSTON, and Mr. MOSS) introduced the following bill; which was read twice and, by unanimous consent, referred to the Committee on Interior and Insular Affairs if and when reported to be jointly referred to the Committees on Armed Services, Commerce, and Foreign Relations for thirty days

APRIL 14, 1976

Reported by Mr. METCALF, with amendments, and referred to the Committee on Armed Services, the Committee on Commerce, and the Committee on Foreign Relations, jointly, for thirty days

[Omit the part struck through and insert the part printed in italic]

A BILL

To provide the Secretary of the Interior with authority to promote the conservation and orderly development of the hard mineral resources of the deep seabed, pending adoption of an international regime therefor.

- 1 *Be it enacted by the Senate and House of Representa-*
- 2 *tives of the United States of America in Congress assembled,*
- 3 That this Act may be cited as the "Deep Seabed Hard Min-
- 4 erals Act".

DECLARATION OF POLICY

SEC. 2. (a) FINDINGS.—The Congress finds—

- 7 (1) that the Nation's hard mineral resource require-

1 ments will continue to expand in order to supply national
2 industrial needs and that the demand for certain hard
3 minerals will increasingly exceed available domestic
4 sources of supply;

5 (2) that, in the case of some minerals, the Nation
6 is totally dependent upon foreign sources of supply and
7 that the acquisition of mineral resources from foreign
8 sources is a substantial factor in the national balance-of-
9 payments position;

10 (3) that the national security interests of the United
11 States require the availability of mineral resources which
12 are independent of the export policies of foreign nations;

13 (4) that there is an alternate source of supply of
14 certain minerals which are significant in relation to
15 national needs contained in the manganese nodules which
16 exist in great abundance on the ocean floor;

17 (5) that, to the extent that such nodules are located
18 outside the territorial limits and beyond the Continental
19 Shelf of any nation, the nodules are available for utiliza-
20 tion by any nation with the ability to develop them;

21 (6) that United States mining companies have
22 developed the technology necessary for the development
23 and processing of deep seabed nodules and, given the
24 necessary security of tenure, are prepared to make the

1 necessary capital investment for such development and
2 processing; and

3 ~~(7) that it is in the national interest of the United~~
4 ~~States to utilize existing technology and capabilities of~~
5 ~~United States mining companies by providing for interim~~
6 ~~legislation which will encourage further efforts to insure~~
7 ~~national access to available deep seabed hard minerals~~
8 ~~and to provide the means whereby the national program~~
9 ~~may be merged into an international program which~~
10 ~~evolves from negotiations on the Law of the Sea and is~~
11 ~~subsequently ratified by the United States.~~

12 *(7) that the increasing complexity of the world's*
13 *problems has required the nations of the world to be-*
14 *come more interdependent, especially in such matters as*
15 *the resources of the land and the seas, transportation and*
16 *communication, food, population, human rights, arms*
17 *control, world order under law and cultural relations;*

18 *(8) that solutions to the problems of an interde-*
19 *pendent world requires a reciprocal recognition by all*
20 *nations of the legitimate interests of one another; and*

21 *(9) that it is in the national interest of the United*
22 *States to utilize existing technology and capabilities of*
23 *United States mining companies by providing for interim*
24 *legislation which will authorize investment guarantees*

1 thereof, lying seaward and outside the Continental Shelf
2 of any nation;

3 (c) "Continental Shelf" refers to the seabed and
4 subsoil of the submarine areas adjacent to the coast of
5 any nation (including the coasts of islands), but outside
6 the area of the territorial sea, to a depth of two hundred
7 meters or, beyond that limit, to where the depth of the
8 superjacent waters admits of the exploitation of the nat-
9 ural resources of the said areas;

10 (d) "block" means an area of the deep seabed hav-
11 ing four boundary lines which are lines of longitude and
12 latitude, the width of which may not be less than one-
13 sixth the length, comprising not more than ~~forty~~ *sixty*
14 thousand square kilometers, and extending downward
15 from the seabed to a depth of ten meters;

16 (e) "hard mineral" or "hard mineral resources"
17 refers to nodules or accretions containing, but not limited
18 to, iron, manganese, nickel, cobalt, and copper;

19 (f) "development" means any operation of explora-
20 tion and commercial recovery, other than prospecting,
21 having the purpose of discovery, recovery, or delivery of
22 hard minerals from the deep seabed;

23 (g) "prospecting" means any operation conducted
24 for the purpose of making geophysical or geochemical

1 measurements, bottom sampling, or comparable activities
2 so long as such operation is carried on in a manner that
3 does not significantly alter the surface or subsurface of
4 the deep seabed;

5 (h) "person" includes private individuals, associa-
6 tions, corporations, or other entities, and any officer, em-
7 ployee, agent, department, agency, or instrumentality of
8 the Federal Government, of any State or local unit of
9 government, or of any foreign government;

10 (i) "eligible applicant" means a citizen of the
11 United States or a corporation or other juridical entity
12 organized under the laws of the United States, or its
13 States, territories, or possessions, and possessing such
14 technical and financial capabilities as may be prescribed
15 by the Secretary in order to assure effective and orderly
16 development of hard mineral resources pursuant to a
17 license issued under this Act;

18 ~~(j) "investment" means a commitment of funds,~~
19 ~~together with the interest costs thereof, commodities,~~
20 ~~services, patents, processes, and techniques, dedicated to~~
21 ~~the development of a licensed block or the processing of~~
22 ~~the recovered minerals;~~

23 (j) "investment" means any expenditure of funds
24 (including such interest costs arising therefrom as the
25 Secretary shall deem reasonable) and use of commodities,

1 *services, patents, processes and techniques, which are*
2 *dedicated to the development of a complete mining system*
3 *for commercial production including a mining ship and*
4 *associated recovery equipment, ore carrier or carriers*
5 *and processing facilities if located in, or on, a place*
6 *subject to the jurisdiction of the United States. The term*
7 *"investment" as used in this Act shall not include ex-*
8 *penses associated with research and development, but*
9 *shall include an amount equal to the estimated monetary*
10 *value of unrestricted access to hard mineral resources*
11 *estimated to be contained within the block or blocks of*
12 *the deep seabed covered by a license issued pursuant to*
13 *this Act;*

14 (k) "exploration" means the on-site observation and
15 evaluation activity following the location and selection
16 by an eligible applicant of a hard mineral deposit of po-
17 tential economic interest, which has, as its objective, the
18 establishment and documentation of the nature, shape,
19 concentration, and tenor of an ore deposit, and the na-
20 ture of the environmental factors which will affect its
21 susceptibility of being developed, including the sampling
22 of the deposit necessary for the design, fabrication, in-
23 stallation, and testing of equipment;

24 (l) "commercial recovery" means recovery of hard
25 minerals at a substantial rate of production (without

1 regard to profit or less), for the primary purpose of
2 marketing or commercial use and does not include re-
3 covery for sampling, experimenting in recovery methods,
4 or testing equipment or plant for recovery or treatment
5 of hard minerals;

6 (m) "reciprocating State" means any foreign State,
7 designated by the President as a State with requirements
8 and procedures comparable to those of the United States
9 under this Act, and which has undertaken to recognize
10 licenses issued under this Act; and

11 (n) "international registry clearinghouse" means a
12 recording agency or organization designated by the
13 President in cooperation with reciprocating States.

14 ACTIVITIES PROHIBITED

15 SEC. 4. (a) Except (1) as authorized pursuant to the
16 provisions of this Act, including subsection (b) hereof, (2)
17 as authorized under a license issued by a reciprocating State,
18 or (3) as may be authorized under a treaty, convention, or
19 other international agreement, which is *ratified by and* bind-
20 ing upon the United States, no person subject to the juris-
21 diction of the United States shall engage directly or indi-
22 rectly in the development of hard mineral resources of the
23 deep seabed. The prohibition of this subsection does not apply
24 to equipment engineering development, prospecting, or sci-
25 entific research, nor to the rendering of contractual engi-

1 neering construction, or other services, not amounting to
2 actual exploration or commercial recovery, nor to the fur-
3 nishing of machinery, products, supplies, or materials to any
4 organization or person lawfully engaged in such development:
5 *Provided*, That the development does not infringe upon a
6 license recognized as exclusive under the provisions of
7 section 5 (b) hereof.

8 (b) In any case in which an eligible applicant is already
9 engaged in the exploration of a block, on the date on which
10 this Act takes effect, that eligible applicant may establish his
11 priority of right by filing an application for a license to de-
12 velop that block, without awaiting the issuance of applicable
13 regulations under section 18. Thereafter, he may continue
14 any exploration activities until such time as the Secretary
15 acts upon the application, with any activity subsequent to
16 the action of the Secretary to be determined by the decision
17 of the Secretary under the provisions of section 5 hereof.

18 LICENSE TO DEVELOP

19 SEC. 5. (a) GENERAL.—Pursuant to the provisions of
20 this Act, the Secretary shall accept applications from, and
21 issue licenses to, eligible applicants for the development of
22 hard mineral resources of the deep seabed. ~~Any~~ *Subject to*
23 *section 4(b)*, any license issued pursuant to this section
24 shall be issued to the first eligible applicant who makes
25 written application therefor, and tenders a fee of \$50,000

1 ~~for the block specified in the application and available for~~
2 ~~licensing.~~ *established by the Secretary for the block specified*
3 *in the application which shall be in an amount estimated*
4 *to equal the estimated administrative and other costs of*
5 *processing the application.* Such fee shall be deposited into
6 an appropriate fund to be established in the Department of
7 the Treasury, which fund shall be utilized for administrative
8 and other costs incurred in the processing of applications for
9 licenses under this Act. The fund shall be available for such
10 purposes only as appropriated to the Secretary annually
11 therefor. Before he may issue a license, the Secretary must
12 first determine, in the consideration of each license ap-
13 plication—

14 (1) that the applicant is financially responsible and
15 has demonstrated the ability to comply with applicable
16 laws, regulations, and license conditions;

17 (2) that the operations under the license will not
18 unreasonably interfere with other reasonable uses of the
19 high seas, as defined by any treaty or convention to
20 which the United States is signatory, or by customary
21 international law;

22 (3) that the issuance of a license does not conflict
23 with any obligations of the United States, established by
24 treaty or other international agreement; and

25 (4) that operations under the license will not pose

1 an unreasonable threat to the integrity of the marine
 2 environment and that all reasonable precautions will be
 3 taken to minimize any adverse impact on that environ-
 4 ment.

5 (b) NATURE AND DURATION OF LICENSE.—(1) Sub-
 6 ject to the provisions of section 12 hereof, any license issued
 7 pursuant to this Act shall be exclusive as against all persons
 8 subject to the jurisdiction of the United States or of any
 9 reciprocating State, and shall authorize development of the
 10 hard mineral resources of the deep seabed ~~for~~ *within* specified
 11 blocks thereof: *Provided*, That in no event shall any license
 12 issued under this Act authorize the commercial recovery of
 13 such resources prior to January 1, ~~1976~~ 1977: *And pro-*
 14 *vided further*, That, except to the extent that such licenses
 15 are authorized pursuant to the provisions of ~~an international~~
 16 ~~agreement~~ *a future international agreement ratified by and*
 17 *binding upon the United States* establishing a regime for the
 18 development of mineral resources of the international seabed
 19 area beyond the limits of coastal State territorial or resource
 20 jurisdiction, no licenses shall be issued under this Act sub-
 21 sequent to the ~~ratification by the United States of any such~~
 22 ~~international agreement~~ *date on which such international*
 23 *agreement shall be ratified by and become binding upon the*
 24 *United States.*

25 (2) ~~Priority~~ Subject to section 4(b), priority of right

1 for the issuance of a license shall be created and maintained
2 by receipt by the Secretary of a license application from an
3 eligible applicant: *Provided*, That the application is sub-
4 mitted in conformity with the provisions of this Act and the
5 regulations promulgated by the Secretary pursuant to section
6 18 hereof.

7 (3) An application, submitted in accordance with sub-
8 section (b) of section 4 hereof and prior to the effective date
9 of the regulations promulgated pursuant to section 18 of
10 this Act, shall be entitled to priority of right as established in
11 paragraph (2) of this subsection: *Provided*, That the eligible
12 applicant complies with the provisions of this Act, including,
13 but not limited to, the tender of the fee required by section 5,
14 the furnishing of information required by subsection (b) of
15 section 6, and the minimum expenditure required by sec-
16 tion 8: *Provided further*, That the eligible applicant brings
17 his application and his other activities into compliance with
18 all applicable regulations issued by the Secretary, as soon as
19 such regulations become effective.

20 (4) Every license issued under this Act shall remain in
21 force for fifteen years and, where commercial recovery of
22 the hard mineral resources has begun from a licensed block
23 within the fifteen-year period, such license shall remain in
24 force for as long as commercial recovery from the block
25 ~~continues~~ *continues with reasonable diligence.*

1 (e) TRANSFER OR SURRENDER OF LICENSE.—Any
2 license issued under this Act may be surrendered at will or,
3 upon written request of the licensee, may be transferred by
4 the Secretary to any other eligible applicant. Such license, as
5 issued or as transferred, may be revoked for willful, sub-
6 stantial failure to comply with the provisions of this Act,
7 with any regulation promulgated thereunder, or with any
8 license restriction or license condition: *Provided*, That the
9 Secretary has first given the licensee written notice of such
10 violation and the licensee has failed to remedy the violation
11 within a reasonable period of time. Upon such failure, the
12 Secretary shall notify the licensee in writing that he pro-
13 poses to revoke such license and that the licensee has thirty
14 days in which to request a hearing in accordance with section
15 554 of title 5, United States Code, on the issues raised by the
16 proposed revocation. The Secretary shall issue his decision
17 regarding revocation within thirty days after the notice of
18 proposed revocation, or after the completion of the hearings,
19 if such hearings are requested by the licensee in accordance
20 with this subsection. Any decision issued by the Secretary
21 after hearings shall be subject to judicial review in accordance
22 with the provisions of sections 701 through 706 of title 5,
23 United States Code.

24 (d) LICENSE CONDITIONS.—The Secretary is author-
25 ized to include in any license issued, or transferred, under

1 this Act, any reasonable conditions which he finds neces-
2 sary to carry out the purposes of this Act. Such conditions
3 shall be prescribed on the basis of rules and regulations pro-
4 mulgated pursuant to section 18 of this Act.

5 LICENSING PROCEDURES

6 SEC. 6. (a) GENERAL.—The Secretary is authorized to
7 establish procedures governing the application for, and the
8 issuance of, licenses pursuant to this Act. Such procedures
9 shall contain an adequate mechanism for full consultation
10 with all other interested Federal agencies and departments,
11 and for the full consideration of the views of any interested
12 members of the general public.

13 (b) LICENSE APPLICATION.—Each application shall
14 contain such financial, technical, and other information as
15 is specified under rules and regulations promulgated pursuant
16 to section 18 of this Act.

17 (c) PUBLIC ACCESS TO INFORMATION.—(1) Copies
18 of any communications, documents, reports, or information
19 received from any applicant shall be made available to the
20 public upon identifiable request, and at reasonable cost, un-
21 less such information may not be publicly released under the
22 provisions of this subsection.

23 (2) The Secretary shall not disclose information ob-
24 tained by him under this section which concerns or relates

1 to trade secrets or other confidential matter referred to in
2 section 1905 of title 18, United States Code.

3 (3) Nothing contained in this subsection shall be con-
4 strued to require the release to the public of any information
5 described by subsection (b) of section 552 of title 5, United
6 States Code, or which is otherwise protected by law from
7 such release.

8 (4) Prior to the issuance of the license, the following
9 specific information required to be furnished to the Secretary
10 under this Act and which is not otherwise protected from dis-
11 closure under paragraphs (2) and (3) of this subsection
12 may not be released outside the Government and may be
13 disclosed within the Government only on a strictly need-to-
14 know basis:

15 (i) coordinates of licensed blocks;

16 (ii) any other data which discloses directly or
17 indirectly the coordinates of licensed blocks; and

18 (iii) geological data related to the licensed block.

19 (d) NOTICE, DECISION AND REVIEW.—(1) Within
20 thirty days after receipt of an application, and prior to
21 granting a license, the Secretary shall publish in the Federal
22 Register a notice containing a summary of the application
23 and information as to where the application and the avail-
24 able supporting data may be examined allowing interested

1 persons at least sixty days for the submission of written data,
2 views, or arguments to the granting of the license. The
3 Secretary shall utilize such additional methods as he deems
4 reasonable to inform interested persons and groups about
5 the application and to invite their comments thereon.

6 (2) The Secretary's decision granting or denying a
7 license shall be in writing and shall be made within ~~sixty~~
8 *one hundred and twenty* days following receipt of all views.
9 The Secretary shall grant the license applied for when he
10 finds that the application, as submitted, or as modified, meets
11 the requirements of this Act and the rules and regulations
12 promulgated hereunder.

13 (3) Judicial review of the Secretary's decision shall be
14 in accordance with sections 701 through 706 of title 5,
15 United States Code.

16 (4) The Secretary shall maintain a registry in which
17 is recorded the filing or withdrawal of an application for a
18 license under this Act, the issuance, denial, expiration, sur-
19 render, transfer, or revocation of such license, or the relin-
20 quishment of any licensed portion of the deep seabed. Subject
21 to the limitations of subsection (c) hereof registry records
22 shall be available for public inspection during the business
23 hours of every working day.

24 (5) The Secretary shall, and the applicant or licensee
25 may, notify the international registry clearinghouse within

1 fourteen days of the filing or withdrawal of an application
2 for a license under this Act, the issuance, denial, transfer,
3 expiration, surrender, or revocation of such license, or the
4 relinquishment of any licensed portion of the deep seabed.

5 (6) The function of the international registry clearing-
6 house shall consist solely of keeping records of notices, or
7 applications for licenses, issuances, denials, transfers, or
8 terminations of licenses, and the relinquishment of licensed
9 portions of the deep seabed. Pending designation of such
10 clearinghouse, notice to the Secretary shall constitute notice
11 to the clearinghouse within the meaning of this Act.

12 ENVIRONMENTAL CRITERIA

13 SEC. 7. The Secretary shall consult with appropriate
14 Federal agencies and departments regarding environmental
15 criteria and shall establish ~~objective~~ environmental stand-
16 ards, based ~~on~~ *to the maximum extent practicable on available*
17 technical and scientific data, applied in a consistent manner
18 under the rules and regulations of section 18, to which opera-
19 tions under a license issued under this Act shall adhere. The
20 Secretary may, from time to time, propose revisions of the
21 rules and regulations regarding environmental standards, as
22 *scientific available* data may warrant.

23 MINIMUM ANNUAL EXPENDITURES

24 SEC. 8. (a) EXPENDITURES.—In connection with the
25 development of hard mineral resources from each licensed

- 1 block, the licensee shall make or cause to be made minimum
 2 expenditures in the following amounts per block until com-
 3 mercial recovery from such block is first initiated:

Year:	Amount per year	
1-----	\$100,000	\$150,000
2-5-----	200,000	300,000
6-10-----	500,000	750,000
11-15-----	1,000,000	1,500,000

- 4 The minimum annual expenditures required under this sec-
 5 tion shall consist of expenditures for operations, facilities, and
 6 equipment as required or utilized for the evaluation of the
 7 block for which the development license is issued. Such ex-
 8 penditures in any year in excess of the required minimum
 9 may be credited to requirements for later years.

10 (b) RECORDS.—Each recipient of a license under this
 11 Act shall keep such records as the Secretary shall prescribe,
 12 including records which fully disclose the expenditures for
 13 development required by this section, and such other records
 14 as will facilitate an effective audit for such expenditures.

15 (c) AUDITS.—The Secretary and the Comptroller Gen-
 16 eral of the United States, or any of their duly authorized
 17 representatives, shall have access for the purpose of audit and
 18 examination to any books, documents, papers, and records of
 19 the licensees that are pertinent to the expenditures required
 20 under this section.

21 AUTHORIZATION TO BEGIN COMMERCIAL RECOVERY

22 SEC. 9. Upon completion of its exploration activities at
 23 any licensed block, the licensee shall so notify the Secretary

1 and request from the Secretary an authorization to begin
 2 commercial recovery. Upon receipt of such request, and sub-
 3 ject to the provisions of section 12, the Secretary shall grant
 4 such authorization: *Provided*, That the licensee is in compli-
 5 ance with all conditions of the license and has furnished the
 6 Secretary with copies of all raw data generated in the normal
 7 course of the applicant's work on the block and relating di-
 8 rectly to the documentation of the nature, shape, concentra-
 9 tion, and tenor of the ore deposit of the licensed block and
 10 the nature of the ~~physical~~ environmental factors which will
 11 affect such commercial recovery.

12 AREAS WITHDRAWN FROM LICENSING; DENSITY
 13 LIMITATIONS

14 SEC. 10. (a) No license shall be issued under this Act
 15 for any portion of the deep seabed—

16 (1) which has been relinquished by the applicant
 17 under a license issued under this Act within the prior
 18 three years;

19 (2) which is subject either to a prior application for
 20 a license, or an outstanding license, under this Act, or
 21 from a reciprocating State; and

22 (3) which, if licensed, would result in a ~~holding by~~
 23 *aggregate holdings by all* licensees under this Act of more
 24 than 30 per centum of an area of the deep seabed which

1 is within a circle with a diameter of one thousand two
2 hundred and fifty kilometers.

3 (b) No license shall be issued or transferred under this
4 Act, and no person subject to the jurisdiction of the United
5 States shall have a substantial interest in a license issued
6 under this Act, which would result in any person directly or
7 indirectly holding, controlling, or having a substantial interest
8 in licenses for development of any portion of the deep sea-
9 bed which that person could not hold directly under this Act
10 in accordance with the limitations of this section.

11 RELINQUISHMENT OF LICENSED AREAS

12 SEC. 11. Within fifteen years of the license date for
13 any block, and not later than the grant of authorization to
14 exploit as provided for in section 9 hereof, the licensee shall,
15 by written notice to the Secretary, relinquish ~~75~~ 50 per cen-
16 tum of such block measured laterally. The relinquishment shall
17 be such that the unrelinquished area or areas shall conform
18 to the shape of a block as defined in section 3 hereof. The
19 licensee shall select the area of the block to be relinquished
20 and as many as four contiguous blocks of the same type held
21 by the licensee may be treated as a single unit for selecting
22 the area to be relinquished.

23 INTERNATIONAL REGIME

24 SEC. 12. At such time as ~~an~~ a future international agree-
25 ment, providing for the establishment of an international

1 regime for the development of the hard mineral resources of
 2 the deep seabed, shall *be ratified by and* become binding upon
 3 the United States, no additional licenses shall be issued pur-
 4 suant to this Act, and licenses previously issued under this
 5 Act shall be made subject to the provisions of that agree-
 6 ment Act. To the extent that they are consistent with the
 7 provisions of the international regime, licenses previously
 8 issued shall continue in effect, and, to the extent possible
 9 under the international agreement, the United States shall
 10 exercise its rights and responsibilities under the agreement
 11 to insure their continuation under the international regime.

12 INVESTMENT GUARANTY

13 SEC. 13. To the extent that ~~an~~ a future international
 14 agreement, *ratified by and* binding up the United States,
 15 shall differ from the requirements of this Act, the United
 16 States shall provide the licensee with compensation in an
 17 effectively realizable form representing the reduction in
 18 value of the investment resulting from ~~the differing require-~~
 19 ~~ments~~ *imposition of differing requirements or loss of rights*
 20 *granted under this Act: Provided, That* the liability for
 21 compensation shall, until after an authorization for com-
 22 mercial recovery has been granted, be limited to compensa-
 23 tion in relation to equipment and facilities utilized for explo-
 24 ration purposes: *Provided further, That* the Secretary of
 25 Commerce shall determine in the first instance the amount

1 owing on the claims for compensation under this section:
2 *Provided further*, That after an authorization for commercial
3 recovery has been granted, the value of the investment shall
4 be determined by subtracting from the value of the original
5 investment any gross profits realized from development and
6 processing operations: *And provided further*, That the lia-
7 bility under this section shall terminate ten years after com-
8 mercial recovery has begun.

9 INVESTMENT INSURANCE

10 SEC. 14. (a) On annual payment by any licensee of a
11 premium to be determined by the Secretary of Commerce,
12 utilizing standard insurance practices and based upon the
13 relative risks involved, the United States shall insure the
14 licensee, in an amount not exceeding the value of the invest-
15 ment, for any damages suffered through the impairment of
16 the insured investment, or through the removal of hard
17 minerals from the licensed block, by any other person against
18 whom a legal remedy either does not exist or is unavailable
19 in any legal forum to which the licensee has access. The
20 Secretary of Commerce shall determine the amount owing on
21 any claim for reimbursement under this section.

22 (b) Insurance under this section shall be available solely
23 upon the request of the licensee and after the Secretary of
24 Commerce has determined that the insurance coverage re-

1 requested is not readily available at a reasonable premium
2 elsewhere.

3 INVESTMENT GUARANTY AND INSURANCE FUND

4 SEC. 15. There shall be established in the Treasury of
5 the United States a Guaranty and Insurance Fund, which
6 shall have separate accounts to be known as the Guaranty
7 Reserve and the Insurance Reserve, which reserves shall be
8 available for discharge of liabilities, as provided in sections
9 13 and 14 of this Act, until such time as all such liabilities
10 have been discharged or have expired or until all such
11 reserves shall have been expended in accordance with the
12 provisions of this section. The Insurance Reserve shall be
13 funded by the premiums received from licensees, as provided
14 in section 14 of this Act, and the Guaranty Reserve shall be
15 funded by such sums as shall be appropriated pursuant to
16 section 23 of this Act.

17 NONDISCRIMINATORY TREATMENT

18 SEC. 16. For purposes of export controls, section 27 of
19 the Act of June 5, 1920, customs laws, and tax laws of
20 the United States, and the applicable implementing regu-
21 lations thereof, all hard minerals recovered from the deep
22 seabed under a license issued pursuant to this Act shall
23 be deemed to have been recovered within the United States,
24 and such laws, regulations, and controls shall be admin-

1 istered so that there will be no discrimination between
2 hard minerals recovered from the deep seabed and similar
3 hard minerals recovered within the United States.

4 CONSORTIA

5 SEC. 17. (a) In any case of agreement between United
6 States and foreign entities, with the resulting combination
7 of interests receiving a development license under the au-
8 thority of this Act, the applicability of sections 13, 14, and
9 16, of this Act shall be limited to the proportion of interest
10 ~~owned by the United States entity or entities:~~ *owned by*
11 *United States citizens, corporations, or other judicial entities*
12 *organized and existing under the laws of the United States,*
13 *its States, or possessions.*

14 (b) In the case of an agreement between United States
15 and foreign entities with the resulting combination of in-
16 terests receiving a development license from a reciprocating
17 State, the provisions of section 16 of this Act, other than
18 the applicability of section 27 of the Act of June 5, 1920,
19 shall be applied as if the proportion of interest owned by
20 ~~the United States entity or entities~~ *United States citizens,*
21 *corporations, or other entities organized and existing under*
22 *the laws of the United States, its States, or possessions* were
23 licensed pursuant to this Act.

REGULATORY AUTHORITY

1
2 SEC. 18. (a) The Secretary is authorized to issue such
3 reasonable rules and regulations as may be necessary to
4 carry out the provisions of this Act, other than the provisions
5 of sections 13, 14, and 15.

6 (b) The rules and regulations issued under subsection
7 (a) shall include provisions covering:

8 (1) eligibility standards and compliance;

9 (2) licensing procedures, requirements, and com-
10 pliance;

11 (3) work requirements and compliance;

12 (4) environmental standards and compliance;

13 (5) multiple use standards and compliance; and

14 (6) other matters specifically delegated to the
15 Secretary under the Act.

16 (c) The Secretary of Commerce is authorized to issue
17 such reasonable rules and regulations as may be necessary to
18 implement the provisions of section 13, 14, and 15 of this
19 Act.

20 (d) Rules and regulations issued under this section
21 shall be promulgated in accordance with provisions of sec-
22 tion 553 of title 5, United States Code.

RECIPROCATING STATES

1
2 *SEC. 19. (a) The Secretary shall, in promulgating*
3 *regulations under this Act, attempt to harmonize his regula-*
4 *tions with the laws, regulations, or other official acts of any*
5 *other State which has enacted legislation or regulations or*
6 *taken, pursuant to its own laws and procedures, equivalent*
7 *official acts for purposes and policies similar to those of*
8 *this Act. When the Secretary finds, in consultation with the*
9 *Secretary of State, that the laws and regulations of the*
10 *United States and similar actions by any other State are in*
11 *essential harmony one with the other, such other State shall*
12 *be deemed to be a reciprocating State for the purposes of this*
13 *Act.*

14 *(b) Any license or similar legal entitlement issued by a*
15 *reciprocating State shall be accorded equivalent legal status*
16 *as though it were issued by the Secretary: Provided, That*
17 *the reciprocating State accords the same legal status to*
18 *licenses issued by the Secretary: Provided further, That*
19 *sections 13 and 14 of this Act shall not apply to persons sub-*
20 *ject to the jurisdiction of the United States in respect to min-*
21 *ing licenses or similar legal entitlements issued to them by a*
22 *reciprocating State.*

23 *(c) The Secretary of State shall, in consultation with*
24 *the Secretary, enter into international agreements with all*
25 *reciprocating States for the purpose of harmonizing their*

1 *laws and procedures and assuring that areas covered by*
2 *licenses or similar legal entitlements issued by different States*
3 *do not conflict with each other. Such agreements shall to the*
4 *maximum extent possible apply the same principles for the*
5 *issuance of mining licenses and operations conducted there-*
6 *under as are found in this Act.*

7 JURISDICTION OF UNITED STATES DISTRICT COURTS

8 SEC. ~~19~~. 20. United States district courts shall have
9 original jurisdiction of cases and controversies arising out of,
10 or in connection with, development activities conducted in
11 any area of the deep seabed under the authority of this Act,
12 and proceedings with respect to any such case or controversy
13 may be instituted in the judicial district in which any de-
14 fendant resides, or may be found, or in the judicial district
15 nearest the place where the cause of action arose.

16 PENALTIES

17 SEC. ~~20~~. 21. (a) CIVIL PENALTIES.—Any person sub-
18 ject to the jurisdiction of the United States who violates any
19 provision of this Act, or any rule or regulation issued pur-
20 suant to section 18 hereof, shall be liable to a civil penalty
21 of \$10,000 for each day during which the violation con-
22 tinues. The penalty shall be assessed by the Secretary, who
23 in determining the amount of the penalty, shall consider the
24 gravity of the violation, any prior violation, and the demon-
25 strated good faith of the person charged in attempting to

1 achieve rapid compliance after notification of the violation.
2 No penalty may be assessed until the person charged shall
3 have been given notice of the violation involved, and an
4 opportunity for a hearing. For good cause shown, the Sec-
5 retary may remit or mitigate any penalty assessed. Upon
6 failure of the person charged to pay an assessed penalty, the
7 Secretary may request the Attorney General to commence
8 an action in the appropriate district court of the United
9 States for collection of the penalty without regard to the
10 amount involved, together with such other relief as may be
11 appropriate.

12 (b) CRIMINAL PENALTIES.—In addition to any other
13 penalty, any person subject to the jurisdiction of the United
14 States who willfully and knowingly violates any provision of
15 this Act, or any rule or regulation issued pursuant to section
16 18 hereof, shall be punished by a fine of not more than
17 \$25,000 for each day during which such violation continues.

18 (c) LIABILITY OF VESSELS.—Any vessel, except a
19 public vessel engaged in noncommercial activities, used in a
20 violation of this Act, or of any rule or regulation issued pur-
21 suant to section 18 hereof, shall be liable in rem for any civil
22 penalty assessed or criminal fine imposed and may be pro-
23 ceeded against in any district court of the United States

1 having jurisdiction thereof; but, no vessel shall be liable un-
 2 less it shall appear that one or more of the owners, or bare-
 3 boat charterers was, at the time of the violation, a consenting
 4 party, or privy to such violation.

5 ANNUAL REPORT

6 SEC. ~~21~~. 22. The Secretary of Commerce and the Sec-
 7 retary of the Interior shall each report to the Congress annu-
 8 ally, on or before June 30, with the first report to be made
 9 on or before June 30, ~~1975~~ 1977, on his activities under this
 10 Act, including recommendations for additional legislation as
 11 deemed necessary.

12 AUTHORIZATION FOR APPROPRIATIONS

13 SEC. ~~22~~. 23. (a) There are authorized to be appropri-
 14 ated for the current fiscal year and for each of the two
 15 succeeding fiscal years, such sums as may be necessary for
 16 the administration of this Act.

17 (b) There are authorized to be appropriated to the
 18 Secretary of Commerce, to remain available until expended,
 19 such sums as may be necessary from time to time to replenish
 20 or increase the Guarantee Reserve of the Insurance and
 21 Guaranty Fund, ~~or~~ and to discharge the liabilities under
 22 ~~section 13~~ sections 13 and 14 of this Act.

EFFECTIVE DATE; SEPARABILITY

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SEC. 23. This Act shall take effect on the date of its enactment. If any provision of this Act or any application thereof is held invalid, the validity of the remainder of the Act, or of any other application, shall not be affected thereby.

Senator HOLLINGS. Secretary Richardson, we welcome you and your colleagues here this morning. We will be glad to hear from you at this time, sir.

STATEMENT OF HON. ELLIOT L. RICHARDSON, SECRETARY, DEPARTMENT OF COMMERCE; ACCOMPANIED BY HOWARD W. POLLOCK, DEPUTY ADMINISTRATOR; AND JAMES BRENNAN, DEPUTY GENERAL COUNSEL, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Secretary RICHARDSON. Thank you very much. Mr. Chairman and members of the committees, may I first please identify for the record the colleagues from the Department of Commerce who accompany me here this morning and whom I may need to call upon for answers to questions which I'm not sufficiently expert myself to answer. On my right is Mr. Howard Pollock, Deputy Administrator of the National Oceanic and Atmospheric Administration. Mr. Pollock has attended the recent sessions of the Law of the Sea Conference, representing the Department of Commerce. On my left is Mr. James Brennan, Deputy General Counsel of the National Oceanic and Atmospheric Administration, who has also been attending the sessions.

Mr. Chairman and members of the committees, I am pleased to have the opportunity to join my executive branch colleagues here to give you my views of S. 713, the Deep Seabed Hard Minerals Act.

There is no need to emphasize to you the importance of the mineral resources of the deep seabed. Your own opening statements have already underscored this point. You are familiar with the statistics regarding the seabed minerals which are vital ingredients in our modern industrial economy. I'm sure that you are also aware that we are 100 percent dependent upon importation for new primary cobalt and manganese. We import over 70 percent of our total consumption of nickel, and while we are the largest copper producer in the world, we nonetheless import some 10 percent of our refined copper requirements.

Net imports of these minerals amounted to almost \$1 billion per year. The promise which a thriving deep seabed mining industry holds for America and the rest of the world is that by the end of the next decade, seabed production could significantly increase the supply of several key minerals.

The bill is intended to promote the conservation and development of the mineral resources of the deep seabed by providing a transition from the present situation of no regulation of deep ocean mining activities, to a system of licensing and regulation of U.S. nationals. It looks ultimately to an international system which would be established if a law of the sea treaty entered into force for the United States. The bill would guarantee against losses incurred by domestic licensees as the result of imposition of more onerous conditions established under a new international regime.

As American industry contemplates further development of systems to recover the resources of the deep ocean, it looks for assurances that the "rules of the game" will not change to its detriment after large-scale funding commitments are made.

A consensus exists in the executive and legislative branches that a stable legal regime is one of the key conditions for providing the

assurances necessary to the continued development of our domestic ocean mining industry. It is also agreed that a successful Law of the Sea Conference provides the best opportunity for attaining that stability. The report of the Senate Committee on Interior and Insular Affairs on S. 713 notes that haphazard development of international law in this area, which would be the result of enactment of domestic law on a nation-by-nation basis, may not adequately protect our own or any other country's interest in the development of the mineral resources of the seabeds.

Although we can all agree that an LOS treaty is the best way to achieve a stable investment climate, until the outline of such a treaty comes more sharply into focus, investment in deep sea minerals recovery technology by U.S. industry may be inhibited. Even though the basic technology is now available, some investors counsel caution until it becomes more clear that conditions imposed under a prospective international regime will be satisfactory.

This mood of caution in the investment community is not solely the result of fears concerning potential changes in the present status of international law. Companies contemplating the development of the resources of the deep ocean have an understandable desire to protect themselves against domestic, as well as foreign, encroachments at the minesite. The companies want security of tenure to a specific site in the domestic and international context before they can justify major commitment of funds.

The latest session of the Law of the Sea Conference in New York has just been completed. Other witnesses can give you a detailed analysis of the results of that Conference. Let me only say that some progress has been made. This may hold promise for the August meeting. The consequences of a failure in these negotiations would be far reaching for all of the nations concerned. The issues are complex. The viewpoints represented are many. Largely because of these factors, negotiations over the years have progressed quite slowly. The pace did quicken in New York, but I cannot promise this momentum will be maintained.

Nonetheless, we should persist in seeking an international regime to provide a stable international investment climate and provide appropriate environmental safeguards, fairly applied to all who seek to develop the resources of the deep seabed. It would be unfortunate, I believe, if the law of the sea negotiations were to fail. Domestic legislation following such a failure, however well conceived and drafted, could only partially remove the legal uncertainties which attend the development of the mineral resources of the ocean seabed beyond national jurisdiction. Indeed, instead of removing them, it could compound them. As long as near-term prospects for successful conclusion of the treaty are still realistic, the administration must continue to oppose enactment of S. 713.

I recognize, nevertheless, that the ocean mining industry is reaching a critical stage in its development and that it will require a stable investment climate in order to move forward with major capital investments. I have a deep concern not only for the needs of this industry but also for the broader national interests at stake.

Accordingly, I intend to keep close watch on the progress of negotiations during the summer session in New York, and if, after review of

the results of the session, it is apparent that the Conference accomplishments do not reflect significant progress toward meeting U.S. mineral resource objectives, I shall be prepared to recommend that the United States take such action as then seems appropriate to resolve the dilemma.

Senator Magnuson on May 7, Mr. Chairman, wrote me a letter inviting me to testify before these committees and posed a number of specific questions. The answers to these questions are incorporated in this statement following this point. I will be glad to either submit them for the record or read them, as you prefer.

Senator HOLLINGS. Let's have those submitted for the record. I think that would be preferable, Mr. Secretary. We have good attendance here this morning, and I think the individual Senators' questions might be more pertinent, having the chance to have you here. Does that conclude your statement with the answers to our questions?

Secretary RICHARDSON. I'd like to ask further, then, Mr. Chairman, in addition to the answers to the specific questions presented in Senator Magnuson's letter, I would also like the committee's permission to insert for the record these answers to include a more detailed description¹ of the ocean-related and seabed-related responsibilities of the NOAA and other elements of the Department of Commerce.

Senator HOLLINGS. They will be included in the record, and we will keep this record open this week for any further questions and answers or materials that you wish to submit.

Secretary HOLLINGS. Senator Pell?

Senator PELL. Thank you, Mr. Chairman.

Mr. Secretary, I know well of your long interest in the law of the sea from the time when you were the Under Secretary of the Department of State. Are you aware of any other nations, such as Japan, Germany, or France, which have created an investment guarantee program for deep sea minerals similar to the one found in this bill?

Secretary RICHARDSON. I missed one keyword.

Senator PELL. Are there any other nations with any similar guarantees in their legislation?

Secretary RICHARDSON. I don't know of any. Might I ask my colleagues if they are aware of any? No.

Senator PELL. I don't believe so, but I was curious.

Are there any other Federal programs which provide an investment guarantee and insurance program similar to the type created by this legislation?

Secretary RICHARDSON. Not similar to this, not embracing the type of risk that is involved here really. I suppose the closest might be the program administered by OPIC which does at least insure against certain types of political risks, including expropriation.

Senator PELL. Then, one could say this might almost be special interest legislation, perhaps not as extreme as the Lockheed bailout legislation, but applying to a very few corporations. Do you think this would be an unfair criticism?

Secretary RICHARDSON. I think to the extent that it implies that it's directed simply to the benefit of a particular industry, as distinguished from the national interest in the exploitation of these mineral resources, I think it would be unfair. The United States does have an interest for reasons that have been touched on both by members of

¹ See p. 189.

these committees and in my own statement in trying to assure a stable regime in which we will have access to these critical mineral resources. The question, then, is how do you accomplish this; and the legislation has that purpose, of course, both in terms of defining rights of access and exploitation, and through the creation of insurance against various risks.

How far and what type the insurance would go and exactly what risks ought to be assumed by the companies versus the United States under the legislation is, I think, a question that we in Commerce would want to look further into at a stage when legislation was imminent. Our preferred position, as I have said, is that legislation not be enacted at this point.

Senator PELL. In other words, the administration opposes this legislation. Is that correct?

Secretary RICHARDSON. We oppose it as to timing, and there are some provisions of it which we think need to be clarified with respect specifically to the definition of environmental risks, for example.

Senator PELL. Wouldn't the passage of this legislation counter the administration's policy to minimize subsidies to industry, and wouldn't it interfere with the free workings of the marketplace?

Secretary RICHARDSON. Well, it depends on how uniquely you regard the insurance against risks under, for example, guaranteed loan programs of various kinds. In the energy field, for example, we are encouraging the development of new energy sources in areas of uncertainty through the loan guarantee approach and in some instances through insurance against loss. We do this to encourage investment in developing countries through OPIC, and while the specific combination of risks presented here is unique, I don't think that the approach is radically different from that we have followed elsewhere.

Senator PELL. Thank you very much.

Senator HOLLINGS. Senator Percy?

Senator PERCY. Secretary Richardson, you have a unique background in both commerce and diplomacy in the State Department. Is it possible that if this legislation is not supportable at this particular time, that legislation could be written that would be helpful to our industry but would not have an adverse effect on our overall economic policy goals—which would not present any serious problems administratively or politically or legally at this time?

Secretary RICHARDSON. We think, Senator Percy, that such problems as we have with the legislation as written are remedial and could be worked out at a point when the administration could agree that the legislation is timely.

Our concern at this stage really is with the unilateral enactment of legislation in a situation where I think everyone agrees that the multi-lateral solution is preferable.

Senator PERCY. I participated for a couple of years, up through last year, in hearings on OPIC (Overseas Private Investment Corporation) conducted by the Multinational Subcommittee of the Foreign Relations Committee. We worked out a phaseout program so that the Government really gets out of this reinsurance business and turns it over to the private sector; we found the private sector quite willing and able to take over things.

Is it possible that this could be done in the private sector—that it is an insurable risk for which payment could be made—so that the Federal Government is not so deeply involved such as we did in, let's say, the risk of war in OPIC insurance?

Secretary RICHARDSON. Well, I think, Senator, it's a question really of what the cost might be and whether in effect the Government is an appropriate insurer versus the problems of premium cost and so on. I certainly am not prepared to say that it wouldn't happen; that is, that without the insurance and guarantee procedures of this legislation, that there would be no exploitation. There is the concern here that if there had been no resolution of the issues that have been debated so long in the Law of the Sea Conference, the international climate might have been exacerbated through failure to agree on that issue, with the result therefore that the risks of going forward with such development under unilateral U.S. legislation might, as I noted in my statement, be, if anything, greater than they would have been as an original matter. And the problem then is how to evaluate actuarially the degree of that risk.

It could be said in those circumstances that we were dealing with a national interest in the development of the resources and the exploitation of the existing technology greater than the interest of the individual companies which happen to possess that technology. At any rate, that would be the basis on which to conclude that in order to encourage them to move forward in circumstances in which they might otherwise be extremely reluctant to do so that we needed to have this kind of mechanism.

Senator PERCY. Does the Department of Commerce—

Secretary RICHARDSON. May I add further, Mr. Pollock points out to me that the United States would not provide investment insurance under section 14 unless the Secretary of Commerce determines that comparable coverage is not available elsewhere.

Senator PERCY. Very good. I think that's a safeguard that we should emphasize. We did pass a point where the Government was insuring things that were commercially insurable under OPIC and we had to almost force the situation to get the Government out of the business that commerce should be in.

Does the Department of Commerce have any estimates at this time as to when seabed mining will be able to compete economically with land-based mining? Will it be a competitive field within, say, a decade?

Secretary RICHARDSON. Well, I think we believe that it could be started by around 1980 or 1981, but that the rate of growth in the volume would be slow. May I ask Mr. Pollock to give you a further answer to that?

Mr. POLLOCK. I think, Senator, it would depend in great measure on what kind of restrictions there were in the Law of the Sea forum where there were production controls which would limit production of nickel, copper, cobalt, and manganese—nickel primarily, I think. Otherwise, I think we would have the capability within 10 or 15 years of getting essentially the needs of the United States satisfied.

Senator PERCY. Finally, American industry does claim to have a substantial technological lead in the exploitation of seabed minerals. To what extent, in your opinion, would that lead be lost if Congress were to delay for 2 or 3 years before passing legislation in this area?

Secretary RICHARDSON. We think that there is a risk that during the interval other countries might catch up. In any event, of course, there would be problems not simply in the loss of the technological lead itself but in the dispersion of the capital resources and the interest of the companies that are otherwise prepared to go forward. The very existence of uncertainties would discourage investment we think.

Senator PERCY. Thank you very much.

Senator HOLLINGS. Senator Leahy?

Senator LEAHY. No, Mr. Chairman. Thank you.

Senator HOLLINGS. Senator Buckley.

Senator BUCKLEY. Thank you, Mr. Chairman.

Mr. Secretary, I might say, incidentally, I share the bias against loan guarantees as a technique to protect people against economic risks, not necessarily political risks, but I believe that the thrust of your testimony is not directed so much to what's in S. 713 so much as the prudence of going ahead at this time.

Secretary RICHARDSON. That is correct, Senator.

Senator BUCKLEY. Is part of your concern that unilateral action by the United States, even if it is contingent or superseded or adjusted, would somehow upset the Law of the Sea Conference?

Secretary RICHARDSON. That is essentially the point, yes, Senator Buckley. The United States has been working very hard with other countries. I suppose the question is what degree of emphasis we attach to the word "or else" when we say the United States seeks international action but to get on with it "or else we'll take action on our own."

Our judgment—my judgment, speaking for the Department of Commerce, is that we convey clearly enough our readiness to go forward unilaterally through the development of this legislation and through saying that we will evaluate the results of the August–September session of the Law of the Sea Conference to see whether or not they have been significant and if we were to conclude at that point that they had not been and that we would then be faced with an indefinite additional period of failure to achieve agreement, we would I think take a different position toward the desirability of unilateral action.

Senator BUCKLEY. To what extent has the negotiating process—let me put it this way—just within the last few months the United States has in fact in another area affecting the sea—namely fisheries—taken action because it was the judgment of the Congress that we had interests that had to be protected and the legislation was so framed that it was superseded by an international agreement.

Has that, as a practical matter, caused difficulties in the conduct of the negotiations?

Secretary RICHARDSON. No, I don't think it has, Senator Buckley, for two reasons basically. One is that a considerable concern the United States had with going forward with legislation was not so much the problems it raised substantively but that here was an objective broadly shared by countries with coastal fishing and other economic interests. When we first got into the Law of the Sea Conference it was by no means clear that the United States was prepared to go along with the 200-mile economic zone at all. So long as it was perceived to be uncertain that the United States was prepared to do this, then we had a potential bargaining asset in seeking agreement on other issues, including the right of passage through straits and so on. But

once it became clear that the United States was going to go ahead one way or another with a 200-mile limit and we were prepared to agree to it within the Law of the Sea Conference or enact it, then it ceased to be a bargaining asset.

On the other hand, it was not a divisive issue either because other coastal countries were in general agreement that this was desirable from their point of view, whatever might be their differences of detail.

In the case of the deep seabeds, however, we are in a mixed situation, possessing the technological lead but without any other country taking quite the same position, and without any other country proposing unilateral action along the lines of our own.

Senator BUCKLEY. One thing that concerns me, frankly, and I haven't had a chance to study the details, but my understanding is on May 7 we have in effect agreed to a negotiated text and that text contains a number of concessions toward the creation of an international bureaucracy or an entity that would have the right to control the rate of production of that resource. As any treaty must be ratified ultimately by the Senate, is it or is it not worthwhile for the Congress to in effect trigger the overall conditions that it would find to be acceptable in negotiating its resources, one that could be down the line and terribly important to this country and to its economy, by framing the terms in legislation?

Secretary RICHARDSON. Well, I think there are two comments to be made to that, Senator Buckley: First of all, it is certainly important that the Congress and the Senate in particular be kept in close touch with the scope of the proposed terms of the proposed international authority and so on. I take it that this hearing will contribute to that objective.

Ambassador Learson I know is to testify shortly on exactly what the state of negotiations is. But there is the further consideration that the key issues that are now being debated in Committee One of the Law of the Sea Conference are matters which are not addressed in the proposed legislation. The tough problems concern the question of whether or not there shall be some form of production control in order not to seriously threaten in the early years the interests of the countries which have land-based mines for the same minerals. Another consideration, the toughest remaining one from the standpoint of the United States, is the question of what shall be the system of voting and the scope of the authority of the council which would be the principal governing body, and then there is the further question of whether or not the authority should have the power to establish quotas for the amount of the number of sites that could be allocated to any one country; and these are not questions which we would on the face of it be dealing with through unilateral legislation.

You referred to progress having been made and a new single text having been drawn. This is true, but the main problem is that progress that has been made in this new single text is on the issue of production limitations and here the text is, as I understand it, reasonably close to the position proposed by Secretary Kissinger at his speech in New York at the opening of the session.

Senator BUCKLEY. I'm sure the text may be very reasonably close—

Secretary RICHARDSON. At the time of the opening of the session.

Senator BUCKLEY. The question I was raising is not whether the text was close to what the Secretary proposed, but whether what the Secretary proposed would be agreeable to the Senate.

Secretary RICHARDSON. I understand, and I'm saying the answer to that is the way to find that out is through hearings like this and through close consultation with the Senate; and I'm saying that the legislation alone as a way of assessing the views of the Senate is an insufficient vehicle because the critical issues which need to be resolved in the Law of the Sea Conference itself are not issues addressed by the legislation.

Senator BUCKLEY. Thank you very much.

I do have the concern, Mr. Chairman, that we avoid depriving ourselves of the capacity to supply ourselves with needed materials for which we depend on foreign countries. This is the kind of issue that we have to think about at this time.

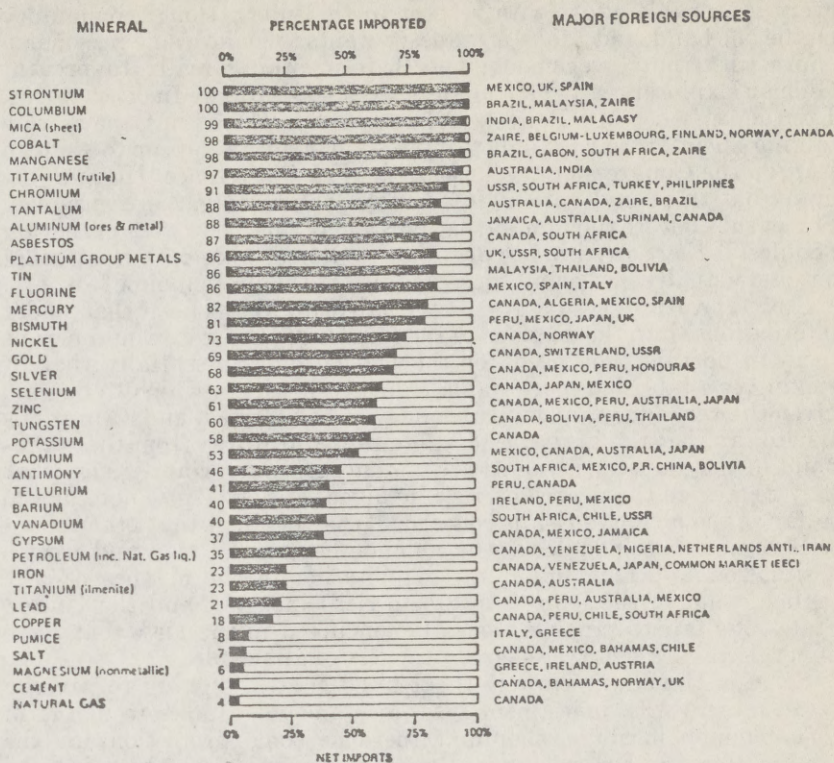
Senator HOLLINGS. I think we're agreed on that, Senator.

To begin at the beginning, Mr. Secretary, the crisis really at the moment is not one of need but one of an understanding internationally, as I see it. Is that correct? We cite readily the 100 percent manganese that I take it we get from Brazil and the 70 percent nickel from Canada, but they are fairly reliable commercial friends and allies. We are not running out of those supplies right now.

Secretary RICHARDSON. No. I have a tabulation here, Mr. Chairman, I could offer for the record at this point.

Senator HOLLINGS. Will you put that in the record?

Secretary RICHARDSON. It shows proportions imported from various countries and the proportions of these various minerals in the nodules themselves which I will offer for the record at this point.



Source: U.S. Bureau of Mines. Minerals and Materials/a monthly survey. U.S. Govt. Print. Office, Washington, D.C., December 1975, p. 6.

	Nickel	Copper	Cobalt	Manganese
Nodule composition (percent).....	1.4	1.2	0.25	25
Amount of mineral recoverable per ton of nodules (pounds).....	25	22	2.8	465
Average value of mineral per pound.....	\$2.20	\$0.66	\$4.00	\$0.065

Senator HOLLINGS. So, as I take it, the Government wants to make every reasonable effort with respect to the international community on the one hand, and I take it industry wants to make every reasonable effort with the Government; but there's nothing really to prevent Glomar Explorer really getting those nodules, is there? In other words, I remember when Mr. Pollock and I some 3 years ago in Geneva were talking about Howard Hughes' interests. He didn't appear to want to wait on the Congress or the Law of the Sea Conference. He was just going out there and gather—of course, they were gathering sunken Soviet subs but we thought at that particular time they were gathering nodules. Is there anything to prevent the Glomar Explorer from going out and actually gathering those nodules at the present time?

Secretary RICHARDSON. No, Mr. Chairman. We believe that under international law, the doctrine of the freedom of the seas, would permit them to do this. The need for the legislation is essentially that of seeking to establish a more stable framework within which to operate given the very large amounts of money to be invested, and I think it's fair to say that the insurance and guarantee features from the standpoint of the industry involved are undoubtedly important, given what they regard as the degree of risk involved, and as I just note again, so far as the ultimate risk is concerned, the very fact that other countries regard these nodules as the common heritage of mankind creates a situation in which unilateral exploitation in the absence of any regime could in the long term create risks in itself, and the United States, it's fair to say, has basically concurred in the view that these minerals are in a sense the shared property of all people.

Senator HOLLINGS. Now if the United States is going to provide ocean miners with investment insurance and guarantees to maintain that common heritage, shouldn't there be some protection for the United States with respect to receiving some of these valuable minerals. Let's begin with any and everybody. As I read eligible applicant, any foreign group could come under the law of Delaware and organize a corporation with complete foreign equity ownership. There's no limit on foreign equity ownership in the Delaware corporate law. They could come in and organize a Delaware corporation with foreign ownership and qualify under this particular bill for the investment and the loan guarantees and tax deferrals and perhaps depletion allowance and protection of the U.S. Navy, and then land the nodules in Tokyo and we'd never see or hear anything of it. Is that really an accurate reading of this thing? I keep looking at it and wonder how it got this far.

Secretary RICHARDSON. I think it is an accurate reading, yes, Senator Hollings. There is no restriction in the legislation on foreign equity ownership of U.S. corporations eligible to acquire licenses under the act and our study of foreign directed investment in the United States generally to date has not indicated that there would need to be such a restriction. In this instance, of course, the main advantage possessed by U.S. based and owned companies is their technological lead.

Senator HOLLINGS. But that's now exiting or fleeing our country right now. We find that our greater export is our technology, and we see there's more every day with the Office of Technology Assessment. We've become really concerned about it.

Don't you think at least there should be a requirement that some percentage of these nodules be landed in the United States? What's in it for the United States other than perhaps good will and good understanding? You're a business secretary, the Secretary of Commerce, and I'd like to sort of get a little payback to the U.S. taxpayer if we're going out and give all these guarantees or whatever investment protections are to be given under this legislation—don't you think some proportion ought to come back to the United States? They could do all of this mining and get all the U.S. protections, and we could never see a manganese nodule. Incidentally, I did see one just last week out at Scripps. It weighed one hundred and some pounds, and it was a little difficult to lift, so I got a better idea of what we're talking about. But as I see it—my friend from Alaska is not here today—but they're dipping up all the clearcut logs out of the waters around Alaska and loading them on boats which are just Japanese factories. They dip them up on one end and load them off in Tokyo for plywood manufacture. I could see them doing the same thing here. I don't want to get into that problem with the manganese nodules if we need the supplies. The very premise on the first page is that we are so dependent—100 percent on manganese, 70 percent on nickel, and we tick it all off—but within the bill I don't see where we become any less dependent. There ought to be some kind of guarantee, don't you think?

Secretary RICHARDSON. But, Mr. Chairman, if another country has the technology, they don't need to come to us at all. They don't even need to bother with the Delaware corporation. If they can develop a ship with the capabilities that you describe, they can go out there now and under our version of international law do this anyway.

Senator HOLLINGS. Right.

Secretary RICHARDSON. The function of this legislation really is to create a set of conditions under which American corporations would be willing to move.

Senator HOLLINGS. And we take the risk, the U.S. Government takes the risk, in order to get them to move. What do we get in return for that risk?

Secretary RICHARDSON. We could, I suppose, include conditions with respect to their landing in the United States and so on.

As a practical matter, given the demand in the United States that is the highest volume consumers of these minerals, there would be every incentive to create the processing facilities in the United States anyway, to the extent of demand, and given the condition of the price and so on.

Mr. Brennan points out to me the provisions of section 16 which deal with the applicability of export controls, and under some circumstances, it says that all hard minerals covered in the Deep Seabed Act pursuant to this act shall be deemed to have been recovered within the United States. Under that provision, it would be possible to apply export controls to the minerals. That wouldn't assure the availability of processing plants in the United States as such, but it would mean that we could prevent minerals recovered by a corporation licensed pursuant to the act from being sold abroad.

Senator HOLLINGS. We could do it, but it doesn't prevent it.

Secretary RICHARDSON. Not by so many words, but it permits—the Secretary of Commerce has the power.

Senator PERCY. You've got the ability to do it if you want to. The price factor, I think, is the thing, however. As long as the supply is there and we need it, we're going to pay the price, and we can get it and we can get it for a price.

Senator HOLLINGS. Well, we got started raising Rhodesian chrome on the foot right now for different reasons. I take it from your testimony that you do not favor the bill at this time, that the administration would prefer to pursue its policies in August in the Law of the Sea Conference, and that in essence really only a treaty can give us the ultimate guarantees and understandings necessary to properly harvest these deep seabed minerals. I think all the committees would agree on that, but I think that when we're asked for the risks taken by the U.S. Government, guarantees and everything else of that kind, that this should apply to U.S. citizens and U.S. corporations at least. I'm not worried with the others coming in, like you indicate from your answer, and at a certain percentage by the export controls—maybe we can embellish that section or what have you, but there's no guarantee right now in this particular measure. It's rather loosely drawn as I see it as to who can participate and receive the guarantee on the one hand, and what's in it for us. I don't mean to talk selfishly, but from a business standpoint, why should the United States take these risks if we're not going to solve the very problem that you outline as calling for legislation.

Secretary RICHARDSON. We would be very glad to work with the committees and their staffs in perfecting the bill, Mr. Chairman.

Senator HOLLINGS. Is the administration of one mind now? We've got our distinguished friend, Secretary of Interior Kleppe, testifying, and I take it you folks all say, no, not now on this bill. Are we going in three directions on this, or do you know?

Secretary RICHARDSON. No, Mr. Chairman. We are all agreed on that proposition, no, not now. My good friend, Mr. Kleppe, and I and our respective departments are not in entire agreement on the question of ultimate responsibility for administering the legislation if it should be enacted.

Senator HOLLINGS. I see. What would be your feeling about it? Could you give it and then we can hear from Secretary Kleppe? You think you should administer it and he thinks he should administer it?

Secretary RICHARDSON. The basic issue, Mr. Chairman, is whether the exploitation of the deep sea minerals is to be regarded as a matter so closely related to problems of the ocean that it should fall within the jurisdiction of an agency whose primary concern is with the ocean. That is my view, and that is the view of the Department of Commerce. The alternative is to regard the problem as a matter essentially of mining and therefore to be subsumed within the jurisdiction of an agency whose concern is otherwise with mining, wherever it is, land based or on the bottom of the sea; and we haven't entirely resolved that issue at this point. There have been meetings between Mr. Robert White, the Administrator of NOAA, and the Under Secretary of Interior, Mr. Kent Frazell, and these meetings have resolved a number of subsidiary issues, but the ultimate one of administrative leadership is still not resolved.

Senator HOLLINGS. Well, we appreciate that.

Senator PERCY. I had one further question to follow up on Senator Hollings' statement in which he assumed that the administration was uniformly now in opposition to this bill. It's my understanding that the administration position, as stated this morning, is exactly that, but that within the executive branch of the Government, the administration, there is a different point of view.

The administration point of view presented this morning is that to adopt this bill today would prejudice our ability to get a treaty. There are others in the administration, as I understand it, notably the Treasury Department, who say that in their judgment the passage of this legislation would encourage a treaty and the adoption of the treaty.

Since Secretary Simon is not able to be here today, would you be able to state whether or not there is that other position, and possibly state why they feel it might encourage the adoption of a treaty rather than discourage it or prejudice it?

Secretary RICHARDSON. I attended a meeting of the Economic Policy Board chaired by Mr. Simon this morning in which this was one of the agenda items, and it was emphasized at this meeting that discussions held within the administration in recent days in anticipation of this hearing have produced a consensus.

Senator PERCY. Treasury does then now agree that this legislation should be opposed at this time?

Secretary RICHARDSON. Yes.

Senator PERCY. Thank you very kindly.

Senator HOLLINGS. Mr. Secretary, we appreciate very much your appearance and your colleagues' appearance here this morning.

Secretary RICHARDSON. Thank you very much, Mr. Chairman.

[The questions referred to follow:]

MAY 7, 1976.

HON. ELLIOT RICHARDSON,
Secretary, Department of Commerce, Washington, D.C.

DEAR MR. SECRETARY: The Senate Committees on Commerce and Foreign Relations have scheduled two days of hearings on S. 713, the Deep Seabed Hard Minerals Act, on May 17 and 19, 1976. This bill has been favorably reported by the Interior and Insular Affairs Committee and was referred to the Committees on Armed Services, Commerce, and Foreign Relations until June 2, 1976.

This letter is to invite you to testify on May 17 as to the Department's views on S. 713. The hearing will be held in Room 5110 Dirksen Senate Office Building beginning at 10 a.m. It is the custom of the Committees to request that witnesses prepare a statement of perhaps fifteen minutes in length and, after delivering the statement, be prepared to respond to the members' questions. We would also appreciate having 100 copies of your prepared statement available in the hearing room on the day of your appearance.

In addition to your prepared statement, I would like you to answer the following questions and to submit your answers on the day of your appearance:

(1) Please describe the activities of the Department of Commerce concerning marine minerals.

(2) There has been a continuing dispute between the Department of Interior and Commerce concerning their relative authorities and responsibilities in this area. What progress has been made toward a resolution of that dispute?

(3) Does the Department of Commerce support S. 713? Is the Department opposed to any domestic legislation either promoting or regulating U.S. nations or vessels engaged in deepsea mining?

(4) S. 713 would give the Department of Commerce the authority to administer an investment guaranty and insurance program for deepsea mining operations. Does the Department have any experience in this regard? Is the investment protection program contained in S. 713 workable, or even necessary? Please specify your views as to this program.

(5) Which agency of the Federal government do you consider most capable of establishing environmental standards for deepsea mining? Are the standards contained in S. 713 adequate to protect the marine environment?

(6) Do you perceive any potential for anti-competitive practices if a consortium of competing mineral companies were to form a joint venture and receive a license under S. 713?

(7) Section 16 of S. 713 states that "For purposes of export controls, section 27 of the Act of June 5, 1920 . . . and the applicable implementing regulations thereof, all hard minerals recovered from the deep seabed under a license issued pursuant to this Act shall be deemed to have been recovered in the United States . . ." What is the legal result of this provision? Does it make any of the Maritime Administration's merchant marine programs applicable to vessels used in deepsea mining?

(8) In general, what navigation and shipping laws apply to deepsea mining operations?

(9) Nothing in the bill address the question of processing recovered minerals either at sea or on land. Are you aware of company plans in this regard? Should this issue be directly addressed in ocean mining legislation?

(11) Section 21(c) creates in rem liability for any vessel used in violation of the provisions of S. 713. In theory, this violates the Convention on the High Seas since non-U.S. flag vessels could be involved in such a violation. Is this your interpretation of this bill?

(12) Please provide any other specific comments you may have with regard to the provisions of S. 713.

Should you have any questions of the Committee, please have your staff contact James P. Walsh, Staff Counsel for the Committee, at 224-9347.

I look forward to your appearance before the Committee.

Sincerely,

WARREN G. MAGNUSON,
Chairman.

ANSWERS TO SPECIFIC QUESTIONS PRESENTED IN MR. MAGNUSON'S LETTER

You first asked for a description of the activities of the Department of Commerce concerning ocean minerals. Expenditures for these activities during Fiscal Year 1976 amounted to over \$4 million. The Domestic and International Business Administration of the Department has conducted studies and provided advice on the economic and resource policy implications of deep ocean mining.

In the National Oceanic and Atmospheric Administration, the Office of Marine Minerals is sponsoring a variety of activities relating to deep ocean mining, including the assessment of the potential environmental and socioeconomic impacts of on-shore processing of manganese nodules. Our Environmental Research Laboratories are engaged in the Deep Ocean Mining Environmental Study (DOMES) which is nearing the end of its first phase. In the next phase, DOMES, in conjunction with industry, will assess the environmental effects of prototype ocean mining operations. The National Sea Grant Program is also sponsoring a number of marine mineral related projects. The Maritime Administration is conducting a study of the future impact of deep ocean mining on traditional maritime industry, and is co-sponsoring with NOAA, ERDA and the Department of the Interior, a major conference schedule for early June to discuss commercial development of the oceans.

With your permission, Mr. Chairman, I shall submit for the record a more detailed description of our activities.

With respect to your inquiry regarding the progress that has been made toward resolving the dispute between the Department of the Interior and Commerce concerning our current respective authority in this area. Under Secretary of Interior, Mr. Frizzell, and Dr. White, Administrator of NOAA, have met and resolved a number of these issues. I have met with Secretary Kleppe and will continue to work with him on resolving the major issues. The discussion within the Administration involves the basic question of the appropriate federal role in deep ocean mining and the proper agency responsibilities to implement that role.

The third question you asked was whether the Department of Commerce supports S. 713. We would prefer a broadly acceptable treaty which guarantees U.S. access to the resources and provides security of tenure for investments, thereby meeting the requirements of American industry and consumers. If we cannot

achieve a treaty in the near future, legislation may well be necessary to provide, at least on a national level, a more stable investment climate than would otherwise exist.

You asked whether the Department of Commerce has any experience in the administration of an investment guarantee and insurance program for deep sea mining operations and whether the bill's program of insurance and guarantees is workable and necessary.

Neither the United States Government nor private insurance companies have had experience in providing insurance coverage against political risks involved in deep sea mining activities.

Current U.S. Government programs do not appear to provide insurance against the type of risks generally included in section 14 of S. 713. However, the Commerce Department through the operations of the Maritime Administration (MARAD) and the Economic Development Administration (EDA) has administered both insurance and guarantee programs for specific risks or undertakings.

With regard to the second part of that question, the specification of the insurable risk is extremely difficult to determine at this time and therefore it would be imprudent to make a judgment on the program's potential viability. The proposed legislation would raise many technical difficulties which would have to be worked out prior to any meaningful implementation.

The United States' goal in negotiations is to assure guaranteed access by states and their nationals to these resources under reasonable conditions, coupled with security of tenure. We have undertaken a close and continuing process of consultation with the industry to help assure that these goals are met as negotiations proceed; thus, the issue of a guarantee against the effect of U.S. participation in a LOS treaty creates a paradox. It also raises an important policy consideration in terms of the precedent for providing similar guarantees against the outcome of future negotiations in other areas.

You asked which agency of the Federal Government do I consider most capable of establishing environmental standards on deep ocean mining and whether the standards in S. 713 are adequate. The issue of assignment of that responsibility has not been resolved in the Administration. However, I should mention that our DOMES project, already underway, will provide the means for establishing appropriate environmental guidelines for deep ocean mining. It is important to note that the environmental protection objectives in the bill are not clearly stated and the legislation fails to provide for enforcement of environmental measures.

You asked for my observations on the fact that the bill contains no restrictions on foreign equity ownership. Our study of foreign direct investment in the United States has not indicated that foreign investors have such a position in the U.S. economy as a whole, or in any sector of the economy, or have conducted their operations in such a way as to warrant imposing more rigorous restrictions on their ownership rights than presently exist.

You asked whether I perceive any potential for anticompetitive practices if a consortium of competing mineral companies were to form a joint venture and receive a license under S. 713. From the antitrust viewpoint, deep ocean mining is similar to any other new venture in mineral exploration and production. S. 713 would not shield a licensee from the application of the antitrust laws.

You asked for my view as to the legal effect of Section 16 of S. 713. The bill provides that all hard minerals recovered from the deep seabed under a license issued pursuant to the Act would be deemed to have been recovered in the United States. The drafters of Section 16 appear to have intended that marine transportation from the minesite to the United States be considered to be coastwise trade, and hence, subject to the Jones Act. However, we have serious doubt whether this goal is accomplished, since it is not specifically stated that the minesite is deemed to be located within the United States. Since this provision of the bill does not expressly address itself to Maritime Administration financial assistance programs authorized under the Merchant Marine Act of 1936, as amended, it does not affect the applicability of any programs under the 1963 Act.

You also asked what navigation and shipping laws apply to deep sea mining operations. Here I must defer to the United States Coast Guard.

You pointed out also that nothing in the bill addresses the question of processing recovered minerals either at sea or on land. In my view, on-shore processing will be satisfactorily regulated by current state and federal discharge, air pollution and other environmental requirements. Furthermore, I anticipate that State Coastal Zone Management Programs will be in place in

affected States in time to assure that the location of processing plants will be consistent with the wise use of coastal zone lands and waters.

Finally, you note that Section 21(c) creates an *in rem* liability for any vessel used in violation of the provisions of the act, and that this is contrary to the convention on the high seas. This kind of problem can be dealt with by referring to vessels subject to the jurisdiction of the United States. For an issue of this nature involving questions of enforcement jurisdiction, we think it proper that we defer to the Department of Justice.

Senator HOLLINGS. The committee will next hear from our distinguished Secretary of Interior, Mr. Kleppe.

We welcome you, Mr. Secretary, and you can proceed as you wish.

STATEMENT OF HON. THOMAS S. KLEPPE, SECRETARY, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY H. GREGORY AUSTIN, SOLICITOR; AND LEIGH S. RATINER, ADMINISTRATOR, OCEAN MINING ADMINISTRATION

Secretary KLEPPE. Thank you, Mr. Chairman.

By way of introduction, this gentleman on my left is our solicitor, Mr. Greg Austin; and the gentleman on my right is Mr. Leigh Ratiner, Administrator of the Ocean Mining Administration in the Department of the Interior. Mr. Ratiner is also the chief U.S. negotiator in Committee One of the Law of the Sea Conference.

Mr. Chairman and members of the committees, I should say first of all that I have been here for the past half-hour and listened to the questions and responses by Secretary Richardson. If some of those questions are asked of me, I would be very pleased to give our interpretation of the answers.

I am pleased to have this opportunity to share with you my views on S. 713. The rapid emergence of an American technological capability to mine the resources of the deep seabed brings into sharp focus many of the principal minerals policy issues confronting the Nation in the decades ahead.

As more conventional, land-based sources of important minerals decline in quality and become more expensive to recover, we must look toward the development of new technologies for minerals extraction. The development of deep ocean minerals technology is representative of the very kind of pioneering initiative that will be necessary to resolve the Nation's and the world's future resource problems.

As the U.S. dependence on stable supplies of critical minerals becomes increasingly interrelated to our economic well-being, we must search for ways to strengthen our own domestic capability to fulfill these needs. Ocean mining promises to significantly increase the availability of several key minerals.

As the world's awareness of its economic interdependence heightens, international attention is turned toward the potential for cooperation among nations inherent in exploitation of the resources of the deep seabed.

The Department of the Interior has long been convinced of the important role ocean mining can play in our national minerals policy. And we have diligently sought to fulfill our responsibility to foster and encourage the development of economically sound and stable domestic mining, minerals, and metals industries. As a result, the

Department is fully aware of the concerns which have motivated support for passage of S. 713 and similar bills.

Mr. Chairman, in view of the special responsibilities of the Department of the Interior which I have just mentioned, I feel it is important to call to your attention certain facts about ocean mining and our national minerals situation. The oil embargo taught us some important lessons about dependence on foreign sources of supply for critical raw materials. As Secretary of the Interior, it is incumbent upon me to bring to public attention any similar situation in respect of hard minerals upon which this Nation is significantly dependent. Our net imports of cobalt and manganese are on the order of 98 percent. Our net imports of nickel are well over 70 percent. The import picture for copper varies widely and is currently running at 10 percent.

When production of deep seabed minerals begins, the U.S. dependence on imports of these metals could be radically altered. Based on announced company plans, some projections suggest that deep ocean mining could by 1985 reach an annual capacity of 12 million tons of nodules. Total production could significantly increase the availability of nickel, cobalt, and possibly manganese. These projections are necessarily sensitive to the timing of investment in the ocean mining industry and the availability of capital.

Ocean mining by U.S. firms on a commercial scale could commence by the early 1980's, if present legal and political uncertainties that affect investment decisions were removed. The absence of an international consensus on a stable investment climate places in some doubt the terms and conditions to which future ocean mining investments will be subject. It is difficult to assess the degree to which this doubt has impeded the development of ocean mining technology and commercial timetables in the past. But we do know that American companies are on the verge of making decisions regarding increased annual capital outlays which would be required to move into the next and final preproduction stage of their development work. Before they commit this new level of funding, ocean miners seek some action on the part of the U.S. Government to remove investment obstacles. I share the concerns of the industry in its desire to obtain a stable investment climate in a time frame consistent with the need to promote development of these resources.

I recognize that we have asked Congress to delay legislative action many times before in order to provide a better opportunity for the international community to agree on a realistic treaty which would protect our rights to mine in the deep seabed. I am deeply troubled by the delay in finding a means to assure a stable investment climate. I do not believe it would be in the best interests of our country for the nascent ocean mining industry to lose hope and give up plans for this important new technology. Accordingly, I cannot in good conscience ask for indefinite delay. I will personally follow the negotiations, and if at the end of the summer session of the Law of the Sea Conference they are not meeting U.S. mineral resource objectives, I will immediately recommend that the administration take action to protect our interests. With this in mind, I would like to note that I have studied S. 713 carefully, and there are several technical aspects of

it that I find interesting. However, I want to record some of my principal difficulties with the substance of S. 713.

Provision should be made for dealing with the industry's most immediate problems first, and potential problems later. Accordingly, discretion should be given to the resource manager to authorize commercial recovery operations under a license when commercial recovery is feasible and not sooner. Our understanding is that commercial recovery by any company now interested in ocean mining in the United States could not in fact occur before 1982.

Ocean mining is in a pioneering state, and it would seem to me unfortunate if excessive detail regarding the size of blocks, the duration of activities under a license, the diligence requirements and relinquishment requirements were committed to law at this point. In my view, sound resource management legislation should not include specific details, but, rather, criteria pursuant to which the resource manager could draw up detailed rules and regulations.

Our environmental studies on the impact of ocean mining are far from completed. I do not believe that ocean mining on a commercial scale should commence until a suitable assessment of the environmental impact of such mining has been completed. Accordingly, I believe authorization for commercial recovery should be precluded until a satisfactory programmatic environmental impact statement and environmental regulations have been prepared.

Because ocean mining is in an infant stage and much information still needs to be acquired by the resource manager, I believe a prototype approach should be used in the early years of ocean mining. The resource manager should, in my view, be given the discretion to issue licenses on flexible terms and conditions so as to permit the adjustment of licensed ocean mining activities to protect the environment, the safety of operators and to provide for the possibility of correcting any mistakes which Government regulators may make in the time period in which they are acquiring major substantive data about the seabed and its resources. I know this will be a difficult point for the industry, but I believe it is one worth exploring with them and with Congress.

With regard to the turnover of data to Government from ocean mining, I do not believe Government should be forced to spend millions of dollars in ocean mining data acquisition programs. The taxpayers would be better served by a cooperative program with industry pursuant to which Government could acquire as much data from the industry as would meet its needs as a resource manager. The question of acquiring an adequate data base in the Government of the raw materials data has been acutely before the American people during the oil embargo, and we should take necessary steps to insure that there is no paucity of data regarding ocean minerals.

I believe the insurance provisions and investment guarantee provisions of S. 713 will require more careful study in several areas. For example, we would like to ascertain whether such insurance is not in fact available in the private insurance market. Moreover, I believe if there is any investment guarantee program, it should be at least partially, if not entirely, funded by premiums from licensees.

S. 713 does not provide for a system of generating direct revenues to the public. Such a system should be developed in consultation with the industry and the administration.

In addition to the foregoing technical comments, I would like to make one more general comment which I believe is germane to this legislation. It is possible that the substantive negotiations of a law of the sea treaty which meets our fundamental needs will be a reality by the end of the August-September session of the Law of the Sea Conference. If that turns out to be the case, then it would seem to me we should provide for the provisional entry into force of such a treaty, and necessary implementing legislation.

I am mindful that the session of the Law of the Sea Conference which just concluded resulted in significant improvements which apparently command fairly widespread support and, thus, provides some hope that a subsequent session in 1976 will bring success. I am equally mindful, however, that major negotiating hurdles still lie ahead. Certain countries, among them our industrialized competitors, would like to see the treaty limit U.S. access to deep seabed mineral resources. While this subject was discussed often at the Law of the Sea Conference, no resolution of our differences emerged. To take another example, the most critical question in the Conference is the question of voting and composition of the executive council of the seabed authority. That question was not seriously discussed at the last session of the Conference, and remains for negotiation at the next session. To take a third example, from the point of view of ocean mining, the treaty will be far too late unless a mechanism is found for applying it on a provisional basis immediately after its signature. I am not satisfied that sufficient progress has been made on that issue either. For these reasons and others, I do not feel that we are in a position to predict whether or not the next session to be held in New York in August-September will complete substantive negotiations.

In closing, I would like to emphasize the need for close consultation and cooperation between Congress and the administration. The Law of the Sea Conference is a delicate and important negotiation. There are many advantages for the United States which could accrue from a successful treaty—not only in areas such as national security, navigation, pollution control and management of the living resources of the economic zone, but even for ocean mining. The best approach to these matters is widespread international accommodation and agreement. What I am suggesting today is that we pursue vigorously such an approach. In view of all these considerations, it would be less than prudent for the Department of the Interior to recommend a course of action other than the one I am recommending today.

Thank you, Mr. Chairman.

Senator HOLLINGS. And the course of action that you recommend is exactly what?

Secretary KLEPPE. The course of action I recommend is that no action be taken on S. 713 prior to the August-September session of the Law of the Sea Conference; but then, if U.S. mineral resource objectives are not being met, we should seek legislative support immediately after the August-September session.

Senator HOLLINGS. Very good. Senator Percy?

Secretary KLEPPE. Mr. Chairman, may I insert here that Senator Magnuson submitted some questions and we have the responses to those questions.

Senator HOLLINGS. The questions and the responses will be included in the record.¹

Senator PERCY. I would like to ask, Mr. Secretary—and I certainly welcome you as a former distinguished colleague and friend—I would like to ask how long you think this dispute is going to take to resolve between Interior and Commerce over jurisdiction. Will it be resolved entirely within the executive branch of Government? Do you think it's going to be resolved before the conventions or before the election in November?

Secretary KLEPPE. First of all, Senator Percy, could I make it very, very eminently clear that this—

Senator PERCY. Perfectly clear.

Secretary KLEPPE [continuing]. Perfectly clear, that this witness never wants to get involved in questions of congressional jurisdiction. We have enough of our difficulties and problems to settle in the executive branch. We will have our input. I think Secretary Richardson explained it rather well, as it stands now, from the standpoint of the separate authorities. There is not much question about the authorities that presently exist. We have authority under the Bureau of Mines, the Geological Survey, and laws that are on the books. The Commerce Department has certain authorities. From the standpoint of resource development, there is no question about the fact that from time immemorial, this has been in the Bureau of Mines and the Geological Survey, which are in the Department of the Interior.

If there were going to be any change instituted in the jurisdictional question, it would seem perfectly obvious that all of the technical information and the resource development expertise would have to be continued in the Bureau of Mines or the Geological Survey, or a whole new duplication of effort in people and experience would have to be created. I think these are things that need to be considered. I think the position of the Department of Interior and the position of the Department of Commerce are fairly obvious. Suffice it to say, I cannot answer your question about when this issue will be decided, but it is very likely that, through the OMB consultation process and through a determination by the President, it will be resolved within the branch of the executive. I do not know when this will happen, but I assure you that we will have our input. Commerce will have their input, and we will do the best we can to put our best foot forward.

Senator PERCY. I appreciate the frankness of that because in reading your answer to Senator Magnuson's question, you indicated, in a sense, that the dispute could not be resolved until we really determine what the whole Federal role is in this matter—and that could be a long-term determination. But at least you do not foresee a resolution of this dispute anywhere in the near future?

Secretary KLEPPE. I guess I would just have to stand on my comment that I cannot give you a time frame. I do not know.

Senator PERCY. Well, let's just hope it won't be as long as it took the ICC to determine whether the Rock Island could merge with the Union Pacific. We are in the 13th year now, and I'm not sure they know that in the meantime the Rock Island went bankrupt.

Secretary KLEPPE. I would like to add, Senator Percy, that in the meantime, while all of this dialog and debate is taking place, the

¹ See p. 64.

working relationships and the cooperation that presently exist between the Department of Commerce and the Department of the Interior will continue, because we have a job to do, and we are going to try to do it the best we can.

Senator PERCY. Thank you. I think that's reassuring. I asked Secretary Richardson this question, so I'd like you to tell us from Interior's standpoint: When do you see seabed mining being able to compete economically with land-based mining?

Secretary KLEPPE. Hopefully, 1985. I think that some progress could begin to be made in the early 1980's. Provided we get a framework which would lend economic stability and support to the industry, this projection would hold.

Senator PERCY. Thank you. By 1985 it's feasible, then?

Secretary KLEPPE. This is an objective we are looking at, if everything falls into place; yes.

Senator PERCY. So if we ever went into an insurance program or guarantees or something like that, at least we could anticipate those could be phased out and you'd have a competitive industry. Is that correct?

Secretary KLEPPE. Yes; that could be a possibility, in response to your question.

Senator PERCY. I think our OPIC experience shows us that when we go into a new program, if we do, we ought to establish a terminal point for it.

Secretary KLEPPE. Yes.

Senator PERCY. Declare a death sentence before we start, so it's not another one of these Federal programs that just keep going, keeping Government in something that really the private sector should be handling.

Secretary KLEPPE. I would certainly hope that that is a fair objective. I would like to add, from the standpoint of these guarantees and this insurance, that there would be a way for the Government to work together with the private insurance sector to bring about some of this support. I do not think it could be done by either one or the other. The combination of the two would have a scope and a time frame that could render a great deal of usefulness to the whole program.

Senator PERCY. Could you give us some idea, Mr. Secretary, as to the potential size of the industry we are talking about, in the short range and in the long range? How many companies, for instance, are involved now and have development programs underway to explore and exploit deep sea minerals? How big an investment are they making now, and what do you think the total industry would be by, let's say, the end of 1980—and by a decade beyond that, if you're able to predict that far ahead? In other words, do you look on this as a really great growth potential industry?

Secretary KLEPPE. Senator Percy, first of all, there are four American firms that are considered to have the lead in ocean mining right now. They are Kennecott Cooper, Deep Sea Ventures, Lockheed Missiles & Space, and the U.S. subsidiary of International Nickel.

Each of those firms have currently spent about \$25 to \$30 million on development work. It is anticipated that a total capital investment for an average capacity operation would be somewhere between \$300 and \$600 million.

Now, if industry plans for this 1985 capacity that we have talked about are realized, 12 million tons of annual production would represent about \$2 billion worth of capital outlays.

Senator PERCY. If there is about a \$2 billion capital outlay, do you have any idea as to what the value of the minerals being mined would be by, say, 1985?

Secretary KLEPPE. We do not have an estimate on that.

Senator PERCY. Could that be supplied for the record—a rough calculation? We are talking about a very, very big potential industry here.

Secretary KLEPPE. Yes; we are. We will supply that for the record. [The information follows:]

We estimate that the total value of production in 1985 from a 12 million ton per year ocean mining industry would be around \$1.3 billion (in 1976 dollars).

Senator PERCY. I mentioned that I started these hearings without any prejudice whatsoever, with an open mind. I am beginning to get an impression as to the direction we ought to go on this legislation. But I would like to have you answer the same question I put to Secretary Richardson.

The United States has a tremendous technological lead now, and this is a terribly important thing. It is just as important to us—more important, you might say—as the lead we had in aircraft, the lead we still have in computers. If we did not adopt this legislation, do you foresee any possibility that we would be hurting the industry, that we would be undercutting that lead that we have?

To what extent does the adoption of this legislation relate to the technological lead we have? If we fail to pass it, are we going to prejudice the industry or our position?

Secretary KLEPPE. Senator Percy, I believe you have touched on a good point underlying the position that we have taken regarding the question of delay on this legislation. We just do not believe in indefinite delay in the event that the August-September session of the Law of the Sea Conference does not produce what is in the best interests of the United States.

In that event, we believe that unilateral action on legislation in the Congress then ought to take place, so that we do not lose that leadtime.

I think you are on a very critical point here.

Senator PERCY. One further reference to OPIC. Senator Case and I participated over a period of many months in hearings on that subject, and I think we developed a commonality of viewpoint and approach to it.

The question is this: The law of the sea negotiations have been underway for 4 years. Despite uncertainty as to these negotiations, the deep seabed mining industry has invested substantial amounts of capital without the benefit of such investment guarantees.

Why is it so critical that the industry obtain guarantees and insurance at this time?

Secretary KLEPPE. I think on a comparative basis that we have to admit that the level of investment has been relatively low, because there is so much more that has to be done.

But I think also it would be fair here to indicate that, for the first time, after this last session of the Law of the Sea Conference, we believe we can see some light of day. And maybe we are a little prejudiced in the Department of Interior on that question, because the chief U.S. negotiator is one of our own employees.

But I have all of the reason in the world to trust and expect that what he has reported to me from that session is certainly a true status of events. These developments in the deep seabed negotiations are why we are encouraged. I believe it is incumbent upon all of us to communicate to the industry what occurred at the Conference and the projected sequence for the next session. If that sequence does not materialize, we ought to get some legislative action right up here on the Hill.

Senator PERCY. Thank you very much.

Senator HOLLINGS. Senator Case.

Senator CASE. No questions right now. Thank you.

Senator HOLLINGS. Mr. Secretary, going back again to some of those companies you named, perhaps some of them have a minority interest, not a majority U.S. interest, I am not sure. I am looking at it from the standpoint of giving a guarantee, depletion allowance, everything else, and then something wipes an operation out and we are liable for \$200 million. And for the first time the taxpayers and Senators find out that is about to be a \$200 million payment to some foreign-owned group, and somebody says, "By the way, we never did get any nickel or manganese from it."

You say in the best U.S. interests. That is exactly what I am looking at. I am not picking companies. I am like any other human, I hate to see all of the riches lie dormant on the floor of the ocean when we need them. I have that kind of compulsion.

But more than that, when you use the expression "the best interests of the United States," looking at this bill, as you say in your statement, section by section, and having some criticisms of the different sections, do you find any lack in the legislation itself with respect to really protecting the U.S. interests?

Secretary KLEPPE. Mr. Chairman, could I address the first part of your question first?

Senator HOLLINGS. Certainly.

Secretary KLEPPE. I listened to your dialog with Secretary Richardson, and I would like to respond specifically to your question that I believe that we will need strong restrictions concerning the processing plants being in the United States, so that the metals secured from that process come to supply our needs.

It seems to me that this is the protection we need. I would favor this. And if the language in the bill is not strong enough to provide that, then that issue can be debated, but then I think we should strengthen it.

I agree with you completely that the United States is entitled to and should receive that kind of protection.

I think what is important is the location of the processing plants and the distribution of the minerals that we get from them. That is what such a bill would be for.

Senator HOLLINGS. That is right. But there ought to be some requirement that it be brought within the United States and processed, so we

take care of those various statistics that we point out so startlingly in these statements.

Secretary KLEPPE. Very frankly, I think if we do not do that, you and I and everybody else will have a difficult time explaining that this is a legitimate guarantee program.

Senator HOLLINGS. Excellent, I appreciate your saying that.

I understand that you have drafted Interior's draft of the deep sea mining bill. You folks have been vitally interested. Mr. Ratiner, I know, has been working on it for several years. Could you furnish that draft for the record?

Secretary KLEPPE. We cannot, Mr. Chairman; we have not received clearance on it from within the administration as yet. But we have a lot of thoughts and ideas to go along with what has transpired in the past and what is transpiring currently.

We will be working on these ideas between now and the time this session of the Law of the Sea Conference comes about.

Senator HOLLINGS. What are the substantial differences between your draft and Mr. Metcalf's bill?

Secretary KLEPPE. That is close to the same question. I would say that in my statement that I read, appears my objections to S. 713. These are aimed at fulfilling some of the requirements we believe ought to be in the legislation. That is as far as I can go.

Senator HOLLINGS. Talking about the technology, the state-of-the-art, I don't believe we have too long a leadtime over the Japanese, French, or even the Soviets; not more than 2 years.

Suppose the Soviets came up in the middle of the Atlantic Ocean and started garnering all of these nodules, what would we do?

Secretary KLEPPE. I do not think we ought to get to that point.

Senator HOLLINGS. Not get us to that point, but if the Soviets got to that point, what would we do?

Suppose the Soviets or French or Japanese came out—and we thought we were out there with the Glomar Explorer.

Secretary KLEPPE. I guess that is probably a question for somebody else to answer.

But that is precisely the reason I take the position I do, in support of our acting so that that does not happen.

In the first place, we estimate that we have a 5- to 7-year leadtime over the Japanese and the United Kingdom, but probably a 10- or 15-year leadtime on the Soviets. I think that is part of the reason why we ought to follow this procedure and do something in the event that we do not get it done by treaty soon.

Senator HOLLINGS. If we passed this bill this afternoon, it still wouldn't qualify under the budget procedures for May 15. In other words, no budget authority was included for it, so we really are going to have to wait until the next fiscal year, isn't that correct?

Secretary KLEPPE. I think that is correct; yes, I think so.

Senator HOLLINGS. We are very honored: we have the distinguished chairman of the Foreign Relations Committee here, Senator Sparkman.

Senator SPARKMAN. Mr. Chairman, I am sorry to be late, but I have been in the Banking Committee trying to clear something, and it took longer than I anticipated.

I am not prepared to proceed on this now. I am reading Mr. Kleppe's statement.

Senator HOLLINGS. We appreciate your interest.

Senator SPARKMAN. Our committee relies very heavily on Senator Pell. He is the deep sea man of America.

Senator HOLLINGS. We do, too. Senator Pell?

Senator PELL. Why is it that there was much more opposition from the administration to the 200-mile fishery bill than there is to this 200-mile mining bill?

Secretary KLEPPE. Senator Pell, I have no idea as to why that is the situation. I was not involved at all in the fishing question. I am involved in this question. I cannot answer your question.

Senator PELL. It seems to me it should be the reverse. With the fish, we were using up and exhausting a natural resource through bad conservation practices. In this case there is no immediate danger of the resource being exhausted, so we could wait.

Is there any commitment on the part of this administration to the mining industry if we do not have resolution of this problem in the next session of the Law of the Sea to support the mining bill?

Secretary KLEPPE. Yes; basically, that is what my testimony is about, that we ought to take legislative action if and when that happens.

Senator PELL. That is the view of the administration?

Secretary KLEPPE. Oh, did you ask about the mining industry?

Senator PELL. Yes.

Secretary KLEPPE. There has been no commitment to the mining industry. My statement, though, is a commitment to everybody, I guess—to this committee and everyone else—that we take that position that we ought to do it.

Senator PELL. I believe this is a step backward from the administration's position of a year ago. Would that not be correct?

Secretary KLEPPE. I was not here a year ago, but I would say this is an adjustment to some degree, I would hope forward, from the standpoint of the administration posture on this question. I feel quite strongly about this, Senator Pell, that we have this possibility of working out a treaty. We ought to give it a chance to work, primarily because for the first time there has really been much success in the session just concluded.

So the possibilities look better than they ever have.

Short of that, if the international approach does not work, then I believe we ought to go to the legislative process, and the executive and congressional branches ought to get together and promote this kind of legislation. This is the position that I have taken here today.

Senator PELL. In the description of the bill, it is stated that one of its purposes is the conservation of the hard mineral resources in the deep seabed, but nothing in the rest of the bill deals with conservation.

Nor is there any specific reference to it in the issuance of licenses or authorization. Is that your understanding also?

Secretary KLEPPE. As we understand it, that would be part of the rulemaking powers of the Department of the Interior. Whenever you have any activity of this nature, you have not only the environment but the conservation of the resources that must be dealt with. We would consider it in that way.

Senator PELL. As you know, the law of the sea negotiations have been underway for about 4 years. Some have been talking about the need for a treaty for a good many more years.

In this period of time, the seabed mining industry has already invested substantial amounts of capital, without the benefit of any guarantees or insurance.

Why do you believe it is so important that they now have these guarantees? Why could not they move ahead on their own?

Secretary KLEPPE. On a comparative basis, as I indicated a moment ago, the investments for the size of the industry involved are relatively small. They are not small in actual dollars, but relatively small in relation to the ultimate size of the investment.

For any further substantial investment activity that is going to bring about the reality of ocean mining, we believe it is absolutely necessary that the industry get a degree of stabilization.

What is the Government going to do? That becomes important, of course.

Senator PELL. Thank you. Thank you, Mr. Chairman.

Senator HOLLINGS. We are pleased to have Senator Leahy here, representing the Armed Services Committee.

Senator Leahy.

Senator LEAHY. Thank you, Mr. Chairman. I think the various witnesses have probably had to juggle back and forth the different interests of the different committees here, and I will leave the commercial interests and the foreign relations interests to the gentleman who are far more equipped than I in those areas.

But I do have a couple of questions on behalf of the Armed Services Committee, and without going into classified areas, we do know that the Armed Forces of this country have navigation surveillance devices in different areas on the deep seabed.

Now, if something similar to S. 713 is enacted, if the jurisdiction came under your Department, Mr. Secretary, would you have plans to prohibit development of seabed mineral resources in areas where our surveillance devices might be maintained?

Secretary KLEPPE. Can I ask for a comment on that from Mr. Ratiner, Senator?

Senator LEAHY. Certainly.

Mr. RATINER. Senator, this question arises frequently with respect to the Interior Department's many different responsibilities, and there are usually procedures worked out with the Department of Defense to insure that any defense installations, particularly classified installations, are thoroughly respected in the process of resource development.

That has always been the case to my knowledge.

Senator LEAHY. Following up on what Senator Pell has talked about, one of the rationales for deep seabed mining is the desire to be less dependent on imports of resources—manganese, nickel, cobalt. But we get these primarily, as brought out earlier in the testimony, from friendly nations—Canada, Australia, and others—so there is no real pressing need for self-sufficiency in these minerals.

Is there any reason why we should move ahead with this legislation, and not wait for the Law of the Sea Conference to take its course?

Secretary KLEPPE. One comment I would make in regard to your statement is that the production of nickel is beginning to move into the third world, other than just the friendly nations. But I would repeat again—

Senator LEAHY. But our supplies are still ample from friendly nations, are they not? Our nickel supplies from friendly nations are ample?

Secretary KLEPPE. Basically, yes; they are—there is no question about that.

But in response to the latter part of your question, it still seems advisable to us that, in view of the scheduled August-September session of the Law of the Sea Conference, it would be wise not to move on S. 713 or something like it. However, in the event that the session does not work out, we have indicated that we would lend our support to some legislative effort after that period of time.

Senator LEAHY. Should that case arise, do you anticipate working at all with the Department of Defense?

Secretary KLEPPE. Well, this would have to be a completely coordinated effort within the administration, which includes Defense, State, Commerce, Interior, and probably many more.

Senator LEAHY. Thank you. Thank you, Mr. Chairman.

Senator CASE. Mr. Chairman, I have a couple of questions.

Senator HOLLINGS. Yes, Senator Case.

Senator CASE. It may be that the record already contains the answers to these questions, and it may be that they will seem to be impossibly elementary, but I wonder if you could tell us, if not now, for the record, on the basis of commercial value, what the most important metals found in these nodules are? What percent of our domestic consumption of each one of them we are importing, and at what cost? From what nations do we get them? How much of these metals we can expect to get from relatively all-out exploitation of deep sea mining?

Secretary KLEPPE. Senator, I can answer a few of those questions, but can we supply the detailed numbers for the record?

Senator CASE. I wish you would, because it would help me. I don't come at this with any preconceptions at all. I have two general guides. One is that in this world it is important for us to be independent as quickly and as completely as possible in basic resources.

Secretary KLEPPE. I have previously recited some of those numbers. But to give you a more total picture, we can supply the information for the record.

[The information follows:]

While manganese nodules contain over 20 metallic elements, the metals of chief commercial value—and those which ocean mining firms now plan to recover—are nickel, copper, cobalt, and in some cases manganese.

In 1975, U.S. net imports represented 99 percent of our manganese consumption, 98 percent of our cobalt consumption, and 71 percent of our nickel consumption. On the average, U.S. net imports of copper represent around 10 percent of consumption.

During the 1971-74 period, U.S. imports of these four metals were derived from the following sources:

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	Percent
Nickel:	68
Canada	8
Norway	6
New Caledonia	5
Dominican Republic	13
Other	
Cobalt:	47
Zaire	29
Belgium/Luxembourg	7
Finland	7
Norway	4
Canada	2
Zambia	4
Other	
Copper:	33
Canada	22
Peru	17
Chile	6
South Africa	22
Other	
Manganese:	
Manganese ore:	35
Brazil	31
Gabon	9
Australia	8
South Africa	17
Other	
Ferromanganese:	39
France	36
South Africa	8
India	17
Other	

An ocean mining industry with a 12 million ton annual capacity would produce the following metal tonnages per year:

Nickel	162,000
Copper	140,000
Cobalt	15,000
Manganese ore	1,000,000 ¹

¹ The levels of projected recovery of manganese in ocean mining operations is speculative.

In 1985, this production could reduce nickel imports by more than 50 percent, eliminate cobalt imports, reduce copper imports by 30 percent and potentially reduce manganese ore imports by more than 40 percent.

Senator Case. I wanted to get some idea of how important this is to our security and to our independence, and whether this legislation is really going to be helpful or whether it is a relatively marginal matter, although very large indeed for the individual participants.

Thank you, Mr. Chairman.

Senator HOLLINGS. Senator Pell?

Senator PELL. I am still a little concerned about the fact that in the fisheries situation, the administration wanted us to go slowly and the fish were disappearing, but the minerals are still there and will stay there for a good many more years if you do nothing. I wonder about the reason for this change of viewpoint.

I would hope my understanding that there has been some commitment made to the mining industries is incorrect. I would also hope, to put it bluntly, that the contributions of the various mining industry groups would be average, that there would not be any jump in those contributions.

This is just an observation that implies hope on my part.

Senator CASE. Mr. Chairman, there is one other thing I would like to put in the record at this time.

I am sure the Secretary realizes that we rely more upon him and his Department than, I think, on any other for environmental considerations.

Secretary KLEPPE. That is correct.

Senator CASE. This is most important, because I have a hunch, which my observation of the various meetings of the international groups trying to work out a treaty rather confirms, that if the United States doesn't take prime responsibility in this area, no other country will.

The developing countries are not particularly interested in the environmental situation with respect to the sea. They are interested in their own mining operations and the effect that environmental regulation will have on them. They want to control it for that reason.

Secretary KLEPPE. Senator, there is a provision in the bill as it is now written that requires environmental regulation.

But you are absolutely right, we have a responsibility here that we are going to have to look after, no matter what we do.

Senator CASE. I want to make this point again. I think we have to feel that responsibility as a very heavy one, because I think no other country and no other group of countries has anything like the same concern about this or ability to do something about it that we have.

Senator HOLLINGS. Mr. Secretary, obviously this would be a question for the Secretary of Defense, but you have Mr. Ratiner there, who used to be with Defense.

What is the commitment of the U.S. Navy under legislation or the assumed responsibility here?

Specifically, we have seen the Soviets take on the U.S. fisherman, Iceland take on Great Britain. Maybe I have been watching too much television, but suppose I wanted to be reelected President of Uganda, and I sent a complement to sabotage, not surreptitiously, but deliberately, to sever cables or whatever on a U.S. deep sea mining operation because the United States is not sending enough to the third world? I have the mining operation. Do I call the U.S. Navy? Does the U.S. Navy respond, or how do you see it?

Secretary KLEPPE. Mr. Ratiner?

Mr. RATINER. Mr. Chairman, when I was with the Defense Department, there was a War Powers Act, and I think that act complicates the answer to the question, and I would respectfully defer to the Department of State on that.

Obviously, the question of defending ocean mining would be both a policy question and now a legal question. And what the obligations of the United States are to carry out such a defense it seems to me would require an answer from the Department of State.

Senator HOLLINGS. Secretary Kleppe has an opinion on most everything. What is your opinion, Mr. Secretary?

Secretary KLEPPE. Why did you say that, Mr. Chairman?

Senator HOLLINGS. Because you are rather outspoken, and I enjoy it.

Secretary KLEPPE. I think I will stand on his comments, Mr. Chairman.

Senator HOLLINGS. We appreciate very much your appearance, and your colleague's this morning, Mr. Secretary.
[The questions and answers referred to follow:]

QUESTIONS SUBMITTED BY SENATOR MAGNUSON, FOR THE DEPARTMENT OF THE INTERIOR

Question 1. Please describe the activities of the Department of the Interior with regard to deepsea mining.

Answer 1. Secretarial-level participation in the initial formulation of United States oceans policy and law of the sea positions in conjunction with the Departments of Defense and State, leading to promulgation in 1970 of a Presidential oceans policy.

Ongoing responsibility for policy formulation and advice to the Department of State in respect of the ocean mineral resources aspects of the law of the sea negotiations.

Liaison with industry concerning their technical progress as well as the potential impacts of legal and political developments on their activities including periodic visits by Interior representatives to monitor technology development.

Preparation of analyses of the regulatory options for deep ocean mining, and the economic impact of those options, to serve as a basis for regulatory schemes proposed in law of the sea negotiations.

Deep ocean resource mapping undertaken by the Geological Survey.

Developing estimates of the economic potential of deep ocean resources.

Establishing an information base on technological progress in the ocean mining industry.

Mining technology research on OCS hardrock mining, environmental studies including gathering baseline data and studying environmental effects of mining technology.

Nodule processing research.

Establishment in 1972 of a joint Department of the Interior, Department of Commerce committee, chaired by Interior, to study technical aspects of ocean mining to prepare a base for interim ocean mining policy and the drafting of an Environmental Impact Statement.

Presentation in 1973 to the Congress of an official assessment of the status of the ocean mining industry, prepared by the Bureau of Mines.

Public appearances before academic groups, Government/industry seminars, etc., for the purpose of promoting interest and knowledge of the importance of ocean mining and the potential obstacles to its development.

Development within the Bureau of Mines and the Geological Survey of basic data utilized in intergovernmental review of U.S. economic/mineral resources objectives in the law of the sea.

Preparation of contingency interim legislation for ocean mining for consideration within the Executive Branch.

Completion of draft Environmental Impact Statement on ocean mineral resource development submitted through Department of State for public comment.

Economic analyses of potential profitability of various ocean mining industry models by Bureau of Mines.

Initiation of outside contract studies to analyze the state-of-the-art of ocean mining technology, to develop topographic and seismic data charts needed for ocean mineral assessment, and to assess economic and regulatory conditions of ocean mining to define strategic and regulatory alternatives available to the Government.

Establishment of a systematized public information effort involving regular mailings to industry and Government officials as well as private individuals in this and other countries who are involved in ocean mining related activities.

Analyses of the potential impact of ocean mining on availability of minerals supply to the United States.

In addition, also supplied for the record (Annex I) is a list of studies and analyses of ocean mining carried out by Interior during the past eight years.

Question 2. There has been a continuing dispute between the Departments of the Interior and Commerce concerning their respective authorities and responsi-

bilities in this area. What progress has been made toward a resolution of this dispute?

Answer 2. I have set forth below a statement indicating the current status of efforts to work out a compatible approach to ocean mining programs between the Departments of the Interior and Commerce.

"The Departments of Commerce and Interior have held several discussions to try to clarify the respective responsibilities of the two agencies in the area of deep ocean mining. These discussions have resulted in clarification of the responsibilities for most of the current Federal efforts related to deep seabed mining.

There remain several areas, however, that are still under consideration within the Executive Branch. These relate primarily to possible future Federal responsibilities for promoting, managing or regulating deep ocean mining. There are two issues at question here. The first issue relates to the appropriate Federal role in promoting, managing or regulating deep ocean mining. The second issue relates to the respective responsibilities of the several Federal agencies in carrying out the Federal role. It is difficult, if not impossible, to decide the latter issue, without first determining the appropriate Federal role. An important factor that must be considered in determining the appropriate Federal role is the course of developments in the current law of the sea negotiations. Also, there are more agencies than Interior and Commerce which have potential roles, including the Department of State, the Environmental Protection Agency, the Department of Transportation, and the Department of the Treasury."

Question 3. Does the Department of the Interior support S. 713? Is the Department opposed to any domestic legislation either promoting or regulating U.S. nationals or vessels engaged in deep sea mining?

Answer 3. My testimony fully replies to this question.

Question 4. S. 713 contains various provisions relating to blocks, minimum annual expenditures, relinquishment, density requirement, and so on. Are any of these provisions absolutely vital to deep sea mining? If so, which provisions?

Answer 4. I believe provisions such as those referred to are essential for the efficient management of the resources; although, as I mentioned in my testimony, I would prefer to have the precise figures established in any necessary rules and regulations and not in legislation. Ocean mining in these respects is similar to land mining. It is imperative that ocean miners be bona fide and that they not speculate with natural resources; that they relinquish areas which they are not using so that they can be used by others; and that their rights relate to a specific area wherein certain conservation requirements can be imposed. Any other system for resource development will lead to confusion, investment instability and will prevent effective conservation of the resources and protection of the marine environment. Furthermore, it has been the consistent view of the mining industry and the view of certain members of the banking community that the extraordinarily high capital requirements for this industry will not be met unless specific mine sites are provided for.

Question 5. S. 713 seems to treat mining in the deep ocean in much the same way as mining on land. Is this sound policy given the "high seas" character of potential deep sea mining sites?

Answer 5. Mining in the deep ocean is similar to surface mining on land and will be carried out by similar techniques in accordance with similar investment decisions. The seabed is analogous to land territory; the resources lie on the surface of the seabed in much the same way that resources lie on land, although in this case they are on the surface rather than buried just beneath the surface. The one-half billion dollar capital investment needed to bring a single mine site into production is highly sensitive to a detailed examination of topography, resource distribution and quality at a particular site. In short, the mining system and investment decisions are all site specific. The fact that the resources are found at the bottom of the deep ocean is only relevant in terms of costs of transportation and the design of mining recovery equipment. The overburden of water rather than earth does not affect the essential character of ocean mining which is more akin to land mining than to fishing where the resources are constantly changing their location.

Question 6. Please provide any other specific comments you may have with regard to the provisions of S. 713.

Answer 6. At this time we do not have any other specific comments on S. 713.

ANNEX I

MAJOR DEPARTMENT OF THE INTERIOR, TECHNICAL STUDIES, POLICY ANALYSES AND STATEMENTS RELATING TO OCEAN MINING

I. TECHNICAL STUDIES

A. Geological Survey

- Publications and papers containing data on manganese nodules:
- Albers, J. P., Carter, M. D., Clark, A. L., Coury, A. B., and Schweinfurth, S. P., 1973, Summary Petroleum and Selected Mineral Statistics for 120 Countries, Including offshore Areas: U.S. Geological Survey Professional Paper 817.
- Berryhill, H. L., 1974, The Worldwide Search for Petroleum Offshore—A Status Report for the Quarter Century, 1947–1972: U.S. Geological Survey Circular 694.
- Bischoff, J. L., 1975, Geological and Geochemical Properties of a NE Pacific Sediment Core: Preliminary Results of a U.S. Geological Survey Study of Site C, Deep Ocean Mining Environmental Study.
- Brobst, D. A., and Pratt, W. P., (Editors), 1973, United States Mineral Resources: U.S. Geological Survey Professional Paper 820 (contains 66 papers).
- Corwin, Gilbert, and Berryhill, Jr., Henry L., 1973, Interim Revision and Updating of World Subsea Mineral Resources: U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-632.
- McKelvey, V. E., and Wang, F. F. H., 1970, Preliminary Maps, World Subsea Mineral Resources, U.S. Geological Survey Miscellaneous Geologic Investigations, Map I-632.
- Mineral Resource Perspective 1975: U.S. Geological Survey Professional Paper 940.
- Subsea Mineral Resources and Problems Related to Their Development, 1969: U.S. Geological Survey Circular 619.
- Woo, C. C., 1975, Surface textures and the Ferromanganese-nucleation of Proj. DOMES Mn-Nodules, U.S. Geological Survey memo, December 12, 1975.
- Wright, N. A., and Williams, P. L., 1974, Mineral Resources of Antarctica: U.S. Geological Survey Circular 705.

B. Bureau of Mines

- Specific publications and papers on ocean mining:
- Heady, H. H. Collection and Analysis of Marine Manganese Nodules, OFR 7-67, 1967.
- Rosenbaum, J. B., J. T. May, and J. M. Riley. Gold in Sea Water—Fact or Fancy. Mines Magazine, v. 5, No. 9, September 1969.
- Handsman, M. and A. Kaufman. Ocean Mining: Today and Tomorrow, paper presented to Marine Technology Society Conference, 1969.
- Brooks, P. T., K. C. Dean, and J. B. Rosenbaum. Experiments in Processing Marine Nodules. Proc. 9th Internat. Mineral Processing Cong., Prague, Czechoslovakia, June 1-6, 1970, v. 1.
- Brooks, P. T., and D. A. Martin. Processing Manganiferous Sea Nodules. BuMines RI 7473, January 1971.
- Ely, Northcutt. Summary of Mining and Petroleum Laws of the World, IC 8482, 1970.
- Conceptual Evaluation of Deep Ocean Nodules Technology and Economics of Mining and Processing, February 1975.
- Position Paper on Ocean Mining, Twin Cities Research Center, July 1975.
- General publications on minerals supply-demand applicable to ocean mining studies:
- Mineral Facts and Problems, 1975 Edition, Bulletin 667 (quinquennially).
- Minerals Yearbook, Volume I, Metals, Minerals, and Fuels (annually).
- Minerals Yearbook, Volume III, Area Reports: International (annually).
- Commodity Data Summaries (annually).
- Mineral Industry Surveys (weekly, monthly, quarterly, and/or annually).

(See Attachment A containing a list of commodity reports on 100 commodities.)

C. Other

- Hypothetical Marketing Situation for Nickel, attachment to statement by Leigh S. Ratiner before Subcommittee on Oceanography of House Merchant Marine and Fisheries Committee, March 1, 1973.
- Economic Implications of Deep Sea Mining for World Markets in Nickel, Copper, Manganese and Cobalt, study submitted to Senate Interior and Insular Affairs Committee, March 7, 1973.

Revision of the Secretary-General's Report on the Economic Implications of Deep Sea Mining, submitted to the Senate Interior and Insular Affairs Committee, July 9, 1973.

Draft Environmental Statement proposed for United States Involvement in Law of the Sea Negotiations Governing the Mining of Deep Seabed Hard Mineral Resources Seaward of the Limits of National Jurisdiction, prepared by the U.S. Department of the Interior, Office of the Assistant Secretary—Energy and Minerals, March 1974.

Economic Evaluation of Ocean Mining, draft study soon to be released by Ocean Mining Administration.

D. Studies Currently under Contract

Bureau of Mines funded research:

"Assessment of Economic and Regulatory Conditions Affecting Ocean Minerals Resource Development," Massachusetts Institute of Technology.

"Study of Sedimentology and Geology of Eastern Pacific Ocean Bottom," Scripps Institution of Oceanography, Modification of Bureau of Mines Grant USDI-60-254024.

"Investigation of the Bathymetry and Seismicity as a Basis of Mineral Assessment of the North Equatorial Pacific," Lamont-Doherty Geological Observatory of Columbia University.

Office of Mineral Policy Development funded research:

"Technological and Economic Assessment of Ocean Mining," Arthur D. Little.

II. POLICY ANALYSES AND POSITION PAPERS

"Alternative Rules and Provisions Governing Exploration and Exploitation of Seabed Mineral Resources beyond the Limits of National Jurisdiction," prepared by Interior for Law of the Sea Task Force, Regime Working Group, June 2, 1970.

"Draft United Nations Convention on the International Sea-bed Area: United States Working Paper," submitted to UN Committee on Peaceful Uses of Seabed and Ocean Floor beyond the Limits of National Jurisdiction (appendices largely prepared by Interior), August 3, 1970.

Internal Working Papers of Interior/Commerce Interim Policy Working Group and ad hoc Environmental Task Force, chaired by Interior, 1972.

Mendelsohn, Allan I., Consultant to Interior. "OPIC—A Potential Insurer of Deep Sea Hard Mineral Mining Projects," March 1973.

Mendelsohn, Allan I., Consultant to Interior. "MARAD and Ship Mortgage Insurance—another USG Insurance Program," a study of the potential application to ocean mining, March 12, 1973.

"Precedents in International Law for Provisional International Organizations," study prepared by staff of the Solicitor, May 1, 1973.

Charney, Jonathan I., Consultant to Interior. "Proposed United States Working Paper on a Provisional Convention on the Law of the Sea for Submission to the Third United Nations Conference on the Law of the Sea" and "Background Memorandum on Proposed Working Paper," June 6, 1974.

"United States Working Paper on Economic Effects of Deep Seabed Exploitation," submitted to Committee I of the Law of the Sea Conference (largely prepared by Interior), August 8, 1974.

"United States Working Paper on Draft Appendix to the Law of the Sea Treaty Concerning Mineral Resource Development in the International Seabed Area," submitted to Committee I of the Law of the Sea Conference (largely prepared by Interior), August 13, 1974.

Internal Departmental Study proposing a "Deep Ocean Minerals Initiative," January 6, 1975.

"Draft Bill to Encourage the Development of Ocean Mineral Resources, to Provide for the Provisional Entry into Force of a Treaty on the Law of the Sea and for other purposes," February 7, 1975.

"Draft Bill to Provide for the Provisional Entry into Force of a Treaty on the Law of the Sea, to Encourage the Development of a Domestic Ocean Mining Capability and for Other Purposes," October 31, 1975.

[The following are subjects upon which additional studies have been prepared by the Department of the Interior during 1970-76.]

Comparative analyses of different versions of Single Negotiating Text.
Comparisons of various proposals for deep seabed regime and machinery.
Consultations with foreign delegations on deep seabed negotiations.

Decision-making procedures in the international deep seabed machinery.
 Detailed analyses of Committee I Single Negotiating Text, Annex I to the Single Negotiating Text, and regime and machinery texts prepared by Committee I Working Group Chairman.
 Detailed comments and policy considerations on law of the sea economic issues.
 Economic implications of deep seabed exploitation.
 Elements of a deep seabed minerals recovery regime.
 Issues concerning revenues from manganese nodules.
 Negotiating issues in Committee I, both substantive and tactical.
 Ocean mining interim policy.
 Proposals on economic implications.
 Proposed amendments to Single Negotiating Text.
 Regulations for deep seabed exploration and exploitation.
 Resource implications of different depth limitations to coastal State seabed jurisdiction.
 Resource implications of different limits to coastal State seabed jurisdiction.
 Resource implications of different seabed limits for islands.

III. STATEMENTS

A. Before Congressional Committees

Subcommittee on International Organizations and Movements of the House Committee on Foreign Affairs. Statement on Interim Report on the United Nations and the Issue of Deep Ocean Resources—Pursuant to H. Res. 179 by Dr. Harold L. James, Chief Geologist, U.S. Geological Survey, accompanied by Thomas Howard, Director, Mining Research, Bureau of Mines, October 19, 1967.
 Subcommittee on International Organizations and Movements of the House Committee on Foreign Affairs. Statement on The Oceans: A Challenging New Frontier—Pursuant to H. Res. 179 by Frank Cotter, Division of Public Lands, Solicitor Office, June 12, 1968.
 Subcommittee on International Organizations and Movements of the House Committee on Foreign Affairs. Statement on The Oceans: A Challenging New Frontier—Pursuant to H. Res. 179 by Hon. Edward Weinberg, Solicitor, June 12, 1968.
 Subcommittee on International Organizations and Movements of the House Committee on Foreign Affairs. Statement on The Oceans: A Challenging New Frontier—Pursuant to H. Res. 179 by Dr. William T. Pecora, Director, U.S. Geological Survey, July 25, 1968.
 Subcommittee on Oceans and Atmosphere of the Senate Committee on Commerce. Statement on Hearings on the Law of the Sea by Leigh S. Ratiner, October 3, 1972.
 Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries. Statement in Hearings on H.R. 9 by Leigh S. Ratiner, March 1, 1973.
 House Committee on Merchant Marine and Fisheries. Statement in Maritime Briefings by Leigh S. Ratiner, Director for Ocean Resources, April 9, 1973.
 Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs. Statement on Mineral Resources of the Deep Seabed—Hearings on S. 1134 by Leigh S. Ratiner, June 14, 1973.
 Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs. Statement in Status Report on the Law of the Sea Conference by Leigh S. Ratiner, Special Assistant to the Assistant Secretary for Energy and Minerals, September 17, 1974.
 Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs. Statement on Recent Developments in Deep Seabed Mining by Jack W. Carlson, Assistant Secretary for Energy and Minerals, accompanied by Leigh S. Ratiner, Administrator, Ocean Mining Administration, March 19, 1975.
 Subcommittee on Mines and Mining of the House Committee on Interior and Insular Affairs. Statement in Oversight Hearings for the Bureau of Mines, Geological Survey, and Ocean Mining Administration by Thomas Falkie, Director, Bureau of Mines, accompanied by T. A. Henrie, Associate Director, Minerals and Materials, R. & D., March 4, 1975.
 Subcommittee on Mines and Mining of the House Committee on Interior and Insular Affairs. Briefing on Ocean Mining Administration activities by Leigh S. Ratiner, Administrator, Ocean Mining Administration, March 4, 1975.

- Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries. Statement in Hearings on the Law of the Sea by Leigh S. Ratiner, Administrator, Ocean Mining Administration, May 16, 1975.
- Subcommittee on Oceans and International Environment of the Senate Committee on Foreign Relations. Statement in Hearings on achievements of the Geneva Session of the Law of the Sea Conference by Leigh S. Ratiner, Administrator, Ocean Mining Administration, May 22, 1975.
- Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs. Statement in Hearings on the Law of the Sea Conference by Leigh S. Ratiner, Administrator, Ocean Mining Administration, June 4, 1975.
- Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs. Statement in Hearings on S. 713 by Leigh S. Ratiner, Administrator, Ocean Mining Administration, October 29, 1975.
- Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries. Statement on H.R. 11879 and Law of the Sea by Leigh S. Ratiner, Administrator, Ocean Mining Administration, February 23, 1976.
- Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries. Statement on Ocean Mining Jurisdiction by Hon. Kent Frizzell, Under Secretary of the Interior, February 24, 1976.
- B. Before United Nations Law of the Sea Meetings*
- Statement on Progress in the Exploration and Exploitation of Hard Minerals from the Seabed. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, Geological Survey, March 13, 1969.
- Statement on Potential Ill Effects of Subsea Mineral Exploitation and Measures to Prevent Them. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, Geological Survey, March 17, 1969.
- Statement on Implications of Geologic and Economic Factors to Seabed Resource Allocation, Development and Management. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, Geological Survey, March 24, 1969.
- Statement on International Machinery Governing Exploration and Exploitation of Sub-sea Mineral Resources beyond the Limits of National Jurisdiction. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, Geological Survey, August 20, 1969.
- Statement on the Merits of Alternative Rules and Provisions Governing the Exploration of Seabed Mineral Resources beyond the Limits of National Jurisdiction. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, March 11, 1970.
- Continuation of March 11, 1970. Statement by V. E. McKelvey, Geological Survey, March 13, 1970.
- Statement on International Regime for the Deep Seabed, including Rules and Recommended Practices. Presented to the Economic & Technical Subcommittee of the UN Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction by V. E. McKelvey, Geological Survey, August 13, 1970.
- Statement on Mineral Production beyond the 200-Meter Depth. Presented to the Enlarged UN Committee on the Peaceful Uses of the Seabed beyond the Limits of National Jurisdiction—Subcommittee I by V. E. McKelvey, Geological Survey, March 25, 1971.
- Statement on Economic Implications of Sub-sea Mineral Production beyond the Limits of National Jurisdiction. Presented to the Enlarged UN Committee on the Peaceful Uses of the Seabed beyond the Limits of National Jurisdiction—Subcommittee I by V. E. McKelvey, Geological Survey, August 4, 1971.
- Statement on U.S. Firms Engaged in Deep Sea Mineral Studies. Presented to the Enlarged UN Committee on the Peaceful Uses of the Seabed beyond the Limits of National Jurisdiction—Subcommittee I by V. E. McKelvey, Geological Survey, March 14, 1972.

- Statement on Economic Aspects of Deep Seabed Mineral Exploitation. Presented to the Third UN Conference on the Law of the Sea—Committee I by Leigh S. Ratiner, U.S. Representative in Committee I, August 8, 1974.
- Statement on Deep Seabed Rules and Regulations. Presented to the Third United Nations Conference on the Law of the Sea—Committee I by Leigh S. Ratiner, U.S. Representative in Committee I, August 8-9, 1974.
- Statement on Conditions of Deep Seabed Exploitation—Committee I. Presented to the Third United Nations Conference on the Law of the Sea—Committee I by Leigh S. Ratiner, U.S. Representative in Committee I, August 19, 1974.
- Statement on Machinery Issues. Presented to the Third United Nations Conference on the Law of the Sea—Committee I by Leigh S. Ratiner, U.S. Representative in Committee I, April 28, 1975.

C. General

- "The Development of Ocean Minerals and the Law of the Sea." Statement by Charles F. Luce, Under Secretary of the Interior, before the National Institute on Marine Resources, American Bar Association, June 8, 1967.
- "Ocean Minerals and the Law." Article by Hollis M. Dole, Assistant Secretary of the Interior, in *Natural Resources Lawyer*, Vol. 2, No. 4, pp. 342-359 (November 1969).
- "Rules Governing Seabed Mineral Exploration and Exploitation contained in the U.S. Draft Convention on the International Seabed Area." Statement by V. E. McKelvey before the Asian-African Legal Consultative Committee, Twelfth Session, Colombo, January 20, 1971.
- "Recent U.N. Developments concerning the Seabeds." Article by David P. Stang, Office of the Secretary, in *Marine Technology*, Vol. 1, pp. 593-610 (1970).
- "Ocean Politics and the United Nations." Article by Hollis M. Dole and David P. Stang in *Oregon Law Review*, Vol. 50 (Spring 1971).
- "United States Ocean Mineral Resource Interests and the United States Conference on the Law of the Sea." Article by Leigh S. Ratiner and Rebecca L. Wright, in 6 *Natural Resources Lawyer* 1 (Winter 1973).
- "Public Policy and Debate on S. 2801." Speech by Leigh S. Ratiner before the Manganese Nodule Symposium, Honolulu, Hawaii, October 16, 1972.
- "Local Impacts of the Law of the Sea Conference." Speech by Leigh S. Ratiner at the University of Washington, Seattle, Washington, October 1972.
- "Using the Law of the Sea to Promote International Prosperity." Speech by Leigh S. Ratiner at the Financial Times Conference, London, February 17, 1974.
- "Who Owns the Seas: Problems of Mineral Exploitation and National Rights." Speech by Leigh S. Ratiner at the International Studies Council Program, University of New Hampshire, Durham, N.H., April 4, 1974.
- "Conflict and Order in Ocean Relations." Participation in panel discussion by Leigh S. Ratiner. Conference sponsored by Ocean Policy Project, SAIS, Johns Hopkins University, Washington, D.C. October 21, 1974.
- "A New Law of the Sea." Participation in panel discussion by Leigh S. Ratiner at the Third Annual Wolfgang Friedmann Series in International Law, Columbia University, New York, N.Y., November 14, 1974.
- "The Science, Engineering, Economics and Politics of Ocean Hard Mineral Development." Speech by Leigh S. Ratiner, at the 4th Annual Sea Grant Lecture and Symposium, MIT Sea Grant Program, Cambridge, Mass., October 16, 1975.
- Speech on Ocean Mining given by Leigh S. Ratiner before the American Mining Congress, San Francisco, Calif., October 1, 1975.
- Remarks of Thomas S. Kleppe, Secretary of the Interior, before the American Oceanic Organization, Washington, D.C., February 27, 1976.
- Some of the studies listed in this document bear a security classification.

ATTACHMENT A

FREQUENCY OF REGULARLY ISSUED BUREAU OF MINES COMMODITY REPORTS

(W=WEEKLY, M=MONTHLY, Q=QUARTERLY, A=ANNUALLY)

Mineral industry surveys:

Abrasive materials (A).
 Aluminum (M,A).
 Antimony (Q,A).
 Asbestos (A).
 Barite (A).
 Bauxite (Q).
 Beryllium (A).
 Bismuth (Q,A).
 Boron (A).
 Bromine (A).
 Cadmium (Q,A).
 Calcium-magnesium chloride (A).
 Carbon Black (Q,A).
 Cement (M,A).
 Cesium and Rubidium (A).
 Chromium (M,A).
 Clays (A).
 Coal, bituminous (W,A).
 Coal, bituminous (distribution) (Q).
 Coal, Anthracite (W,A).
 Coal, Anthracite distribution (A).
 Cobalt (M,A).
 Cobalt refiners (Q).
 Coke and coal chemicals (M,A).
 Coke distribution (A).
 Coke producers (A).
 Columbium and tantalum (A).
 Copper industry (M,A).
 Copper production (M).
 Copper sulfate (Q).
 Diatomite (A).
 Feldspar (A).
 Ferroalloys (semiannual).
 Ferrosilicon (Q,A).
 Fluorspar (Q,A).
 Gem stones (A).
 Gold and silver (M,A).
 Graphite (A).
 Gypsum (M,A).
 Iodine (A).
 Iron and steel (A).
 Iron and steel scrap (M,A).
 Iron ore (M,A).
 Kyanite and related materials (A).
 Lead industry (MA).
 Lead, primary production (M).
 Lime (M,A).
 Liquefied petroleum gasses & ethane sales (A).
 Lithium (A).
 Magnesium, primary (Q,A).
 Magnesium and magnesium compounds (A).
 Manganese (M,A).
 Mercury (Q,A).

ATTACHMENT A—Continued

FREQUENCY OF REGULARLY ISSUED BUREAU OF MINES COMMODITY REPORTS—Con.

Other reports:

- Commodity data summaries (covers 95 commodities) (A).
- International coal trade (M).
- International petroleum annual (A).
- Minerals and materials (covers 15 commodities) (M).
- Mineral trade notes (M).
- Minerals yearbook, vol. I (covers 92 commodities) (A).
- Minerals yearbook, vol. II (covers 50 states) (A).
- Minerals yearbook, vol. III (covers 157 countries) (A).
- Mineral facts & problems (covers 89 commodities) (every 5 years).
- Mica (A).
- Mineral production, world (A).
- Minor nonmetals (A).
- Molybdenum (M,A).
- Natural gas (M,A).
- Natural gas liquids (M).
- Natural gas processing plants (bi-annually).
- Natural gas production, world (A).
- Nickel (M,A).
- Nitrogen (A).
- Peat (A).
- Peat producers (A).
- Perlite (A).
- Petroleum and petroleum products:
 - Asphalt sales (A).
 - Aviation turbine fuels (A).
 - Burner fuel oils (A).
 - Crude oil production, world (A).
 - Crude oil and products pipeline mileage (tri-annually).
 - Diesel fuel oils (A).
 - District V petroleum statement (M,A).
 - Fuel oil and kerosine sales (A).
 - Fuel oils by sulfur content (M).
 - Motor gasoline (summer) (A).
 - Motor gasoline (winter) (A).
 - Petroleum refineries in U.S. (A).
 - Petroleum statement, advance release (M).
 - Petroleum statement (M,A).
- Phosphate rock (M,A).
- Platinum group metals (Q,A).
- Potash (A).
- Pumice and volcanic cinder (A).
- Rare earth elements and thorium (A).
- Rhenium (A).
- Salt (A).
- Sand and gravel (A).
- Selenium (Q).
- Selenium and tellurium (A).
- Slag, iron and steel (A).
- Sodium compounds (A).
- Stone (A).
- Sulfur (M,A).
- Talc, soapstone, and pyrophyllite (A).
- Tin (M,A).
- Titanium (Q,A).
- Tungsten (M,A).
- Uranium (A).
- Vanadium (M,A).
- Vermiculite (A).
- Zinc industry (M,A).
- Zinc production (M).
- Zinc oxide (M).
- Zirconium and hafnium (A).

Senator HOLLINGS. We will next hear from Ambassador Learson, with the Law of the Sea Conference, Department of State. Perhaps he can answer that question.

Ambassador, we welcome you to the committees, Armed Services, Foreign Relations, and our Commerce Committee here this morning. We will be glad for you to proceed as you wish.

STATEMENT OF AMBASSADOR T. VINCENT LEARSON, PRESIDENT'S REPRESENTATIVE, U.N. LAW OF THE SEA CONFERENCE, DEPARTMENT OF STATE, ACCOMPANIED BY BERNARD H. OXMAN, LEGAL DEPARTMENT, AND DEPUTY IN CHARGE OF THE INTER-AGENCY TASK FORCE, AND DEPUTY CHAIRMAN OF THE NEW YORK CONFERENCE

Mr. LEARSON. Thank you very much, Mr. Chairman and members of the committees.

I have with me this morning Mr. Bernard Oxman, of the Legal Department of the State Department, who is also Deputy in Charge of the Interagency task Force and also Deputy Chairman of our recent Conference in New York.

Mr. Chairman, I appreciate this opportunity to present the administration's views on interim ocean mining legislation, and particularly S. 713.

Our views on this subject relate both to the necessity of achieving an acceptable law of the sea treaty if we are to protect all of our oceans interests effectively and to the best means for protecting our deep seabed resource interests.

On the first point, I am sure that it is recognized that the provisions for deep seabed mining in the law of the sea treaty deal with one of several important U.S. interests to be protected in the treaty, including national security, navigation, fishing and petroleum interests, protection of the environment, promotion of scientific research, and the establishment of a rational legal system for use of the oceans to reduce conflict among nations.

A broadly accepted treaty can be obtained only if it covers all of the major questions being negotiated in the Law of the Sea Conference in one package. Different nations have varying degrees of concern with different parts of the negotiations, but one thing is clear: only a complete package treaty can adequately meet our needs as well as the needs of others.

Such a package treaty will include all of the major issues under discussion in the three Conference committees, as well as a system of compulsory third-party dispute settlement.

On the second point, we do not believe that enactment of ocean mining legislation at this time would promote the best overall interests of the United States.

Moreover, we believe that the interests of the United States in deep seabed resources can best be protected in the context of a timely and widely supported international treaty.

The international community has made progress toward reaching agreement on a law of the sea treaty and is preparing within a matter of 11 weeks to meet again in an attempt to further its efforts.

While we do not minimize the difficulties that still face us, passage of legislation at this time would signal to other countries that we are disregarding the new spirit of moderation which prevailed at the last session, and good faith efforts of many countries to seek political compromises on issues of vital national importance. The predictable reaction to such a U.S. position could destroy the chances for reaching agreement on a new law of the sea anytime in the near future.

We must also bear in mind that a few nations that in fact oppose accommodations necessary to produce a treaty acceptable to the United States would use any such action to blame us for the failure of the Conference.

There has been general recognition that the negotiation of the international regime and machinery to administer the exploration and exploitation of the deep seabed was the major obstacle to an early and a satisfactory conclusion of an overall Law of the Sea Convention.

The United States was keenly disappointed in the single negotiating text produced at the 1975 Geneva session. That text did not reflect any elements for compromise or accommodation.

In Geneva in 1975, many delegations were reluctant to begin to consider approaches which would lead to a basic political accommodation on deep seabed issues. Intransigence on questions involving State access to seabed resources, the Authority's ability to impose price and production controls, and the powers and decisionmaking procedures of the new international organization threatened to delay agreement indefinitely.

In light of the developments at the New York session just concluded, we believe that most countries genuinely seek a deep seabed regime to which all nations can agree. They also recognize that the time for reaching political compromise on vital issues has arrived. Hence, the negotiations on deep seabeds in Committee I are now characterized by a more constructive spirit of moderation.

The new single negotiating text produced by the Chairman of Committee I at the close of the New York session reflects this new spirit. We have not yet had the time to analyze thoroughly the highly detailed and complex articles and annexes. Therefore, we are not in a position to give our assessment of the new single negotiating text. However, major changes in the new single negotiating text can be summarized as follows:

First, the texts set forth a system for exploitation of deep seabed resources that provides for mining by states and their nationals pursuant to contracts with the Authority. Annex I, the "Basic Conditions of Prospecting, Exploration, and Exploitation," now elaborates in some detail the procedures to be used in concluding such contracts and circumscribes the Authority's discretion in granting a contract.

Second, as part of the system of access, there would be mining sites reserved for exploitation by the *Enterprise* or developing countries. The exploitation system insures that mining activities conducted directly by the Authority, through the *Enterprise*, will be undertaken on the same conditions as other operations.

Third, the texts do not grant the Authority power to impose direct controls over seabed production levels and prices. An alternative approach in the next text is protecting developing country land-based producers against possible economic harm from ocean mining.

The chief element of this approach is a provision that during a 20-year period, beginning in 1980 or at the commencement of seabed pro-

duction, whichever comes earlier, seabed nickel production may not exceed the projected cumulative growth segment in the world nickel market, which the text provides would in no case be less than 6 percent annually.

This limitation is complemented by Authority powers to participate to the extent of its production in any international commodity arrangements established for these minerals and to provide for economic adjustment assistance to developing country producers that are seriously harmed by ocean mining production.

Fourth, the texts now clarify that the Authority's powers and functions concern the administration of deep seabed resources and do not extend to other, nonresource activities in the deep seabed.

Fifth, the text attempts to balance and separate the powers and functions of the Assembly and Council of the Authority so as to delineate the differing roles each organ will play.

The Assembly is the body with power to prescribe general policies, while the Council prescribes the specific policies to be pursued by the Authority.

A system for insuring adequate expertise and avoiding hasty and arbitrary decisions in prescribing and applying rules and regulations is incorporated in the text.

Sixth, the texts contain a large number of general agreed articles involving the structure and operational procedures of the new international organization.

Based on our experience at the recent session and on our initial review of the new text, it is clear that there are a number of very important issues on which that text remains unsatisfactory to us. These will be considered at the next session.

First, there was no attempt at the New York session to reach agreement on the vital question of the composition and voting system for the Council. Therefore, article 27 of the next text is identical to the Geneva version, which the United States and other industrialized countries have indicated is unacceptable. One of the most important U.S. objectives in the negotiation is the creation of a council in which the true economic interests of member states in deep seabed resources are equitably represented, and we believe most delegations recognize the magnitude of our interest in this issue.

Second, several industrialized countries continue to vigorously advocate some form of limitation on any one country's share of overall ocean mining production. The United States is strongly opposed to any state-by-state quota or similar provisions which would arbitrarily restrict our access. The developing countries have largely avoided taking sides in this dispute among potential ocean mining competitors.

Third, there is no clear consensus on the financing of the *Enterprise*. Some countries maintain that it should be financed by mandatory contributions from states, parties in order to enable it to commence operations. Other countries propose that the *Enterprise* be funded by loans obtained in private capital markets or through the issuance of shares.

Fourth, a number of countries, for domestic constitutional reasons, oppose the provisional application of part I of the Convention before the period the treaty enters into force on a permanent basis. Many others appear to support the concept but wish to see provisional application applied to the Convention as a whole and not part I alone.

Senator CASE. Would you explain part I?

Mr. LEARSON. That is the deep seabed, sir.

Senator CASE. I see. Thank you.

Mr. LEARSON. Since the Conference as a whole has not discussed provisional application, no effective progress in resolving this question was made in New York. The authority for provisional entry into force is included in the SNT with the understanding that this issue will be considered further, either by Committee I or by Plenary.

I would like to emphasize that the new single negotiating text, like the Geneva version, is the personal work product of the Chairman, and represents his view of the possible direction in which a consensus may be found.

It is our assessment that it does reflect to a large extent the trends emerging in the Committee's informal debates in New York. Committee I witnessed important changes in atmosphere. With some important exceptions, there was a shift from repetition of long-held ideological positions to serious negotiation, although all delegations were not prepared for the major changes which occurred.

We believe, however, that a significant proportion of countries, both developing and industrialized, appreciated the necessity for movement toward a common ground.

The new single negotiating text is much closer to being a reasonable basis for negotiation than the former text. The new text now permits the negotiations to concentrate on the few critical issues and thus reduces the Committee I negotiations to a manageable size. If nations indeed have the political will to reach agreement on an international regime and machinery on the basis of the new text, there is no real impediment to successful conclusion of the substantive negotiation at the next session.

Mr. Chairman, as the Secretary of State indicated in his recent address in New York, there is no doubt that the Conference is one of the most complex and difficult international endeavors undertaken in history. In this regard the President has underlined the importance that he attaches to these negotiations by requesting the Secretary to head personally the U.S. delegation to the next session.

Our past experience in the law of the sea dictates that we exercise considerable caution in any assessment of the future. However, I feel I must share with you my own assessment of our chances for success.

We intend to work very hard with other nations to complete the substantive negotiations at the August-September session. If we are successful, I would then expect the Drafting Committee of the Conference to do the technical work after that.

In any case, the goal of the Conference is to have a treaty ready for signature in the first half of next year. I feel at this point that we have a better than even chance of achieving this scenario and obtaining an acceptable treaty.

I have indicated our opposition to the deep seabed mining legislation at this time. However, we recognize that the time is now very close when the United States will have to have a legal system in place for deep seabed mining. If we are successful in our negotiations that system would be based upon a provisionally applied law of the sea treaty. But in any case, we are within the administration laying the necessary foundation for appropriate action.

As you know, we have been working for sometime on contingent interim legislation and the administration will informally consult with interested Members of Congress on that ongoing work.

At the same time, there are ongoing environmental studies being conducted. Moreover, we are beginning the process of public comment on the environmental effect of deep seabed mining. The administration expects to be able to publish a proposed outline of an environmental impact statement for public comment. After comments are received, the administration will move forward with a draft impact statement.

At the same time, we believe that the substantive law of the sea negotiations which resume a little more than 2 months from now can and should be completed this summer. I do not believe it is wise to be overly optimistic or pessimistic in this regard; the job can be done, but it will require effort and political will.

Following the summer session, we will make appropriate recommendations with respect to any necessary action by the U.S. Government to protect our deep seabed objectives.

Mr. Chairman, the road has been long and we are not yet at the end. Hopefully, we can work together toward our common goal of achieving a rational regime for deep ocean mining and a new order for the oceans.

We recognize the concern of many Members of the Congress regarding the need to proceed with deep seabed mining.

As Secretary Kissinger stated on April 8:

Our country cannot delay in its efforts to develop an assured supply of critical resources through our deep seabed mining projects. We strongly prefer an international agreement to provide a stable legal environment before such development begins—one that ensures that all resources are managed for the good of the global community and that all can participate. But if agreement is not reached this year, it will be increasingly difficult to resist pressure to proceed unilaterally.

Thank you, Mr. Chairman

Senator HOLLINGS. Thank you. Senator Sparkman?

Senator SPARKMAN. I have no questions. I have particularly enjoyed this presentation. I think it was very good. I did not get to hear much of the others.

Senator HOLLINGS. Senator Case.

Senator CASE. Thank you, Mr. Chairman. I want to express my appreciation, which I am sure everyone shares, of the special job the Ambassador at Large has done in this matter, and the fact that he has made himself available for this very important service. It adds a lot to our confidence in the possibility of success.

And I mean that very sincerely.

I would like to throw out a general question. Has consideration ever been given to the possibility of using our accessibility to these mineral resources as a counter in the struggle against countries who want to exercise complete control and in effect monopoly power on resources of a similar nature within their own sovereign territory?

To be more blunt about it, why shouldn't we use the technology we have as a resource in dealing with countries who want to hold us up—and this seems to be more and more the trend—for their own purposes and make as much as they can out of their own resources,

and use them to affect our foreign policy with respect to Israel, for example.

I wonder whether this isn't an altogether inappropriate consideration and whether it has been given much thought?

I don't see why this technology of ours, which is a peculiarly American resource, shouldn't be used in a very important way in dealing with countries who use their accidental monopoly of certain resources for purposes which I think have been carried to an extreme?

Why, for instance, in this law of the sea treaty, couldn't we have a provision that no country has the right to say you can't have access to my copper, for instance? As a sanction for that, give the countries that have the right and ability to get resources out of the sea the right to go ahead and do it.

Why couldn't the table be turned in that respect and why shouldn't it?

Mr. LEARSON. Senator Case, first let me thank you for your comments—

Senator CASE. I mean it very much.

Mr. LEARSON. If any progress was made, I would say the tribute should go to the dedicated team we have. It is a good team, and I think they did a very good job.

Now with regard to the second question, or with regard to the question—

Senator CASE. There is no question about the first one.

Mr. LEARSON. Thank you.

What we have here is a strong belief by the majority that the deep seabeds are a common heritage of mankind. This is deeply engrained—

Senator CASE. But why can't you have a wider and more grand view that all resources anywhere belong to all mankind?

Mr. LEARSON. Behind that, I believe, is the fundamental that what you have in your territory is yours, and you control that.

That is fundamental, I think, even with the United States.

But the deep seabeds, the concept is they are the common heritage of mankind.

But the new treaty that we are working on, the way it came out at the last session, we have access to the deep seabed, equal with the *Enterprise*, and as a result we can mine, we will be able to mine when we finally finish our work, and the results will be, I think, very effective to meet our resource requirements.

In fact, it will be very effective in meeting our balance of payments problems.

I hope I am answering your question, sir. But the fundamental in their mind is the common heritage of mankind, which we are meeting in the sense that we agree to develop a parallel system where both nation states and they can mind.

Senator CASE. I know my question was not fairly directed to you, really, because it goes beyond the scope of your charter and your commission and you came in not at the beginning, but when the policies had been largely set and directions established.

But the more I ponder this question, the more I think that it doesn't make too much sense for us to accept sovereignty over land and not over oceans, to permit nations to hold up other countries

because of their accidental possession of certain resources and to hamper our ability, assuming we are the people being held up, and we usually are, to make up for that by using our technology to get at the resources in the ocean. Why should we consider only the developing countries' desire to protect their own resources and to protect their own markets and pricing structure rights.

If they have the right to do that, why haven't we the right to say you can't withhold unreasonably these resources from us or from the world, or if you do, we will go somewhere else to get them?

I don't think there is anything morally wrong about this. It just isn't the way we have been thinking about it, and we are accustomed to accepting that things are only going to be looked at from other peoples' view.

Other people have been exploited; therefore, they have to have the price fixed, all kinds of commodity agreements, and be able to cut down the mining anybody does in the ocean if that is going to lower the price of their copper, for example.

Why can't we have the shoe on the other foot as well? I don't mean to be unfair about these developing countries, but I do think we have accepted rather too easily a position of impotence in respect to their assumed right to cut off the rest of the world if they can't get exactly what they want, either for price or for other policy reasons.

Mr. LEARSON. Senator, as soon as we have access to the deep seabeds, and that is what we will ultimately have, I am sure, we in truth break any monopoly that exists in land-based production.

Senator CASE. That of course depends on what machinery is set up. That is why this machinery is so terribly important, and why all of us are so skeptical that anything under the control of the majority of the 150 nations of the United Nations will not be very useful for this purpose.

Thank you, Mr. Chairman.

Senator HOLLINGS. Senator PELL.

Senator PELL. Thank you, Mr. Chairman.

S. 713 defines the deep seabed as "that area lying beyond the Continental Shelf of any nation."

As you know, under the outmoded 1958 convention, you have the rubber definition of the Continental Shelf as extending to a depth of 200 meters or, beyond that limit, "to where the suprajacent waters admits of the exploitation of the natural resources of the said areas."

Obviously, there is a contradiction here between the definition of what constitutes the deep seabed.

What is your view in this regard and how can the contradiction be resolved?

Mr. LEARSON. Well, the Continental Shelf is part of the convention and the definition of it is part of the convention.

The deep seabeds are that beyond the Continental Shelf or the continental margin to be established by the treaty. The minerals we are talking about are largely in the deep seabeds, and not on the Continental Shelf.

Senator PELL. But under the Truman definition the Continental Shelf is as far out as you can exploit, and eventually if we can exploit the deep seabeds, that would meet the definitional requirements of the Continental Shelf convention.

Mr. LEARSON. Mr. Oxman is an expert on the Continental Shelf, so go ahead.

Mr. OXMAN. There is a problem as to precisely the area to which S. 713 would apply in light of the provisions of the existing Continental Shelf Convention.

However, I think what Ambassador Learson was indicating is that the important concentration of manganese nodules tends to be located in areas that would be far beyond the potential reasonable Continental Shelf interpretations of coastal nations.

Senator PELL. Excuse me. The definition is "where the superadjacent waters admit of the exploitation of the natural resources of the said areas."

It doesn't say anything about a reasonable interpretation. There is a conflict between those definitions.

Which definition do we use if this legislation is enacted?

Mr. OXMAN. People have given different interpretations of the Continental Shelf Convention. But one that has not seriously been proffered is that this exploitability criterion would carry you out to the middle of the ocean.

About as far as people have tended to carry it is to the edge of the continental rise.

Now the other point where this will give rise to difficulty is of course there are areas properly regarded geologically as deep seabeds that are within 200 miles of the coast and would not be regarded as continental margin. And there would be an ambiguity in that respect as well.

Senator PELL. Then what I think you are saying, but I would like to have you say it a little more explicitly, is that we should throw out the window the exploitation definition, the rubber definition, and abide by the geographic definition. Is that correct?

Mr. OXMAN. Well, I don't think—the criterion is not only areas which can be exploited, but that are adjacent to the coast. The International Court of Justice has put a gloss on this and has spoken in terms of natural prolongation of the land territory of the coastal state.

The effect of this bill would be to discard a possible literal interpretation of the Continental Shelf Convention, that it would carry coastal state jurisdiction all the way out to the middle of the ocean; that is true.

Senator PELL. I am delighted to hear that.

The provisions of S. 713 would remain in effect until a law of the sea treaty is ratified and becomes binding on the United States.

As you know, it will be some years before the ratification process can take place.

Would that in your view prevent the provisional application of the law of the sea treaty on signing?

Mr. LEARSON. No, sir. First, the Conference would have to provide for this in the treaty.

Second, legislation would be necessary, domestically to implement this.

Senator PELL. So in other words, the law of the sea treaty could become effective on the United States, as soon as it was signed?

Mr. LEARSON. Yes, or prior to its signing.

Senator PELL. I would like to ask you the same question I asked Secretary Kleppe, but perhaps you see it from a different viewpoint, from the diplomatic viewpoint.

Why did the administration have such a strong view about the 200-mile fisheries limit, when the fish were disappearing before our eyes. They opposed the bill vigorously, whereas the administration apparently will be supportive of this mining legislation, if agreement is not reached within 3 months?

What is the reason for the difference in view?

Mr. LEARSON. Well, addressing ourselves to the mining bill, sir, the administration position is that after this next session, which we hope will be the final session, we would then make recommendations on action that is necessary.

That action may very well be application of the treaty. It may be enactment of enabling legislation behind the treaty. We just don't know at the present time. So that is our position.

Our position at the moment is this bill should not go forward, and that at the end of the summer session we should make a recommendation.

In the meantime, do the things that I outline in my statement.

Senator PELL. But if, as is conceivably the case, there is no agreement at the next meeting, then my understanding of the administration's position is they support the passage of S. 713?

Mr. LEARSON. No, sir. That is not my understanding.

Senator PELL. Maybe I misheard Secretary Kleppe. I thought he said he would be supportive of it.

Mr. LEARSON. Yes, sir, I think Secretary Richardson and myself are saying the same thing; namely, we will make recommendations to the Congress.

And that is what Secretary Kleppe said in his statement. I think as he spoke to you he became more enthusiastic.

Senator PELL. No further questions, Mr. Chairman.

Senator HOLLINGS. Senator Leahy.

Senator LEAHY. Thank you, Mr. Chairman. Mr. Ambassador, when we enacted the 200-mile fishing legislation in the Congress, how did that affect the Law of the Sea Conference?

Mr. LEARSON. Prior to going to the Conference I was asked my position on the bill, and I said that passage of the 200-mile bill would not be mortal to the Conference work. I said it would cause us problems, but the degree of problems would be very subjective and one couldn't really spell it out.

At the Conference it is again hard to evaluate the effect of the 200-mile bill after it was passed and the President signed it. We did have difficulty in regard to the legal status of the economic zone; to charge that to the 200-mile bill 100 percent would probably be an overstatement. But it certainly had an effect in our negotiations in that area, where we did not get all that we must get before we complete our work.

The 200-mile bill effect on some coastal states who already were territorialists, it meant nothing to them, so to speak. We had joined, in a sense, their lead. But the concept here on the mining bill would be much different.

Senator LEAHY. It would be much different?

Mr. LEARSON. The passage of a mining bill at this point would actually be viewed as the United States rejecting further negotiations.

Senator LEAHY. Yet the 200-mile fishing bill did not have the same effect?

Mr. LEARSON. No, sir. It had a negative effect. For me to measure it and tell you how much is a subjective thing.

But I did mention the effect I believe it had in our work on the legal concept of the economic zone. The 200-mile bill, sir, was really consistent with the treaty.

Senator LEAHY. If you had S. 713, if Congress now added S. 713, you feel that would have a seriously detrimental effect on the negotiations?

Mr. LEARSON. Very serious. I have no question in my mind on that.

Senator LEAHY. So you really see no advantage to the United States in passing S. 713?

Mr. LEARSON. At the present moment, I think it would be very disruptive and could well lead to a collapse of true negotiation when we get into a dispute about legality et cetera.

Senator LEAHY. Do you see national security interests at stake in this whole question?

Mr. LEARSON. With passage of the bill at this time, yes, sir.

Senator LEAHY. Do you want to elaborate on that?

Mr. LEARSON. The treaty, as you know, Senator, has very important national security implications. And those should not be risked at this point in time with legislation on a mining bill.

Success is going to be achieved only through a total package of the total treaty—that is, mining, navigation, fishing, all of the scientific research, all of the items concerned—and that is the only way we will come out with the treaty. It must be a complete package.

Senator LEAHY. In the negotiation of the treaty in your delegation, do you also address the military aspects of such questions?

There are military aspects connected with even the deep seabed mining question.

Mr. LEARSON. Yes; there are, sir, and that is one of the good points I mentioned, the activities of the Authority are limited to the resources only.

Senator LEAHY. I have nothing further, Mr. Chairman. I appreciate the Ambassador's testimony very much. I think it will be helpful to our committee.

Mr. LEARSON. Thank you, sir.

Senator HOLLINGS. It surely will be.

Mr. Ambassador, with respect to the constructive spirit of moderation, I know you were referring to the countries, but I just wondered about American industry under this proposal here. When you begin to restrict or reserve rights and restrict access, and limit the amount of minerals and nodules to be gathered, under the treaty, is it possible to limit the industry economically?

Do you preclude the industry economically from going out there? Has our American industry got that spirit of moderation you talk about? Do they favor this?

Mr. LEARSON. Senator, industry are members of our delegation, and they work with us very closely in negotiation or development of our negotiations, as they proceed. I cannot speak for them per se, but they are in agreement with our work, and their objective, as I understand it, is to have a secure system, a system under international law that will protect their investment. And this to them is the best solution to their problem as I understand it.

Senator HOLLINGS. So they favor your position before the committee this morning?

Mr. LEARSON. They favor our approach at the LOS negotiations, sir. I cannot speak to their position on this bill per se, no; I cannot.

Senator HOLLINGS. Well, you talk of the common heritage in these manganese nodules. I know my Interior friends look on it as mining. I have gathered, not mined, crabs. You pick up these nodules from the ocean floor; you gather them. I just wondered really if we had used this common heritage for the fish in the deep ocean, whether we would have in the case of tuna the limits you put on these things, the accessibility and everything else?

I am beginning to see now that by the time we really get all of the protection that you indicate, the stability that the industry is interested in obtaining, maybe or perhaps at the conclusion of all of that, economically it would be prohibitive for them to go out and actually get into this venture. It just wouldn't be, for the risks taken and everything involved, economically advantageous.

Does that question arise in your negotiations? Deep Sea Ventures, Lockheed, all of these, do they all favor these restrictions and everything else?

Mr. LEARSON. Senator, I believe that we can, if we cannot come in with provisions in the treaty pertaining to mining which is close to what the mining industry itself wants, we will not recommend the treaty.

Senator HOLLINGS. You are an outstanding businessman; we know of your great experience and leadership in that field. Is this good for business, when you finally get the treaty?

Mr. LEARSON. I believe it will be good for the mining industry to give them a secure base. This is risk capital venture of a high order. And there is technological risk as well. What they want is a secure financial foundation on which to risk this money. And I believe that an international treaty of the type we are speaking of gives them that assurance.

Senator HOLLINGS. I know about how the military is satisfied with part 2, but let me ask your counsel a question that I asked Secretary Kleppe.

Under this particular bill now before the committee, what is the commitment of the U.S. Navy? He said the State Department could tell us that.

Mr. OXMAN. I am not sure I could answer that right now. I am not sure that there is a specific commitment. I think that, as Mr. Ratiner himself indicated, the question would have to be reviewed as a matter of policy and as a matter of law. It would involve, of course, discussions with the Defense Department itself regarding other commitments.

I don't think that I could give any more precise answer, sir.

Senator HOLLINGS. What would be State's position—let's assume that we just don't firm this up by fall, by August or September, and it breaks apart again, and the administration comes in, as Secretary Kleppe indicated, asking for a bill.

I am just trying to get a feel, what would be the commitment then of the DOD with respect to sending our own companies out to start mining these nodules?

Mr. OXMAN. I am afraid, sir—

Senator HOLLINGS. You still wouldn't have any idea?

Mr. OXMAN. I am afraid I can't speak for the DOD on that. I would note with respect to an earlier question posed, that there is a reverse side to this question as well. Mr. Ratiner addressed the question of the Interior Department interfering with activities of the DOD, and he said he felt that wouldn't occur.

I would note that under the bill we would recognize mining licenses of reciprocated states and I equally could not speak for whether the mining ministries of the reciprocating states would follow similar policies.

Mr. LEARSON. Senator, I think the fact that you pose the question proves the necessity for the international convention.

Senator HOLLINGS. Very good, sir, we appreciate very much your appearance here today.

The committees will be in recess until Wednesday.

(Thereupon, at 12:25 a.m. the hearing was recessed, to reconvene on Wednesday, May 19, 1976.)

DEEP SEABED HARD MINERALS ACT

WEDNESDAY, MAY 19, 1976

U.S. SENATE,
COMMITTEE ON COMMERCE,
COMMITTEE ON FOREIGN RELATIONS,
COMMITTEE ON ARMED SERVICES,
Washington, D.C.

The committees met jointly at 10 a.m. pursuant to notice, in room 5110, Dirksen Senate Office Building, Hon. Claiborne Pell presiding.

OPENING STATEMENT BY SENATOR LEAHY

Senator LEAHY [presiding]. We call this meeting to order. This is a meeting of the Senate Committee on Commerce, Senate Committee on Foreign Relations, and Senate Committee on Armed Services, to review S. 713, the Deep Seabed Hard Minerals Act.

I am Patrick Leahy, a member of the Senate Committee on Armed Services. We do have an interest in this and I just want to say starting off that the legislation before us today touches upon a wide variety of interests, as evidenced by the diversity of the groups represented here this morning.

As a member of the Armed Services Committee, I am particularly concerned about the relation between S. 713, the proposed Deep Seabed Hard Minerals Act, and U.S. national security interests.

Several questions were raised at the hearing on Monday about national security and military interests. The DOD has agreed to respond to those questions for the record, and I would suggest that if other members of the committees involved have questions for the DOD that they submit them for the record. I ask unanimous consent that my questions to the DOD be submitted for the record.

I am very pleased to welcome Congressman Paul McCloskey, from California. Congressman McCloskey has given this whole matter a great deal of attention. He has to be back on the House side in a short time, and the committees are honored to have him here.

STATEMENT OF HON. PAUL N. McCLOSKEY, JR., U.S. REPRESENTATIVE FROM CALIFORNIA

Mr. McCLOSKEY. Thank you, Mr. Chairman. I was privileged, as one of the House delegates to the New York session of the U.N. Law of the Sea Conference, to spend the better part of 8 weeks observing our delegation in action in New York. As a result of these observations I would like to report to the committees that despite divisions of opinion as to what was in the best interests of the United States I think

the delegation under the leadership of Ambassador Learson did a superb job in moving measurably toward an ultimate law of the sea treaty if one can be obtained.

It is my best judgment that there is perhaps a 50-50 chance that a comprehensive treaty can be negotiated, not necessarily at the summer session between August 2 and September 17, but possibly at a fifth session shortly after the beginning of 1977.

I think it will take that long. I don't think congressional anticipation or impatience can affect the reality of the situation. These negotiations, participated in by over 150 nations under rules which sometimes indicate acquiescence on the part of a nation if it doesn't speak out on one of the 400-some articles of the proposed treaty, are slow. We in the Congress should be the first to understand the reality of the situation. Our own experience with deliberations on something as comprehensive as this should tell us that it will take time and patience to achieve a comprehensive treaty.

I would like to summarize the difficulties that came out of the New York session when it concluded on May 7. As I could observe the negotiations there are basically eight points that are not yet determined.

Against those eight points is the fact that the Single Negotiating Text now covers perhaps 95 percent of the technical details that the treaty must contain, and it leaves the eight points in disagreement or in dispute clearly defined so that real decisions can be made in the capitals of the nations involved, hopefully before the next session convenes in August.

The eight points that I perceived were these: First, the voting makeup and the membership of the Council which is to govern the deep seabed decisions.

If it is viewed that the makeup of that Council must properly reflect the interests of consumers and producers of the deep seabed minerals. It is clear that a very major negotiation is going to have to take place where the land-based producers and the consumers agree on the voting powers in the Council.

And here, as I could detect, there was no real agreement at the New York session or indeed even an attempt to reach an agreement as to how the makeup of that Council should ultimately be set.

There is a real resistance on the part of the developing nations to anything but a one nation-one vote procedure.

Clearly the United States would be badly jeopardized in its technological advancement and its utilization of the abilities of our mining companies if we accepted a one vote-one nation procedure.

The second issue is the question of the provisional application of the treaty itself. There seems to be no chance that the treaty can come into existence for some years. It is clear and I think necessary in the best interests of the United States that we continue the capital investment in deep sea mining in that period. Therefore, we are going to have to negotiate for provisional application of the treaty, because I am relatively certain that the House of Representatives in which I sit is not going to defer deep seabed mining legislation until ratification.

So consequently, if we can write legislation which is consistent with provisional application of the treaty this year, it should be helpful to the negotiations.

The third issue arose partly perhaps because of the passage of our own 200-mile limit. Although I am one who voted against that legislation,

feeling that it might inhibit the negotiations, I would like to confess I was wrong.

I think the congressional action in the 200-mile zone did cause a certain feeling of urgency on the part of certain other nations, and did expedite the process in the negotiations themselves. But it raised the question as to what will be the rights of the various coastal nations in the 200-mile zone. That question, whether or not the economic zone will be territorial in some respects, whether it will be subject to dispute settlements in some respects, and just what will be the rights of free navigation within the 200-mile zone, is by no means determined.

The next issue was raised by the landlocked and geographically disadvantaged states. It is an issue in which I am not sure the United States can play a material part in its resolution. The requirement, or the request, that some 55 geographically disadvantaged or landlocked nations participate not only in the fishery resources within the 200-mile zone, but also in the mineral resources beyond the 200-mile zone on the Continental Shelf is an issue in which there was no agreement.

The next issue was the question of profit sharing from the deep seabed. While that was not resolved nor discussed as far as I could tell, it seems to me that the major question of what can be the distribution of profits among the developing nations in this treaty will require hard negotiation which, as far as I could tell, has not yet commenced.

The next issue is the financing of the international deep sea mining enterprise itself. Obviously it will require financing before the first returns come in from deep seabed mining and the nature of the mechanism to accomplish this remains for resolution.

In addition, the matter of scientific research in the economic zone, whether it will be by consent or upon notice and how the data will be shared is by no means resolved.

The eighth issue has been raised by some of the industrialized nations. They propose a quota on that portion of the deep seabed which will be allocated to any single nation. This quota system, raised primarily by the Soviets and French, is indeed a thorny problem. Although we are willing to give up and share our technology with the developing world, and have reached that decision at all levels of government and in all divisions of the cabinet, it is quite another thing to agree in advance that we will accept an additional limited share with the Soviets, the French, and other developed nations of that portion of the seabed which the developed countries are permitted under the treaty to develop.

Senator PERCY. Mr. Chairman, with the indulgence of my colleague, would you yield for a comment? I just came in the room to welcome my distinguished colleague from the House, with whom I had the great pleasure of travelling to the People's Republic of China last year, and to thank him for coming to testify on this important matter.

Also, Mr. Chairman, I would like to mention that Robert Vastine, our next witness, was formerly minority counsel to the Senate Government Operations Committee, working with me.

Senator McGovern and I are conducting hearings in the Mideast Subcommittee right now, so I will have to leave, but I will read the testimony.

Senator LEAHY. We appreciate having you come over, Senator.

Mr. McCloskey. Before the Senator leaves, I hope the Senator's warm friendly relationship with the Peoples Republic of China can

help in backing them off their contention that they should have a 200-mile territorial sea.

Mr. Chairman, in light of these eight disagreements, I feel impelled to state my conclusion and best judgment that there is no better than a 50-50 chance of achieving a treaty within the next 12 months.

I went to New York with some skepticism that the five major cabinet officers involved could agree both on strategy and tactics and a method of procedure that would achieve an optimum result, but I came back with the conviction that the executive branch of Government has worked in concert toward a common goal, and that the U.S. delegation performed superbly in their efforts to achieve a treaty.

However, there is one area where I think the Congress could back up the administration in the effort to achieve a successful treaty. I think that it is our responsibility to continue oversight to emphasize the importance of the negotiating and to make sure that the focus within the executive branch itself, and particularly the National Security Council is on law of the sea issues which will in turn enable the delegation in New York to make rapid and informed decisions on day-to-day negotiating problems.

It is difficult to get five major cabinet departments and the White House together on any point. It is understandable that the positions of the various departments are strongly held, and are of historical significance.

But I think that the staff of the National Security Council and the State Department, that provides the back-up for the delegation in New York could very well be increased in the period between now and August 2. I think they ought to consider this a priority matter, and that they ought to beef up both the capacity and the number of the National Security staff that now must respond and prepare for the crucial session in New York that is commencing August 2.

Much of the success of the New York session just concluded was due to the intersessional agreements and discussions that preceded the New York session. I think that any success we can hope for that may come out of the August and September sessions will rest on the degree of effort and the competence of the effort and the number of people who can be put to work on this project between now and August 2.

The executive branch has not always seemed to consider this matter of the priority that I think it should have, and I think it would help if both the House and the Senate made it clear to the executive branch that we will maintain a continuing oversight, and that they should have the staff necessary to prepare for this session in New York.

Thank you, Mr. Chairman.

Senator LEAHY. Thank you very much, Congressman. I was interested in your view that the enactment of the 200-mile fishery zone legislation gave a sense of urgency to the law of the sea negotiations.

But if we had domestic legislation on these deep seabeds, or just the fact that we are talking about it, what effect, generally, does that have on the law of the sea negotiations?

Mr. McCLOSKEY. I probably have spoken with between 20 and 30 members of the developing world, who were unanimous in their expression to me that the enactment of deep seabed legislation by the U.S. Congress would destroy any hope of resolving the treaty.

It is my best judgment, however, that we should carefully consider appropriate legislation and that the consideration of that legislation by the committees of the House and Senate will have a salutary effect in stimulating the delegations with whom we will be negotiating. If reasonable progress is not made in the summer session, the United States will be required to pass legislation to expedite the development of deep seabed mining technology.

I am going to be working in the next several weeks on an alternative deep sea mining bill to that which has been reported out of the House Oceanographic Committee. That bill was drafted by excellent legislative draftsmen, but I think if that were passed by the House or Senate today, it could hurt our ability to achieve this treaty.

We are within a few months of knowing whether the treaty stands or falls. We are close enough to agreement to defer the enactment of that legislation for perhaps the 10 months to a year that will tell us whether or not we have a treaty.

Senator LEAHY. Would you say the other delegations watch very closely what we are doing here in Congress.

Mr. McCLOSKEY. They seem to know sometimes faster than our own delegation what is happening in the Congress.

Senator LEAHY. You also tell us there is only a 50-50 chance of a treaty in 12 months, within the next 12 months in this area?

Mr. McCLOSKEY. Yes. I think the disagreements that I have outlined are so fundamental and the pride of the individual nations involved is so intense that it will be a great achievement if a treaty can be negotiated.

I might say, Mr. Chairman, that in the fifth or sixth week of treaty negotiations and again just before the negotiations concluded, I, and I think much of the U.S. delegation, were almost in despair that the treaty negotiations might break down completely.

But faced with the possibility of the breakdown of negotiations, the individuals who had been involved so long from so many countries, seemingly realized that the entire effort could come to naught, and came together with the concessions and the compromises indicating that most nations truly would like to achieve this treaty.

For that reason I have the hope that these remaining questions, as difficult and troublesome as they are, can be resolved. I don't know if I can stress enough the working hours and the effort put in by the U.S. delegation and the other delegations in New York. It was by no means an 8-hour day or a 5-day week. They were working 6 days a week and on occasion the key articles would be drafted on Sunday to be presented and discussed on the following day.

I came away with great admiration for the efforts both of the individuals and of the team involved, and I think that their efforts were fairly representative of those of delegations of the other countries that participated.

Senator LEAHY. The United States has proposed exploitation of the deep seabed based on the rate of growth and demand for nickel. Has this affected the prospects of the law of the sea agreement on the deep seabed?

Mr. McCLOSKEY. I think that an interim production control was crucial to the acceptance of the treaty by the land-based producers of

copper, Peru, Chile, Zambia, Zaire, and the Philippines, are the nations in the developing world who are land-based producers of copper and it seemed to me this was of crucial importance to them in continuing with the agreement to negotiate a treaty.

Senator LEAHY. If there is further success in the fall session, if things seem to be moving along, but there is no treaty, would you then recommend we do actually pass domestic legislation?

Mr. McCLOSKEY. If the eight questions that I indicated are not far closer to resolution by the end of the September session, Mr. Chairman, I would think that we would have to proceed with appropriate legislation.

To what degree those eight questions are resolved, and what remains for resolution at the end of the September 17 period, I really can't comment on at this time. But I think the crucial question is the status of the negotiations by September 17.

Let me add to that this one point. The eighth point I raised, the quota question, is primarily an issue between us and the Soviet Union. With the exception of the deep seabed mining, where we appear to be superior to the Soviets in technology and readiness to proceed with mining, the Soviets and the United States have almost identical objectives in this treaty. Therefore the quota question will require agreement at the highest level of government, between our President and the Soviet Prime Minister. In spite of this, one of the reasons I remain encouraged in the hope for resolution is the statement by the President and the Secretary of State that the Secretary of State will personally participate in these negotiations and lead the delegation in an honorary manner in New York in August.

Senator LEAHY. Thank you. I will now yield to Senator Pell, who has joined us and is chairing these hearings today.

Senator PELL [presiding]. I thank my colleague from Vermont very much indeed. I apologize to the witnesses, but I was in the dentist's chair—

Senator LEAHY. I am sure you would rather have been here.

Senator PELL. I thank you for your testimony, Congressman McCloskey. We have worked together and talked together on this subject. I know you have an appointment at 10:30 so I thank you very much for being with us and hope your interest continues.

Congressman McCloskey was the one Member of Congress who really dug in there day after day at the last session of the Law of the Sea Conference, and I appreciate it.

Mr. McCLOSKEY. Mr. Chairman, I would like to say that when the chairman visited the delegation in New York they were at a very crucial part of the proceedings. It was a time when the press and public generally were being led to believe that no progress was being made, I thought the chairman's words of support and encouragement to the delegation at that time lifted their spirits materially at the time when they badly needed it.

Senator PELL. Thank you very much.

I also have a short statement to make now. Speaking as someone who has been deeply involved in ocean issues for many years, I have grave concerns about this proposed Deep Seabed Hard Minerals Act, particularly as it relates to the law of the sea negotiations. I believe that passage of S. 713 could wreck the Conference. This bill comes at a

particularly bad time, as a new spirit of accommodation seems to be pervading the conference and Secretary Kissinger has made important new proposals, particularly in the area of deep seabed mining, which do improve the prospects for achieving a treaty within a reasonable period of time.

I trust today's witnesses will share with the committees their views on progress of the law of the sea negotiations and how that relates to the advisability of passing S. 713.

I would like particularly the industry representatives' comments on the revenue-sharing aspects of Secretary Kissinger's proposal, and the real need for the investment guarantee provisions contained in S. 713.

In this regard, I am disturbed by the fact that American mining companies would be eligible to claim compensation from the Treasury, not only for expenses incurred up to the time the international regime is created, but for the full estimated monetary value of unrestricted access to hard mineral resources estimated to be contained within the block that would be covered by the license.

I find it hard to believe that Congress and the American people would wish to stand aside and permit that kind of a raid on the Treasury.

Our witnesses will be divided into three groups, first the Treasury Department and then the industry group and then the scholarly group.

The first witness then will be Mr. J. Robert Vastine, Deputy Assistant Secretary for Trade and Raw Materials, Department of the Treasury.

STATEMENT OF J. ROBERT VASTINE, DEPUTY ASSISTANT SECRETARY FOR TRADE AND RAW MATERIALS, DEPARTMENT OF THE TREASURY

Mr. VASTINE. Thank you very much.

The Treasury Department welcomes this opportunity to discuss with you S. 713, the Deep Seabed Hard Minerals Act and its relation to the law of the sea negotiations.

The Deep Seabed Hard Minerals Act seeks to encourage the development of the hard mineral resources of the deep seabed, pending adoption of an international seabed regime pursuant to treaty.

Before such legislative proposals are acted on, we believe their impact on the following factors must be carefully weighed: (1) the law of the sea negotiations, (2) the precedent that this legislation could create for treatment of investment in other sectors of the economy, (3) and the financial obligations it would create for the Federal Government if present negotiations fail.

The bill contains five major provisions:

(1) A system for licensing eligible firms that intend to develop mineral resources in the deep seabed;

(2) A system of rules and regulations governing eligibility and operations in the seabed and licensing procedures;

(3) Minimum annual expenditures by firms engaged in exploration and development of resources until commercial recovery begins;

(4) U.S. Government guarantees for reduction in value of firms' investments because of a future international agreement; and

(5) Insurance against damages to a firm's investment for which it has no legal remedy.

Treasury is interested in all of these provisions; the first three would affect access to the seabed and the performance of firms which are developing the seabed resources, and the last two could affect the competitive relationship between land-based and seabed minerals and could involve costly Government funding of guarantee and insurance programs.

The Department would be directly responsible for maintaining the Guaranty and Insurance Fund created in section 15. Treasury is also concerned about the customs and tax provisions contained in the legislation in section 16.

TREASURY CONCERNS

The Department supports the principle that regulations are necessary to insure orderly access to seabed resources by mining firms. These principles would be embodied in a successfully negotiated LOS treaty.

However, we cannot support S. 713 because it goes far beyond these principles with its guarantee and insurance program, and because now is not the time to install a regulatory licensing and potentially costly guarantee system.

We also believe that the use of investment insurance and guaranty programs could establish an important policy precedent whereby U.S. firms expect the U.S. Government itself to protect them from unforeseen political and institutional changes that affect their operations.

The time is indeed approaching when some firms will command the technology to explore and develop seabed mineral resources on a commercial basis. We understand that these firms are concerned about the commercial and political risks of such exploitation.

Nonetheless, we believe that these risks can best be addressed through an appropriate and timely international treaty rather than through domestic action by individual countries.

And we are determined that no provision of such a treaty will effectively inhibit development of mineral supplies. Treasury is strongly committed to insuring that new supplies of raw materials come on stream during future decades to meet market demand and to avoid disrupting shortages.

The Federal Government has pursued a policy of equitable treatment of mineral industries, except for the special case of energy. Treasury believes there is no need to change that policy at this time and give special incentives to a limited segment of the nonfuel minerals industry.

We depend upon this market to allocate capital resources efficiently. In some cases, the market mechanism is frustrated from performing its role. This occurs when threats of expropriation or adverse political climates in some countries deter investments that would otherwise be made. We have relied upon general, not selective solutions to this problem. The Overseas Private Investment Corporation is our basic Government insurance program against political risks. It operates virtually worldwide and covers almost all types of investments.

And Secretary Kissinger recently proposed at UNCTAD IV a new investment facilitating mechanism, called the International Resources Bank, which would help reduce political risks of direct foreign investments in all types of mineral and energy projects.

In the case of investment in seabed mining, we recognize that there are now substantial commercial and political inhibitions against private investment. We believe these inhibitions should be removed, but that the vehicle for removal should be a law of the sea treaty which provides a secure economic and political environment to promote investment which is also consistent with sound environmental practices.

Treasury is strongly committed to obtaining a treaty which does provide an environment for successful mining operations. If that treaty is successfully negotiated this year, there will be no need for many of the provisions in S. 713.

If a treaty is not successfully negotiated, as Congressman McCloskey has said, by September 17, we can then consider appropriate action to protect our national interests.

LAW OF THE SEA NEGOTIATIONS

During the last session of law of the sea negotiations, I participated in the interagency discussions to obtain an acceptable U.S. position on various deep seabed issues. Some issues are successfully resolved in the single negotiating text but several issues remain for resolution during the intersessional period and at the next session of the Conference in order to secure our economic interests.

Proposals for legislation now could affect the momentum of the negotiations, impair the spirit of compromise which we have tried for such a long period to build, and erode the gains that indeed have been made for the U.S. national interest in all three committees of the LOS conference.

Secretary Simon has personally followed the developments in these negotiations. If at the end of the summer session their results do not meet U.S. objectives, I can assure you that he will review its policy and recommend appropriate action to protect these objectives.

Meanwhile the Treasury will continue to monitor the relationship between the negotiations and the uncertainty which now affects investments in seabed mining activity.

It is important that the United States pursue policies in the negotiations that preserve our basic commitment to the market as an efficient allocator of resources in minerals development and exploitation.

In the long run, provisions that would likely lead to an inefficient allocation of resources and any provisions that would deter the development of seabed resources would benefit no one. They would lead to unnecessarily high prices for the American consumer and to inefficient industrial production, thus retarding economic growth in both industrial and developing countries.

The administration believes that the United States must, in the forthcoming negotiations, maintain its determination to resist efforts to restrict access to the seabed or to impose restrictive controls on levels of production of its mineral resources.

We are determined to obtain certain key objectives in the seabed negotiation. In brief, these are:

A voting system in the council which adequately reflects the economic interest of producers and consumers of the deep seabed minerals.—In his major address on LOS issues in April, Secretary Kissinger expressed a policy which has been very strongly supported by the

Treasury. He said that the United States was dissatisfied with the previous proposal for the Council voting system, and that "voting machinery must be balanced and equitable, and must insure that the relative economic interests of countries with activities in the deep seabeds be protected, even though these countries may be a numerical minority."

This, we believe, is now the most important unresolved issue in the deep seabed negotiations.

Open, unobstructed access to deep ocean resources.—A cardinal tenet of the U.S. position has been to insist on nondiscriminatory guaranteed access, with security of tenure, for the United States and other national firms. In his April speech, Secretary Kissinger emphasized this point when he said:

What the United States cannot accept is that the right of access to seabed minerals be given exclusively to an International Authority, or be so severely restricted as effectively to deny access to the firms of any individual nation including our own.

The Authority should not have any discretionary power with respect to the issuance of contracts, nor should it have the power to deny contracts for political reasons.

Therefore, we are inalterably opposed to attempts to impose a system which would arbitrarily restrict U.S. access to the seabed, or which would arbitrarily limit the number of sites that firms of any one signatory can exploit. Such attempts appear to be merely an effort by other industrial countries, as Congressman McCloskey indicated, to constrain the U.S. competitive edge in seabed technology and activity.

There are certain other proposals with which we are deeply concerned:

Price and production controls.—Treasury continues to oppose price and production controls that would effectively inhibit development of supplies of seabed minerals. We intend to give continuing close attention to this issue during the remainder of the negotiations.

Revenue sharing with the Authority.—The United States can accept revenue sharing with the International Authority. However, we are opposed to an onerous burden of payments that would impede deep seabed mining activity.

The "Enterprise".—The United States has agreed to the creation of an operating arm of the Authority, the *Enterprise*, which can exploit the deep seabeds under the same conditions that would apply to all mining. At issue is how the *Enterprise* will be financed, especially during the initial period. Mandatory contributions on the part of States parties would be unreasonable burden on the U.S. taxpayers.

Throughout the coming months constant congressional consultations are essential. The United States will then be in a better position to negotiate an acceptable treaty, or if necessary, it will be in a better position to take appropriate action to preserve U.S. economic interests in deep sea mining.

PROBLEMS IN S. 713

I would like to record some of the Treasury's difficulties with the substance of S. 713.

Our greatest concern is with the potential liability with which the U.S. Government would be faced pursuant to the guarantee and the investment provisions of this bill. No one knows accurately how much

investment will be committed by U.S. firms, though there are estimates of several billion dollars for which the United States under the bill could be liable. Neither does anyone know the probability of, or the potential extent of damages that could occur under section 14.

The provisions for investment guarantees, in section 13 could compromise the U.S. Government's ability to negotiate freely a satisfactory treaty. For example, we may feel it imperative to negotiate a particular economic provision in the treaty, but this same provision could also make the Federal Government liable to claims under the act. The existence of such claims could prevent U.S. agreement to the treaty provision even though all might agree that it is in the best interest of the United States.

We are seriously concerned about the effects of both the guarantee and insurance provisions on the behavior of foreign-based firms and foreign governments. The bill could create a meaningful incentive for foreign firms to set up U.S. subsidiaries simply in order to qualify for potential benefits under U.S. law.

Foreign governments, in response to the U.S. initiative, could respond with similar schemes to prevent the loss of prestige and financial benefits associated with pioneering efforts in seabed mining.

Thus, by this bill, the United States could initiate an increase of foreign competition with U.S. firms and a possible influx of foreign seabed miners that would have to be regulated at cost to the United States.

The United States has recently been involved in discussions with other industrial nations to limit competitive programs that promote exports through subsidies. It would be ironic and highly appropriate to create another such competition among governments in a new field.

Treasury is greatly concerned about the enactment of any legislation that would establish more than the minimum degree of regulation necessary for deep seabed mining. We believe that further study of the regulatory issues raised by S. 713 is required.

Treasury has objections to the tax and customs provisions contained in the bill. We believe that the customs provisions are difficult to enforce. Moreover, they place traditional Customs Bureau duties within the Department of the Interior.

We are also concerned about the tax provisions of S. 713. Treating deep sea recovery as though it were recovery within the United States, as in section 16, does nothing to settle the basic question of whether deep sea minerals are eligible for the depletion allowance.

This is because in order to claim the depletion allowance, the claimant must have an economic interest in the minerals in place. The bill does not confer this interest. Conferring access to seabed resources for purposes of exploitation does not confer an economic interest in the conventional sense.

Because of these important shortcomings and objections, we believe more study of this legislation is required. The administration will consult closely with Congress. After the next session of the Law of the Sea Conference this summer, we will be in a better position to make the appropriate recommendations.

Mr. Chairman, you requested that we address a number of more detailed questions. Our responses to those questions are attached, which we will be pleased to submit for the record.¹

¹ See p. 101.

Senator PELL. Thank you very much.

I understand that you are opposed to the passage of this bill at this time?

Mr. VASTINE. Yes, sir.

Senator PELL. Congressman McCloskey thinks, as I do, that there may well not be a treaty agreed to this summer. Is there any intention on the part of the administration to support this bill between the end of the conference and the end of this session of Congress?

Mr. VASTINE. I think if this session fails to produce a treaty, that we believe we can ratify, I think that may be the last gasp for the law of the sea negotiations.

In other words, this has to be the last effort.

Senator PELL. I would strongly disagree with you on that. There was nothing in this field at all for hundreds of years. This concept has only been thought about for less than a dozen years, and many of the countries involved with it are still emerging, developing a viable government. I think it is remarkable that we have been able to move ahead thus far in an area in which many countries had no fixed position before. I remember when Ambassador Pardo of Malta made his statement at the United Nations I think in 1967, and I made one at the same time here, proposing a draft text of a treaty, we were both laughed at, ridiculed practically, at that time.

Now we are moving. If we don't reach a treaty this summer, that will not be the end of the world, not the last gasp of this concept. We will reach a treaty the next year, or the year after that.

It will be more difficult, because of advances in technology.

So I take exception to the thought that it is the last gasp.

Mr. VASTINE. There is a good deal of momentum behind this year's activity, and there is a great desire on the part of many countries, including our own, to try to wrap it up this year.

Senator PELL. There is a great desire on the part of our country, but as you know there is not such a great desire on the part of many other countries. I think it is wrong to signal that if they don't have success this time, that is the end of the road. It is not. I think it is more than likely we won't have success this summer, but we will still, I think before too many years have gone by, see a treaty concluded.

If we have not concluded a treaty by this summer, is it your point that we should support legislation of this sort before the end of this congressional session, or maybe to put it more bluntly, say before the election?

Mr. VASTINE. I think we would have to very carefully evaluate the extent to which the negotiations conform with our policy and our objectives.

I suppose if we think there is a chance of still a later session this year—

Senator PELL. You know as well as I do there won't be another session this year.

Mr. VASTINE. If there is a possibility of maintaining momentum toward achieving agreement, we might still come back and recommend that legislation would not be appropriate.

I think, however, in reviewing the situation after the summer session, if it is very clear that there has been no progress, if there has been some breakup in the negotiations, if they are set back, or if the momen-

tum is stalemated; I think we would seriously consider some form of legislation or consider the need for a bill. We would then be glad to work with Congress on a bill.

Senator PELL. Has any commitment been made by the administration in this regard?

Mr. VASTINE. Commitment?

Senator PELL. Has any commitment been made by the administration with regard to moving ahead and supporting a bill if agreement is not reached this summer?

Mr. VASTINE. No sir.

Senator LEAHY. If I could just interrupt, if I understood your last question, you mean commitment at any level, either commitment to the industry or commitment to any other country?

Senator PELL. I am sorry, I meant commitment to industry.

Mr. VASTINE. No, sir, certainly not by the Department of Treasury.

Senator PELL. Thank you very much.

Could you go into a little more detail concerning the insurance provisions of section 14 of S. 713, and any possible problems that might come from it?

Mr. VASTINE. Yes, Mr. Chairman, I would be glad to, because they concern us very deeply.

In thinking about these insurance provisions, I have become more and more concerned about them. Under the bill, insurance is made available by the Federal Government whenever commercial insurance is not available at reasonable cost.

We believe it is unlikely that commercial insurance will be available at reasonable rates to cover the range of risks implied by this bill. Insurance companies are usually able to establish reasonable premiums to cover the probability of claims and their total value. If they are unable to estimate these probabilities, they refuse to write the insurance.

Because the insurance designed for seabed mining purposes in section 14 would be extremely concentrated—on a small number of sites, certainly at the outset, and for very few companies—and because the amount of liabilities potentially are so vast and so ambiguous, it seems likely indeed that insurance at “commercial rates” is out of the question. There is no possibility of commercial operation insurance here.

Another problem is the definition of grounds for payout of the insurance. Payout would be made for two types of damage to the value of the investment.

The first type of claim would arise if another company removed minerals or claim jumped. As I understand it, that is usually considered a standard kind of commercial risk.

The second reason for the payout is for the “impairment of the insured investment.” This is an exceptionally broad concept. It could apply to impairment of a firm’s investment by commercial means, such as the use of cheaper technology by a competitor, or it could apply to impairment as a result of hostile action.

Thus, for example, if the “estimated monetary value” of the impaired investment in a block of the seabed, which is estimated at 60,000 square kilometers—an enormous area to try to police—is estimated to be \$500 million, and if the seabed resources in that block are another

\$500 million, the potential liability for the Federal Government insurance program could be as much as \$1 billion.

In summary, it seems that section 14 means the Government will create an insurance program for a very, very limited class of clients, for a very highly concentrated risk, for amounts that are indeterminable at premiums which have to be so high that they would have to be subsidized by the taxpayers. The firms simply couldn't afford them.

Thus, we feel that the insurance provisions are unworkable and inappropriate. If the committee wishes, it might be appropriate to ask experts in insurance, in order to confirm the nature of these objections.

Senator PELL. Do you believe that the subsidies provided in general in this bill to the ocean mining industry are vital to our national security?

Mr. VASTINE. No; I don't think that they are. There is a presumption in the bill, particularly in the statement of purposes, that the bill is necessary and that the subsidies implied by the bill are necessary in order to create supplies which are essential for the national security or our industrial security.

We do not believe that is the case with these four minerals. Granted we are 74 percent dependent on nickel imports and 100 percent dependent on imports of manganese or cobalt, but these materials are not in short supply in the world. For manganese and cobalt, in particular, we have large stockpiles.

I would be glad to submit for the committee an additional tabulation of information on the degree of import dependence and the sources of imports for these minerals.

But the conclusion is that we do not feel that it is necessary to subsidize the extraction of these minerals for purposes of either national security or national supply assurance.

Senator PELL. Do you support the provision enabling the ocean mining industry to have a foreign tax credit for payments to any future international entity that manages the deep seabed resources?

Mr. VASTINE. No, sir, we emphatically do not. That is completely inconsistent with the tax law and good tax policy. It would have a devastating practical effect if the firms could charge off any payments of revenue, any sharing of revenue, to the Authority as a foreign tax credit.

It would mean that the American taxpayer is directly subsidizing, that is, directly underwriting the operation of the International Authority. We belong to many international organizations, such as the IMF, and Treasury is constantly asking the Congress for appropriations for replenishment of funds for these organizations. These appropriations are hard fought, and they are completely subject to congressional action.

However, this bill would be creating for this international organization an unappropriated source of potentially vast amounts of money which would be a direct drain on the Treasury.

Senator PELL. But the Treasury does not oppose the idea of an international regime, and a percentage of the take to go to such an organization?

Mr. VASTINE. No, sir, we do not oppose that idea. We propose those payments, which must be careful and modest, should simply be treated

as a business expense. As such, this expense would be treated as a business deduction from a firm's income tax.

Senator PELL. Which may well be the direction our tax law is moving. We passed it once in the Senate, where we said that taxes paid now should not be taken as a credit, but should be taken as a deduction. This passed the Senate, although it was lost in conference.

But I think that is the direction in which Congress is moving.

Mr. VASTINE. Exactly, sir. That is why we feel so strongly about the issue.

Senator PELL. Senator Leahy.

Senator LEAHY. Thank you, Mr. Chairman.

Mr. Secretary, you mentioned your concern with the provisions of S. 713, which are designed to develop a favorable investment climate, particularly insurance and investment guarantees.

If we removed these from the bill, what provisions would establish a favorable investment climate, or is any legislation necessary at all?

Mr. VASTINE. I think in the complete absence of a treaty we would have to consider very carefully how the appropriate environment could be created for extraction of seabed minerals.

I think the main concern in the absence of a treaty would then be an investment risk insurance, not a guarantee program. So we are really talking about the issues of section 14.

I think it would be appropriate for us in the absence of a treaty, in desiring to establish the appropriate environment for seabed mining to look at the current investment guarantee schemes and figure out to what extent they are applicable to seabed extraction. We should also look at the current insurance programs against hostile action.

For example, we should look at the maritime insurance programs. I think the Maritime Administration has an insurance program against war loss of vessels. Now, if a seabed mining trawler is attacked by a gunboat of a coastal state, maybe that trawler would be subject to the maritime insurance scheme.

I think those are the kinds of things we ought to examine. If we are going to adopt an insurance scheme, we ought to be very, very careful and clear in defining it, so it doesn't open up the Treasury as this particular one does.

Senator LEAHY. You think it may be necessary to have or it would be well to have, absent a treaty, some form of legal program to continue the investment?

Mr. VASTINE. I think we should certainly look at that because there are a lot of risks involved.

Senator LEAHY. You speak of the various minerals being in good supply, but we import, for example, a large percentage of our consumption of minerals that are in these nodules.

Mr. VASTINE. That is right.

Senator LEAHY. Has Treasury done any analysis of how this affects our balance of payments?

Mr. VASTINE. Yes.

Senator LEAHY. For that matter, if S. 713 were enacted, how would that affect the balance of payments?

Mr. VASTINE. We are now 100-percent dependent on two of the seabed minerals, cobalt and manganese. We have to import them from

some source or another, and this bill would assure a new source of supply.

Thus under certain conditions the seabed imports that would be replacing foreign imports.

Senator LEAHY. So you don't see this as affecting the balance of payments at all?

Mr. VASTINE. Please let me explain my answer in detail since this is a very important question.

U.S. purchases of the four seabed minerals from foreign land-based producers are counted as imports in the U.S. balance of payments. Under the provisions of S. 713, the production of U.S. firms using American ships to mine and transport these minerals to processing plants located in U.S. territory shall be deemed to have been recovered within the United States. Therefore, any seabed production of these minerals by U.S. firms that would be landed and processed in the United States would not be considered as U.S. payments to foreigners. They would replace purchases from abroad that would otherwise have been made; they would be substitutes for imports.

On the other hand, if a U.S. firm locates a processing plant in a foreign country, such as Mexico or Canada, and sends its output to the United States, U.S. purchase of that output would be counted as a U.S. payment abroad for imports.

According to Commerce Department estimates, net imports of the four basic seabed minerals amounted to some \$1 billion in 1975. However, it would be inappropriate and undesirable to implement special measures to reduce these imports on the grounds that they constitute a "balance of payments drain." Major changes in international monetary and financial arrangements over the past few years, in particular the widespread adoption of more flexible exchange rate arrangements have greatly reduced, if not eliminated any justification for controls or special governmental incentives to deal with balance of payments problems. With the more flexible exchange rate arrangements now practiced, the need for such measures is greatly reduced as the United States and others can adjust more promptly to emerging payments disequilibria through exchange rate changes.

We believe that exchange rates should reflect the underlying economic conditions in a country and that the composition and magnitude of the broad range of transactions that make up a country's international payments position should reflect the operation of free market forces, not artificial controls and incentives imposed by governments.

The fact that we purchase 1 billion dollars worth of minerals from abroad does not represent a source of concern any more than the fact that we purchase other products from abroad as a result of the play of market forces. The American consumer and taxpayer should not be asked on the grounds of balance of payments to subsidize one small segment of the minerals industry.

Senator LEAHY. Thank you. Thank you, Mr. Chairman.

Senator PELL. Thank you very much indeed, Mr. Vastine.

[The questions and answers referred to follow:]

QUESTIONS OF SENATOR MAGNUSON AND THE ANSWERS OF J. ROBERT VASTINE, DEPUTY ASSISTANT SECRETARY FOR TRADE AND RAW MATERIALS POLICY, DEPARTMENT OF THE TREASURY

Question 1. Is the Department of the Treasury opposed to S. 713? Is the Department opposed to any domestic legislation to regulate or promote deep sea mining by U.S. nationals or vessels?

Answer. Treasury continues to believe that a comprehensive Law of the Sea Treaty is the best way to protect U.S. oceans interests, provided such a treaty adequately protects the U.S. economic stake in marine living and nonliving resources. We are opposed to the bill at this time.

Question 2. Sections 13, 14, and 16 of the bill would create an investment guaranty and insurance program. What is the Department's view of these provisions?

Answer. We recommend against the investment insurance and guarantee programs of S. 713 for several reasons. First, these provisions provide an incentive for investment in a particular activity.

Second, the administration has been striving for common treatment of investment within broad industry groups. In differentiating minerals development in the seabed from minerals activities at land-based sites, these provisions give seabed producers favored treatment. There is no present reason, national security or economic, for such special treatment.

Third, in essence, the bill would indemnify a certain very limited class of producers against an action that their government might take in the future that might impair the investment. This action would be signature and ratification of an LOS treaty. Thus, S. 713 would create precedents which could affect U.S. negotiations in situations unrelated to the law of the sea.

Fourth, we object to these provisions because they create an unknown liability of the U.S. Government under a poorly thought-out insurance scheme. In the Treasury view, the amounts of this liability are indeterminable but they could escalate to several billion dollars, since it is impossible to diversify the risk. In the Law of the Sea this diversification is not possible since an adverse action by only one political entity could injure all of the firms being insured by the United States. We view the creation of such potentially large and unpredictable liabilities as unwise and an inappropriate burden for the U.S. taxpayer. At least part of the risk involved is an ordinary investment risk, albeit a very large one, which is being transferred to the Government. In addition it would be virtually impossible to set a premium that would cover the costs of the insurance program yet could be afforded by the companies.

For these reasons much more study of this and other investment guarantee and insurance schemes is needed. Further study is needed to determine to what extent commercial insurance is available.

Question 3. Specifically, what is the potential liability of the United States under section 13?

Answer. The scope of the potential liability under section 13 is impossible to discern from the definition of "investment" given in S. 713 and the description of the investment guarantee in section 13. The terms "estimated monetary value" (section 3j) and "value of the investment" (section 13) are subject to varying interpretations. Even if we knew the number and value of ships, processing plants and other equipment which had to be insured, it would still be difficult to estimate the potential liability of the United States under the provisions of these sections.

Question a. How do you interpret the term "estimated monetary value" contained in the definition of investment (Sec. 3(j))?

Answer. The estimated monetary value could be interpreted to refer just to the value of the recoverable minerals which are left on the site. However, it could include the value which could be placed on potential production from the site. In either case, the amount would be highly subjective and impossible to calculate with accuracy. This provision could mean that the U.S. Government would have to compensate the miner for any revenue sharing obligation in the future treaty.

Question b. How do you interpret the term "value of the investment" used in Section 13? What is the "original investment"?

Answer. "Value of the investment" also does not lend itself readily to clear interpretation. Although the cost of research and development is specifically

excluded from the definition, it is difficult to tell specifically what could be included. For example, if the loss of a mining vessel means that a land-based processing plant is made inoperative, would the "loss" of the processing plant also be subject to U.S. compensation?

Question 4. Do you interpret the provisions of this section to apply to a wholly-owned subsidiary of a foreign corporation incorporated under the laws of a State of the United States? If so, is this good policy?

Answer. S. 713 would apply to a wholly-owned subsidiary of a foreign corporation incorporated in a State. Thus, if the bill were enacted, the United States could be creating an incentive for foreign corporations to set up U.S. subsidiaries in order to qualify for the benefits that would be provided by this bill. The U.S. taxpayer would then be assuming the financial burden and risk of protecting the assets of foreign firms.

Question 5. Is there any precedent for this type of investment?

Answer. We can find no precedent for the type of investment protection provided in Section 13 of S. 713, which is essentially indemnification in advance for U.S. Government action adversely affecting investment stimulated by the legislation.

Question 6. What is the nature of the investment insurance program created by Section 14 of S. 713? Is there any existing parallel program being administered by any government agency?

Answer. As stated in response to question 3, it is difficult to define the scope and terms of the investment insurance program as proposed. It is not clear whether loss of part of the assets of an operation, for example, a mining vessel, could give rise to a claim on secure assets like a U.S. nodule processing plant rendered inoperative by the loss.

In a rather limited search, we have been unable to discover any existing parallel insurance program. The Overseas Private Investment Corporation (OPIC) and the merchant marine insurance programs are not very close parallels. The program in S. 713 would be an encouragement due to random hazards that may occur at sea much as the marine insurance program covers. We understand OPIC is providing answers comparing its programs with the provisions in S. 713.

Question a. Under what conditions does S. 713 make this insurance available? Under what conditions would pay-out on the insurance be made? How do you interpret the phrase "a legal remedy (which) does not exist or is unavailable in any legal forum to which the licensee has access"?

Answer. Under the bill, insurance is made available whenever commercial insurance is not available at a reasonable cost for the reasons mentioned in the answer to question 6(b). Treasury believes it is unlikely that commercial insurance will be available at reasonable rates to cover the full range of risks covered in this bill.

Pay-out on the insurance would be made for two types of damage to the value of the investment. The most obvious claim would arise if another company removed minerals from the licensed site. However, the bill would also provide relief for "the impairment of the insured investment." Impairment could arise from many circumstances, such as the availability of cheaper technology, which would otherwise be considered commercial risks.

Question b. What are the problems in determining rates for this type of legislation?

Answer. Insurance companies are usually able to establish premiums to cover adequately the probability of a claim and the total value of claims. If they are unable to estimate these probabilities or the claims, then they refuse to write the insurance. Concentration of exposure, certain definition of covered risks, and the ambiguous definition of "value of investment" are likely to defy risk-rating techniques and could lead to a heavily subsidized program.

Question 7. What U.S. export controls, customs laws, and tax laws are made applicable to deep sea mining operations under Section 16? Is this good policy?

Answer. (1) Export Controls—None of the provisions of this bill affect the export control law and regulations that Treasury enforces.

(2) Customs—No Customs laws are made applicable to hard minerals taken from the deep seabed by Section 16, 46 U.S.C. 883, which requires that merchandise be transported between ports or places in the United States by means of vessels built in the United States, owned by American citizens, and documented as vessels of the United States, is made applicable to transportation of seabed minerals by Section 16 of the bill. It is not clear whether the navigation laws concerning the entry and clearance of vessels may continue to be applied to

vessels departing or arriving from operations conducted on the deep seabed under the bill. We foresee no administrative difficulties in permitting hard minerals taken from the deep seabed under a license issued by the United States to be landed in the United States under conditions which would treat the minerals as having been recovered in the United States. However, there may be administrative problems in the control of the vessels involved or in cases where the recovered minerals would be exported directly from the recovery site.

(3) Tax Policy—Section 16 provides that for purposes of U.S. tax laws, hard minerals recovered from the deep seabed under a license issued pursuant to the Act will be treated as though they were recovered within the United States. Under present law, the only distinction between hard minerals recovered within the United States and outside it, is that certain minerals are eligible for a higher percentage depletion rate if recovered within the United States. This distinction was enacted as a preference for development of domestic resources in some cases.

Most significantly, however, Section 16 is relevant only if deepsea operations were eligible for any depletion allowance at all. The depletion allowance may be claimed only by a person having an economic interest in the minerals in place.

The legal concept of economic interest has been developed over many years with the more conventional patterns of private ownership and sovereignty in mind. Therefore, its applicability in regard to deep ocean mining is not clear. This question is unsettled under present law, and this bill does nothing to settle that question.

Question 8. Please provide any other specific comments as to the provisions of S. 713 you care to make.

Answer. We should note that though the Treasury is charged by Section 15 with administering the Warranty and Insurance Fund, and is responsible for the Guarantee Reserve, Section 23 appropriates to the Secretary of Commerce the funds for the reserve. In addition, Treasury objects to the placement of traditional Customs Bureau duties within the Interior Department, which is one effect of Section 16.

Senator PELL. Our next witness will testify as a panel. Mr. Northcutt Ely, attorney at law, who is very knowledgeable in this field; Mr. Jack Flipse, president of Deep Sea Ventures; Mr. Marne Dubs, director of the Ocean Resources Department, Kennecott Copper; and Mr. C. G. Welling, Lockheed Missiles & Space Co., Inc.

Senator LEAHY. Mr. Chairman, if I might, before they testify, earlier I mentioned I had questions I was going to submit for the record to the DOD.

I have those questions here. I wonder if I could insert them in the record at this point and the staff make sure they get answered.¹

Senator PELL. Right. I would suggest the record be kept open for 10 days. Let's agree the record will be kept open for 10 days for the submission of any other questions, and allowing the witnesses adequate time to respond to the questions.

Senator LEAHY. Thank you. I would note, though, as far as the Committee on Armed Services is concerned, on our particular questions of the DOD, as we have a reporting deadline in that committee, I would note we want answers back from them as soon as possible, and certainly I have no objection to the record being kept open 10 days.

Senator PELL. Let's make sure the DOD answers to Senator Leahy's questions are returned posthaste.

Senator LEAHY. Thank you.

Senator PELL. Gentlemen, I may sound as if I am opposed to your work, but I am not in the slightest, I am all for it; I know something of the work of each of your companies in this field, and I am delighted that you are moving as you are.

¹ See letter of May 25, 1976, p. 176.

As some of you may know, I wrote a book 10 years ago pushing this area, and my hangup is on this particular bill, which I think would not be helpful to the long-term interests of the country.

From the viewpoint of general encouragement of your technology and your work, it may be.

Any statements you may care to insert in the record will be reprinted in full, if you care to digest them.

STATEMENTS OF NORTHCUTT ELY, ATTORNEY AT LAW, WASHINGTON, D.C.; JACK FLIPSE, PRESIDENT, DEEPSEA VENTURES, INC., GLOUCESTER, VA.; MARNE DUBS, DIRECTOR, OCEAN RESOURCES DEPARTMENT, KENNECOTT COPPER CORP., NEW YORK, N.Y.; AND C. G. WELLING, LOCKHEED MISSILES & SPACE CO., INC.

Mr. ELY. Thank you, Mr. Chairman. I am a lawyer practicing in Washington, and I have the honor to represent Deepsea Ventures today. I shall ask to have my statement placed in the record, and to save time, I will summarize it, if I may.

Senator PELL. Thank you.

Mr. ELY. In the prepared statement I touch on half a dozen points.

The first is some identification of the importance of the resource which you have already heard.

We are now dependent 100 percent on manganese imports, 100 percent on cobalt, 89 percent of all of the nickel we use, and 24 percent of our copper.

The Interior Department is authority for the statement that by 1990, if seabed minerals are freely accessible to us, we can be totally self-sufficient in all of these minerals except manganese, and we can reduce our dependence on foreign imports of manganese to not over 23 percent.

These are important, vital minerals.

The balance-of-payment problems have been mentioned. Actually, we now pay out about \$1 billion a year for these imported minerals. This will increase. If seabed mining were undertaken by American interests under America law, this balance-of-payment drain would end.

These amounts would circulate internally, would not be paid over to producers in some nine foreign countries from which they now come.

I cannot understand the Treasury Department's reply to the contrary. There would be a present savings of about \$1 billion a year of foreign exchange, much more in the future.

I think the domestic legislation and the treaty must be tested in the light of what should be the objectives of a national ocean minerals policy.

I have had the honor of preparing a summary of the mining petroleum laws of the world for the Bureau of Mines, and we have examined something over 120 nations' statutes in that respect.

Senator PELL. Could I interrupt you there? Isn't one of the problems we face that so many of the new nations have not evolved a policy or set of laws in this area, would a small new country, or some of the larger new countries in Africa, have a set of rules or policies in this regard?

Mr. ELY. They do indeed, Senator, certainly not with respect to seabed minerals, but some 120 jurisdictions of the world do have mining and petroleum laws.

Senator PELL. How many nations are members of the United Nations now?

Mr. ELY. I think the list of participants in the law of the sea negotiations is something over 150.

But it is fair to say every nation that has substantial mineral resources, and many who wish they had, do have legislation.

Senator PELL. How many have any law with regard to the seabed mining under the ocean?

Mr. ELY. With respect to the areas of their international jurisdiction?

Senator PELL. Yes.

Mr. ELY. Virtually all of the coastal states do, that have prospects of mineral resources. I would say at last count the list was well over 50.

Senator PELL. Thank you.

Mr. ELY. I would identify perhaps eight or nine objectives of an American mineral policy, if we can attain it.

At the head of the list is the attainment of mineral self-sufficiency. Our experience with the oil embargo should have been lesson enough.

Foreign cartels are building up for copper, uranium, many other minerals upon which our future is dependent.

I would say the second element of our national ocean mineral policy ought to be free access to all seabed minerals.

The third ought to be protection against price controls and production controls, monopolies, agreements in restraint of trade, whether imposed by governmental cartels like OPEC, or private cartels in violation of the principles of American antitrust laws.

The fourth objective I would say is the assurance that all seabed minerals recovered by American initiative shall be processed in the United States, shall be made available to American consumers, and shall be subject to U.S. Government export control laws in the event of a national emergency.

I pause here to say that S. 713 does not contain a specific requirement for processing in the United States. The companion House bill, H.R. 11879, which I will place in the record with your permission later, does this. And I recommend S. 713 be amended in that respect.

The next objective I would say is the applicability of U.S. tax, antitrust, safety, customs, and other laws, including those relating to protection of the environment.

Next, and conversely, we should seek the avoidance of discrimination in the application of these laws between seabed mining and onshore mining. Seabed mining cannot suffer the burden of double taxation if onshore mining is not subject to that burden. That is one example.

Next, we should have enforceable protection of the marine environment in conformity with standards prescribed by the U.S. Government. These are much higher than those that are prevailing in many of the less-developed countries which would dominate the new international regime.

Next, we should seek the protection and encouragement of the continuing development of American technology, in which we now have

a substantial lead of several years, but which will be lost the longer that active development and production of seabed minerals by the American companies is delayed.

Finally, we need assurance of vigorous diplomatic protection by the U.S. Government. This list is not exclusive, but I think it gives a fair benchmark for judging either legislation or treaties.

In my prepared statement I next refer to the existing international law. I shall not dwell on that because I think there is no dispute about it, that under the existing law of the seas, the right to find and take seabed nodules is one of the freedoms of the seas available to the nationals of all countries.

The committees of Congress have been so advised by the State Department, and that is correct advice.

But there is obviously a need for a greater definition. We don't know, in international law, what sized areas may be so used or for how long or what diligence requirements there are.

There ought to be better housekeeping in this respect, whether by legislation or by treaty.

And we need the best assurances available against claim jumping, and third-party interference.

Let me pause to say here that claim jumping is an overblown problem. Nobody is going out deliberately to trespass and "jump" the area that is being worked by a competitor. There are too many such areas out there, nearly 300 in the Pacific alone. You want to know whether your competitor is so you can avoid him, not to go take what he has.

Let me turn to a brief explanation of what S. 713 contains.

The bill describes itself as an interim measure to enable ocean mining to proceed at once. The legislation would cease to be operative when a treaty is ratified by and becomes binding on the United States.

The bill's objectives are to accomplish the ocean mineral policy that I have tried to outline for you.

The basis for congressional authority is the commerce clause of the Constitution, the power of Congress to regulate the activities of U.S. nationals and vessels beyond the limits of national jurisdiction.

Congress, in this bill, does not purport to grant any real estate; no one owns the seabed. But it would assure continuing American access to the minerals of the seabed as a freedom of the seas and free of foreign domination, control or veto.

The technique of the bill is to prohibit American nationals from engaging in deep seabed mining without a license from the U.S. Government. The license would subject the holder to all applicable U.S. law, including those I mentioned—taxation, antitrust, et cetera. Export of strategic minerals is not covered as specifically as I think it should be. But the bill calls for environmental standards, judicial review, and so on, as though the minerals were produced in the United States.

The customs provisions were mentioned by the Treasury Department. Of course, if these minerals are produced by American companies on the high seas, they should have exactly the same status with respect to the American customs laws as minerals produced by their onshore competitors in the United States. We can't expect American industry to incur the tremendous hazards here and then pay duties on bringing the minerals home.

In return, the United States would recognize the miner's title to the minerals he finds, and would afford certain assurances against a few of the political hazards.

The word "subsidy" has been used by a witness this morning. There are no subsidies in this bill that I am aware of. The deep sea miner makes his own investment. The investment by each of these companies has been some \$25 million a year so far. Soon, if we have legislation, it will escalate to perhaps \$100 million in the next year. Ultimately, they will each have spent \$400 to \$500 million of their own money, stockholders' money, or borrowed money. None of this is Federal capital, not a penny of it. There is no subsidy involved here.

This is the investors' risk. They take the risk of the technology, the risk of the market, and all other risks that mining companies normally take. They are operating in a hostile physical environment. They take that risk, against the perils of the seas.

But there are political risks that they can't control. One is that after the investment is made, the United States may ratify a treaty which makes it impossible or highly costly for them to operate.

To take a single example, the latest proposal of Secretary Kissinger, carried forward in the single negotiating text, is for production controls. You can't borrow money to put into this venture from a bank that knows your production may be cut down to a fraction of that required for economic operation.

Faced with this, we need some assurance that if this should happen to us, it will be treated as a fifth amendment impairment of the investment, and it will be compensated.

We don't say that the compensation is necessarily astronomical. We don't know what the political impairment may be that comes out of the treaty. But production control would be absolutely fatal, particularly if this takes the form of either an overall limitation on world-wide production, such as the OPEC embargo scheme, or it takes the form of a scheme which prohibits, in effect, entry of new competitors into this business, and requires that they carry the full burden of any curtailments.

We don't know what form production controls will take. You can't launch this business with that uncertainty hanging over you. Section 13 deals with integrity of investment.

Senator PELL. To be sure I understand what you are saying, you are objecting to the production controls that are being proposed in the compromise at the U.N., is that right?

Mr. ELY. Yes.

Senator PELL. There is nothing about production controls in this bill.

Mr. ELY. Oh, thank heaven, no. We are objecting to Secretary Kissinger's proposal that this industry be subjected to production controls dictated by our competitor, the Enterprise, owned by the Authority, the Authority being both regulator of us and our competitors. And our production would be controlled under that proposal.

Senator PELL. In negotiating, as you know better than I in view of your success as a lawyer, there has to be give and take.

Mr. ELY. The trouble is it is all give in this case and not a single take in the Kissinger proposals that I have discovered. I examined them thoroughly.

Senator PELL. I am sure I could find attorneys with an opposite viewpoint. That is what makes life interesting.

Mr. ELY. The bill, of course, would cease to be operative if a treaty came into effect. But as I will mention later on, I think the prospects of a treaty being generated, which the Senate would or should ratify, have been reduced nearly to the vanishing point by the latest Kissinger proposals which are incorporated in the single negotiating text.

In my prepared statement I deal at some length and rather lovingly with Secretary Kissinger's proposals.

But let me turn now to the single negotiating text which incorporates them with delight and embroiders on them.

As to the production control scheme proposed on April 8 by Secretary Kissinger, now in the single negotiating text:

As recently as last October 29, a little over 6 months ago, the Senate Committee on Interior and Insular Affairs was categorically assured by Under Secretary Maw, and Mr. Leigh Ratiner, the U.S. representative in Committee I, that this could not happen. This statement appears in the hearings of the Subcommittee on Minerals, Materials and Fuels of the Senate Committee on Interior and Insular Affairs, on Status Report of Law of the Sea Conference, page 1428.

Secretary Maw says:

Finally, the organization cannot have the power to control prices or production rates directly or indirectly.

And Mr. Ratiner enlarges on that. He says:

First, the question of price and production controls. Our position, as you know, and as Secretary Maw stated it, is that there cannot be price and production controls in the treaty. There is an equally firm view on the other side. And there has been no demonstrable change in the position of the developing countries on that subject since they first took the position some four years ago that there must be price and production controls. We have made all the arguments that can be made. We have undertaken all of the persuasive efforts that we can with very little success.

But now, 6 months later, Secretary Kissinger has capitulated on that issue.

The single negotiating text has been available less than a week. It requires careful study and analysis, and this will be made and furnished in due course to the committees.

But even reading it three times as I have done brings to light some very disturbing features, indeed.

Senator LEAHY. Excuse me. I was just advising the chairman, I unfortunately have a matter at 11:30 that I can't avoid. I will take your testimony and read it with a great deal of interest.

Mr. ELY. Thank you.

In combination, the single negotiating text provisions would confirm the vesting of ownership of the minerals of the seabed in the proposed Seabed Resource Authority. This is a revolutionary change. Heretofore the State Department representatives have repeatedly assured Congress that the language "the common heritage of mankind," appearing in Assembly resolutions and in the various treaty drafts, does not mean common ownership. It is related, perhaps, to the concept of common heritage of the right to unpolluted air, and so on, but not to ownership.

On that point, too, Secretary Kissinger has capitulated. He now concedes his scheme for royalties and profit sharing articulates the expression "common heritage of mankind." The text would elevate the assembly of the Authority, a 150-member, one nation-one vote, to be the "supreme" policy-making organ. It would demote the 36-man council, on which the American negotiations placed such hope, to a secondary role.

The expression "the controlling power of the Authority" is clearly stated and maintained over all phases of exploration and exploitation and there are references to contracts for refining and marketing.

Exploration and exploitation can only be carried out by a contract and the applicant for a contract must stipulate to accept the full control at all stages by the Authority.

A new "Enterprise" would be created, endorsed by Secretary Kissinger, and this enterprise, owned by the Authority, would be the competitor of the applicants for contracts. The Authority's complete control would embrace a three-tier scheme which Chairman Engo of Committee I describes as—"What are commonly called commodity arrangements, so as to facilitate efficient and stable markets," and second, "Production controls for an interim period as specified in the article," and third, "A compensatory system of economic adjustment assistance."

The text makes clear what all of these mean. Translated, stable markets means fixed prices. Production controls means restrictions on production. And a compensatory system of economic adjustment assistance is spelled out to mean that the Authority is to collect from the miners payments high enough to build up a fund to compensate the countries from which these minerals are produced onshore against the effects of new competition.

By analogy to petroleum, it is exactly as though the United States were to undertake to compensate the OPEC oil-producing countries to the extent that our purchases of oil are diminished by our making ourselves self-sufficient in petroleum.

The consumer will have a long wait for any benefits from seabed minerals if this price fixing cartel system as now endorsed by the administration becomes the law of the sea in place of the freedom of the seas.

The Authority, under the single negotiating text, can fix a world-wide level of allowable production, it can deny new entrance into the ocean mining business, it can impose upon new entrants the burden of any curtailment. It is ironic that at the same time Congress is contemplating divestiture of U.S. oil companies for antitrust reasons, we embrace the creation of a Third World hard minerals cartel.

The single negotiation text contains a profit-sharing scheme, with the amounts left blank. It is perfectly obvious that if you combine all of these features, the end result is a total replacement of a freedom of the seas with respect to seabed mining by a system that I can fairly characterize as state socialism of the deep seabeds of the world, to be controlled by nations hostile to the American free enterprise system. Every element in it can be traced back to the repressive laws of the countries that now have a monopoly over the oil supplies of the world.

The scheme is dedicated not to development of the ocean minerals for the benefit of the consumers, but to the protection of the land-based producers against this new competition.

I emphasize that. This is not an ocean development scheme that is now embodied in the single negotiating text with Secretary Kissinger's endorsement; it is a scheme for the preservation of the markets of the hard mineral producers onshore.

While some mining companies, particularly those owned by socialist states, might benefit financially by such an arrangement with the new masters of the seabeds, particularly if production controls keep out new competitors, the question before Congress today is not what is good for mining companies but what is good for the American consumer.

Now, Mr. Chairman, I shall touch only one more point on the text, and that is the provision for provisional entry into force. Article 63 of the single negotiating text provides that a state may notify the United Nations upon signing the convention that it intends to apply it provisionally, and it will undertake to seek ratification in accordance with its own constitutional procedures.

It goes on that the convention shall enter provisionally into force upon the 36th such notification. In other words, whatever administration is in office can put the treaty into effect as domestic legislation, and as an executive agreement with 35 other nations, as soon as the other 35 have deposited similar notices.

This would bypass both the constitutional function of the Senate with respect to treaty ratification and the powers of Congress to legislate in this field.

Inasmuch as the ratification process in some 150 nations will take many years, and indeed may never be completed, American industry would find itself saddled with a wholly uncertain international situation for an indefinite time. Who is to administer the half populated but cumbersome authority, negotiate the contracts, impose the production controls, fix the profit-sharing percentages, write and enforce the regulations?

What if the Senate eventually refuses to give its advice and consent? What if it annexes conditions to that consent?

This scheme, so earnestly supported by the American negotiators, should be summarily rejected by Congress, and in advance of the August negotiating session.

The Constitution provides a much better way for the consideration and implementation of treaties.

So, in conclusion, Mr. Chairman, may I say that I would urge you to favorably consider, amend appropriately, and report out S. 713. It will give the necessary assurance and impetus to enable American mining companies to go forward with bringing these resources to use for the benefit of all mankind, and it will give notice to the nations of the world and our own negotiators that the American consumers' interests are not to be traded off, as I regret to say the single negotiating text would do.

I should like your permission to place in your record, if I may, a copy of H.R. 11879, as reported by the Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries. It contains a number of provisions that were drafted later than S. 713,

and in my personal opinion are improvements. I ask to be excused from taking part in the turf fight between Interior and Commerce Departments over who is to run this business. Unless we pass legislation fairly soon there won't be any business to administer anyhow.

I would like to place in the record also an opinion of my firm on the international law applicable to deep seabed mining of November 14, and a notice of discovery by and claim of exclusive mining rights under a request for diplomatic protection, filed by Deepsea Ventures with the State Department on November 15, 1974, and also a summary of the assurances given to committees of Congress by the administration over the last 6 years that if they would just delay consideration of legislation one more time, a treaty would solve this problem.

Those are the four appendixes I wish to include in the record.

Senator PELL. Without objection, the material will be received, and if it is too lengthy to include in the record, it will be kept in the files of the committee.

[The statement follows:]

STATEMENT OF NORTHCUTT ELY, COUNSEL, DEEPSEA VENTURES, INC.

I shall discuss the pending bill, S. 713, in relation to the current U.N. Law of the Sea treaty conference.

To put those two subjects in perspective, it seems desirable to take note of the importance of seabed minerals to this country, and to identify the objectives of a sound national mineral policy that ought to govern, whether these objectives are to be achieved by treaty or by legislation or by any other means. It will be useful also to note briefly the elements of existing international law applicable to deep seabed mining.

1. THE RESOURCE

The United States Department of the Interior tells us that we are now dependent on foreign sources for 100 percent of all manganese consumed in the United States, 100 percent of all cobalt, 89 percent of all nickel, and 24 percent of our copper. Ninety percent of these critically important imports originate in nine countries. The Interior Department has also estimated that by 1990 the resources of the deep seabed could make the United States wholly independent of imports of copper, cobalt and nickel, and reduce our dependence on manganese from its present level of 100 percent to only 23 percent.

American industry has developed the technology to recover and refine the seabed manganese nodules which contain these four metals, among others, and to do so in the required quantities, and within the 15 years mentioned in the Interior Department forecast. The development of fewer than a dozen mine sites, already discovered out of the several hundred that are known to exist in the Pacific Ocean alone, would enable these goals to be met for many decades. There would be plenty for all other nations.

2. GOALS OF A SOUND NATIONAL MINERAL POLICY

The primary goals of a sound national ocean minerals policy, whether in treaty negotiations the drafting of legislation, or in administrative and industry decisions, should include the following elements:

A. The attainment of mineral self-sufficiency, to keep the United States free of foreign control of mineral resources on which its national security and its industrial economy are dependent;

B. Free access to all seabed minerals;

C. Protection against price controls and production controls, monopolies, and all agreements in restraint of trade, whether imposed by governmental cartels, like OPEC, or private cartels, in violation of the principles of the American antitrust laws;

D. Assurance that all seabed minerals recovered by American initiative shall be processed in the United States, shall be made available to American

consumers, and shall be subject to U.S. Government export control laws in the event of national emergency;

E. Applicability of U.S. tax, antitrust, safety, customs and other laws;

F. Conversely, the avoidance of discrimination, in application of these laws, between seabed mining and on-shore mining;

G. Enforceable protection of the marine environment in conformity with standards prescribed by the U.S. Government;

H. The protection and encouragement of the continuing development of American technology;

I. Assurance of vigorous diplomatic protection by the United States Government.

This list is not exclusive but it gives a fair benchmark for judging proposals for a treaty or for legislation, and, for that matter, the consequences of proceeding with seabed mining in the absence of either a treaty or legislation.

3. EXISTING INTERNATIONAL LAW

Some, but not all, of the foregoing objectives might be achieved by American industry without either a treaty or legislation.

Freedom of the seas

As the State Department has repeatedly and correctly told congressional committees, under existing international law seabed mining can be carried on by nationals of all countries, as one of the freedoms of the seas. The Department has quite properly added that the United States would give its diplomatic protection to such operations. Sometimes it has also said that the integrity of American investments in seabed mining would be protected in any subsequent treaty, but we have not heard that lately.

The need for definition of rights and obligations

It may be asked, if existing international law permits deep sea mining operations what are U.S. companies waiting for? The answer is that U.S. companies have not waited, have spent many millions in preliminary work, but need a more precise definition of their rights and obligations under U.S. law before committing the much larger sums—running soon into scores of millions of dollars and ultimately into hundreds of millions—for site-specific, commercial deep sea mining operations, and an assurance from Congress that the United States Government will give these investments diplomatic protection against interference by foreign states and international agencies. Most important, they need protection from impairment of these investments in consequence of an international treaty ratified by the United States. As noted earlier, assurances along these lines, variously worded, have been given to congressional committees by spokesmen of the Executive Department from time to time, but these are subjects on which only Congress can speak authoritatively.

Moreover, while international law permits the acquisition of exclusive rights to manganese nodules in the seabed areas beyond national jurisdiction, it does not prescribe the detailed regulation of deep sea mining activities. For example, international law does not prescribe the size of the area which may be exploited, the duration of the rights acquired in the deep seabed, the work or diligence obligations that attach as conditions to such rights in order to keep them in force, environmental restrictions applicable to deep sea mining operations, etc.

These matters could be dealt with in a multilateral convention, in bilateral treaties among the nations engaged in ocean mining, or in domestic legislation of those countries.

4. S. 713

I turn now to a brief discussion of the pending bill.

Purposes

The bill is an interim measure, to enable ocean mining to proceed at once. The legislation would cease to be operative whenever a treaty on this subject is ratified by, and becomes binding on, the United States. The bill's purpose is to accomplish the objectives of a sound American ocean mineral policy identified earlier in this discussion.

Basis of congressional authority

Its constitutional basis is the Commerce Clause, the power of Congress to control the activities of U.S. nationals and vessels engaged in foreign commerce

on the high seas. Congress does not grant any real estate; no one owns the deep seabed. It would assure continuing American access to the minerals of the seabed, as a freedom of the seas, and free of foreign domination, control, or veto. The technique is as follows:

Technique of the bill

The bill would set up a system of licensing of American individuals and corporations, and prohibit deep sea mining by such American nationals except pursuant to a license to be issued under the Act. By this device, Congress would impose controls, not now existing, on the exercise of the freedom of the seas, but they would be established by an American legislature, not a foreign one. These controls, among others, would relate to the area to be claimed, diligence requirements, environmental safeguards, and to conform to the Jones Act, which requires transportation in U.S. vessels. I would add the requirement which appears in the companion House bill, H.R. 11879, but not yet in S. 713, that the licensee must process and refine all recovered minerals in the United States. Only United States nationals, including U.S. corporations, would be eligible for licenses, but foreign investments in U.S. corporations would not disqualify them. The operation, at sea and on shore, would of course be subject to all applicable United States laws, including those relating to taxation, antitrust, export of strategic minerals, environmental standards, judicial review, and so on, as though the minerals were produced in the United States.

In return, the United States would recognize the miner's title to the minerals he recovers and afford his operations diplomatic protection. It would assure him compensation if the United States should later enter into a treaty which diminishes his rights or increases his obligations, implementing the Fifth Amendment. If commercial insurance against harassment and claim jumping is not obtainable, the United States, for appropriate premiums, would provide insurance comparable to that given against expropriations on land. The legislation would offer reciprocal treatment to licenses issued by nations that enact similar legislation and which respect our own Government's licenses.

If, perchance, a treaty is some day ratified by, and becomes binding on, the United States, it will supersede this legislation, and no further licenses will be issued under it.

In short, the bill is designed to enable American industry to proceed at once to apply American technology to restore mineral independence to our Nation, without prejudice to the ultimate ratification of a deep seabed mineral treaty in the event that one satisfactory to the Senate is negotiated.

But the likelihood of a treaty that will accomplish the objectives of a sound American policy has been reduced to the vanishing point by the concessions offered by Dr. Kissinger April 8, 1976, now embodied and expanded in the Single Negotiating Text of May 7, 1976.

5. THE KISSINGER PROPOSALS OF APRIL 8, 1976

The essentials of Dr. Kissinger's new proposals, insofar as the deep seabeds are concerned, are these:

Surrender of one of the freedoms of the seas

Under existing international law, as the representatives of the State Department have repeatedly assured Committees of the Congress, the right to mine the minerals of the deep seabed is one of the freedoms of the seas, available to the nationals of all countries without requiring the permission of any other nation. The Congress has been repeatedly assured that the expression "common heritage of mankind," as employed in the "Principles" adopted by the Assembly of the United Nations in Resolution 2749 (XXV), with reference to the deep seabed, did not connote the recognition of proprietorship or sovereignty in a new international regime and machinery which might be created as a result of the current treaty negotiations. The Secretary now reverses this, saying of his proposals for profit-sharing or royalties, that "such a system would give reality to the designation of the deep seabeds as the common heritage of mankind." Under the Kissinger plan, rights to mine are to be derived only by contract with the new international authority to which the miner will pay a royalty or share of profits. Royalties, profit-sharing and similar arrangements with host countries are, of course, historically derived from the right of a sovereign or other proprietor to compensation for the taking of minerals that he owns. But the significance of the proposal is deeper still: the admission that "the common heritage of man-

kind" concept does indeed mean the end of freedom of the seas, with respect to the seabeds of the world, and the creation of something not heretofore existing: ownership, proprietorship, vested in a new supergovernment, and the reduction of the rights of the United States and its nationals to the status of supplicants for contracts with this new owner, in like manner as oil companies must now seek contracts from the OPEC countries.

This concession is revolutionary. It abandons the principle of the freedom of the seas, and voluntarily accepts the opposite principle of proprietorship of the deep seabed, vested in a new regime administered by a massive international bureaucracy with irrevocable powers.

The International Parliament and its bureaucracy

As to the "decision-making machinery," as Secretary Kissinger calls it:

He says that the United States continues to believe that the Treaty should authorize the formation of an International Seabed Resource Authority to consist of four principal organs:

An Assembly of all member States, to give general policy guidance;

A Council, "to serve as the executive, policy level and main decision-making forum, setting environmental and operational rules for mining, and supervising the contracts for deep seabed mining";

A Tribunal; and

A Secretariat.

To this, Dr. Kissinger now would add an "Enterprise," through which the Authority would directly engage in deep seabed mining in competition with the private companies which must obtain contracts with the Authority. Its membership would coincide with that of the Assembly.

An echo of the Nixon 1970 draft treaty

Dr. Kissinger thus reiterates, as his own, the unfortunate proposal made by his office in the Nixon Administration's draft treaty of 1970 for this sort of an international parliament and supergovernment. The Chairman of the Senate Committee on Interior and Insular Affairs and the Chairman and ranking minority member of the subcommittee dealing with seabed minerals wrote the then Secretary of State on July 21, 1970, as follows:

"Various provisions of the draft treaty would establish an international organization potentially so vast as to make the size of the United Nations pale by comparison. The organization would include an Assembly, a Council, a Tribunal, three Commissions, and a Secretariat. Present leasing activities beyond the 200 meter depth limit could not generate sufficient revenues to begin to fund such an organization. More importantly though, considering at best such a massive organization as a possible result of many concessions in the international negotiating process, one staggers at the thought of the immensity of the organization which would result from negotiations if the United States opened discussions by supporting the creation of the monolith contained in the draft treaty."

This letter urged the Secretary to prevent the release of the 1970 proposal. That advice was ignored. The draft treaty was submitted to the other countries. That was the origin of the present scheme.

Moynihan was right

Dr. Kissinger, repeating in 1976 the Nixon proposal of 1970, is thus prepared to transfer the ultimate control of seabed minerals, now freely available to the United States, to an international parliament. Ambassador Moynihan has opened the eyes of the American people to what has been happening to our interests in the Assembly of the United Nations. He speaks (Commentary Magazine, Mar. 31, 1975) of the "... blind acquiescence and even agreement of the United States, which kept endorsing principles for whose logical outcome it was wholly unprepared and with which it could never actually go along.

* * * * *

"In Washington, three decades of habit and incentive have created patterns of appeasement so profound as to seem wholly normal. Delegations to international conferences return from devastating defeats proclaiming victory. In truth, these have never been thought especially important. Taking seriously a Third World speech about, say, the right of commodity producers to market their products in concert and to raise their prices in the process, would have been the mark of the quixotic or the failed."

The proposed new assembly would have exactly the same membership as the Assembly of the United Nations. Our own situations would be worse, however. Whereas the U.N. Assembly, as Ambassador Moynihan put it, "only pretends to be a parliament," the new Assembly would be a real one, and its legislation would be enforceable as instant international law. Dr. Kissinger recognizes that "the power of the Authority must be carefully detailed by the Treaty in order to preserve all those rights regarding the uses of the seas which fall outside the competence of the Authority. . . ." Ambiguities, of course, would be resolved by the Authority's Tribunal. The outcome can be predicted with some confidence.

The "loaded voting" scheme

Dr. Kissinger proposes "that the composition and structure of the Council reflect the producer and consumer interests of those States most concerned with seabed mining. All nations whose vital economic concerns are affected by decisions of the Authority must have a voice and influence in the Council commensurate with their interests." As to this, three comments are in order: (1) the United States delegation has already agreed, in its comments on Article 21 of the Geneva "Single Negotiating Text," to accept the statement that "The Authority is based on the principle of the sovereign equality of all of its Members"; (2) the Single Negotiating Text vests decision-making power in the Assembly, which it calls "supreme," and in which "sovereign equality" prevails (one nation one vote), not the Council; and (3) even if the roles of the Council and Assembly were to be reversed, there is no assurance whatever that the "consumer interests" of the United States would outweigh in voting power the "consumer interests" of the immense populations of U.S.S.R., China, India—all hostile to the U.S., in their U.N. voting record. Nor is there any assurance that the other industrialized nations would vote with the United States in such a Council. Indeed, several of them have joined in opposing the United States on several important negotiating issues, and have joined in proposing some blatant anti-United States restrictions, such as a quota system admittedly designed to throttle U.S. seabed mining.

The relationship between the miner and the Authority

As to the Kissinger concept of the relationship between the miner and the Authority:

It is clear that the proposed scheme is wholly adverse to the interests of consumers. Access to seabed minerals would be controlled by the Authority, whose membership is to be identical with the "Enterprise," and the Enterprise is to be a State-owned competitor of the mining companies licensed by the Authority. Deep sea mining would be prevented or interminably delayed by the restrictions proposed by Dr. Kissinger, or, if it ever were to get under way, the costs to consumers are sure to be at least as high as the costs of cartel-controlled minerals produced onshore.

Reservations for the Enterprise

Although the Secretary concedes that ". . . there are many more productive mine sites than conceivably can be mined for centuries to come," he proposes:

"A system in which prime mining sites are reserved for exclusive exploitation by the Enterprise or by the developing countries directly—if this approach meets with broad support."

The two-site requirement

"Under this system, each individual contractor would propose two mine sites for exploitation. The Authority would then select one of those sites which would be mined by the Authority directly or made available to developing countries at its discretion. The other site would be mined by the contractor on his own."

But mine sites, numerous as they are, differ so greatly in topography, and chemical and physical properties of the nodules, as to require custom-designing of seabed gathering equipment and control and lifting mechanisms for each site, and, on shore, quite different refining processes. Expenditure of millions of dollars in evaluation, detailed seabed mapping, design and testing of machinery and process is required, and years of time may be involved. One-half of this investment is to be sacrificed, donated to the Authority. Confronted by this data, the Authority might well demand years of additional time to make its choice of the better of the two tendered sites, assuming that, in the meantime, the Authority had acquired somehow the expertise to evaluate the mountains of data and to choose among potential refining techniques, without building pilot plants to test them. The consumers would have a long wait.

Revenue sharing

The Secretary proposes that the Authority supervise a system of revenue sharing or royalties, saying, "Such a system would give reality to the designation of the deep seabed as the common heritage of mankind." American oil consumers have learned what "revenue-sharing," enforced by a host country can mean. We can expect that the bargaining power of the private investor, derived primarily from his present possession of technology and capital, will steadily deteriorate as he is forced to share technology and profits with his landlords, as Dr. Kissinger proposes. Indeed, he proposes "incentives" to bring about this transfer of technology.

Production limitations

For the first time, the United States proposes to accept a production limitation, called a

"... temporary limitation, for the period fixed in the treaty, on production of the seabed minerals, tied to the projected growth in the world nickel market, currently estimated to be about 6 percent a year. This would, in effect, limit production of other minerals contained in deep seabed nodules, including copper. After this period, the seabed production should be governed by overall market conditions."

In other words, the contract with the Authority is to limit the allowable seabed production of copper, cobalt, manganese, as well as nickel, so as to rise or fall with fluctuations in the demand for nickel. (The Bureau of Mines has forecast an annual increase in nickel demand as three percent, not six percent.) Deep sea minerals would be the marginal production, susceptible to shut-downs as nickel demand fluctuates. Such a prospect would make it impossible to attract outside capital to a business subject to these uncontrollable hazards.

Mr. Leigh Ratiner, Administrator, Ocean Mining Administration, testified about production controls on October 29, 1975 ("Hearings, Subcommittee on Minerals, Materials and Fuels, Senate Committee on Interior and Insular Affairs, on status report on Law of the Sea Conference," p. 1449). He said:

"Certain issues, however, of monumental importance to the United States, and I am sorry to say to many other industrialized countries as well will not be easily resolved in that session.

"I would like to mention only three of those issues, because those are the most difficult and are areas in which for the moment there seems little promise of success.

"First the question of price and production controls. Our position, as known, and as Secretary Maw stated it, is that there cannot be price and production controls in the treaty. There is an equally firm view on the other side. And there has been no demonstrable change in the position of the developing countries on that subject since they first took the position some 4 years ago that there must be price and production controls. We have made all of the arguments that can be made. We have undertaken all of the persuasive efforts that we can with very little success."

Under Secretary of State Maw, at that time head of the U.S. delegation, was even more emphatic (p. 1428):

"Finally, the organization cannot have the power to control prices or production rates directly or indirectly." (Emphasis added.)

It appears now that Secretary Kissinger surrendered this issue on April 8, 1976, six months after Under Secretary Maw's and Mr. Ratiner's statements to the Congress. No explanation of the 180 degree turn is made. Perhaps someone thinks that a production control tied to a 6% growth rate for nickel is generous enough to impose no real limitation at all. If so, the less developed countries will not be deluded, and will change the rate. The point is not the choice of the figure, but the surrender of the principle, contrary to the assurances given Congress.

Price maintenance

Dr. Kissinger goes on to say that:

"An urgent task of the International Authority, when it is established, will be to devise an adjustment assistance program in collaboration with other international institutions for countries which suffer economic dislocation as a result of deep seabed mining."

But, to do this, prices of seabed minerals would have to be kept high enough to produce revenues for the Authority (via revenue-sharing or royalties) ade-

quate to compensate producing countries for any adverse effect on them resulting from production of seabed minerals. This is necessarily what is meant by "adjustment assistance," to be provided out of "some of the revenues of the . . . Authority."

Double taxation

Is the Administration prepared, if its revenue-sharing and royalty proposals are accepted, to recognize these burdens in the calculation of U.S. taxes, or is deep seabed mining by U.S. firms to be subject to double taxation, while their foreign competitors, on shore and on the seabed (and, of course, the "Enterprise"), are free of such burdens? He does not tell us.

6. THE SINGLE-NEGOTIATING TEXT

The Single Negotiating Text of May 7, read in conjunction with Secretary Kissinger's concessions of April 8, makes the enactment of the Deep Seabed Hard Minerals Act more necessary than ever, for the protection of America's mineral security.

In combination, they would confirm the vesting of ownership of seabed minerals in the proposed Seabed Resources Authority. The Single Negotiating Text would elevate that Authority's Assembly, a 150-member one-nation one-vote body, to be the "supreme" policy-making organ. It would demote the 36-man Council, in which the American negotiations had placed such hope, to a secondary role.

"The controlling power of the Authority" is clearly stated and maintained over all phases of exploration and exploitation, and there are references to contracts for refining and marketing.

Exploration and exploitation can only be carried out under a contract with the Authority, and the applicant must stipulate that, although he is to furnish all the funds and know-how, the Authority is to have complete control of all operations at all stages, including marketing. The applicant must tender two mining sites, of which the Authority shall keep one, for exploitation by its "Enterprise" or by developing States. The Authority's "complete control" would include, thanks to Dr. Kissinger's concession, a scheme, which Chairman Engo (Intro. p. 7) describes as follows:

"20. Special attention is drawn to paragraph 4, which deals with protection against adverse economic effects to developing land-based mineral producers. The protection scheme envisages a three-layer system of complimentary measures. These are:

"(i) What are commonly called commodity arrangements, so as to facilitate efficient and stable markets for those classes of commodities produced from the Area, at prices remunerative to producers and fair to consumers;

"(ii) Production controls for an interim period as specified in the article;

"(iii) A compensatory system of economic adjustment assistance.

"21. The text makes clear what constitutes 'adverse economic effects' and who may be compensated therefrom.

"22. Certain important questions, however, need particular attention at the next session. Significant among these is a method for assuring that the production limitation prescribed does not adversely affect the ability of the Enterprise to conduct activities on its own, or of developing countries in prescribed association with it, at the earliest possible date."

Translated, "stable markets" means fixed prices, "production controls" means restrictions on production, and "a compensatory system of economic adjustment assistance" means the Authority's collection of payments from the miners in amounts high enough to provide a fund to pay over to mineral-producing countries which may be adversely affected by the new competition. The text spells all this out.

The text does not say how the Authority is to control production and maintain prices, but the Assembly is given virtually unlimited rulemaking powers to implement the policies set forth in the Single Negotiating Text. And Chairman Engo has disclosed at least three ways in which it can implement production controls and price-fixing, none of them palatable to the American consumer and all of them in conflict with the historic policies of Congress. For example:

1. The Authority can set a world-wide level of allowable production, much as OPEC does with respect to petroleum, low enough to restrict the supply of seabed minerals to the world's consumers, thus keeping prices up. That is obviously what is intended, as an over-all objective. That major purpose is the direct opposite of the objective of the pending Deep Seabed Hard Minerals Act, which

is to make this new resource available to all mankind at the lowest cost consistent with the attraction of needed capital to this hazardous business, and consistent with maximum ultimate recovery of the resource and protection of the marine environment.

2. New entrants into the ocean mining business can be denied contracts, or, if allowed to compete with the holders of prior contracts, can be required to bear the whole burden of the over-all curtailment. The text suggests this in two respects: (1) The Authority has complete discretion whether to permit operations in any given area, or to reserve it; the Authority can refuse even to negotiate the granting of a license if it finds that production under the license will reduce the mineral export revenues of any third world nation. (2) Article 9(d) says that "Production levels under existing contracts shall not be affected by the interim limit, but shall, however, be included in the calculation of the stated production limits. . . ." The conflict with American antitrust policy is obvious. The Deep Seabed Hard Minerals Act would require compliance by American miners with the American antitrust laws.

It is ironic that, at the same time Congress is contemplating the divestiture of U.S. oil companies for antitrust reasons, the Administration is negotiating the creation of a third-world hard minerals cartel which, in terms of size and monopoly power, will dwarf the U.S. oil companies.

3. The Authority, as a condition to granting a contract, can demand a percentage of the profits (the text authorizes a profit-sharing scheme, but leaves the percentage blank) which will be high enough to provide a fund out of which "compensatory" payments are to be made to mineral-producing countries from whom consuming countries reduce their purchases. An analogy would be an agreement by the United States to pay the OPEC countries for reductions in their sales of petroleum to the United States to the extent that we succeed in becoming self-sufficient.

There are other disturbing things in the Single Negotiating Text, but time permits reference to only one. This is the cluster of special privileges given to the "Enterprise," the Authority-owned mining company. The Enterprise, the competitor of the private miner, is to be free of all production controls and free of profit-sharing requirements. It is entitled to pick the better of the two mining sites discovered and tendered for contract by the private miner.

The end result of all this is the total replacement of the freedom of the seas with respect to seabed mining by a system of State socialism of the deep seabeds of the world, to be controlled by nations hostile to the American free enterprise system. The scheme is dedicated not to the development of the ocean's minerals for the benefit of consumers, but to the protection of the land-based producers against this new competition. While some mining companies, particularly those owned by socialist States, might benefit financially by such arrangements with the new masters of the seabeds, particularly if production controls keep out competitors, the question before Congress today is not what is good for mining companies, but what is good for the American consumer.

The Single Negotiating Text and the Kissinger concessions of April 8, which it incorporates, fail to pass that test.

7. PROVISIONAL ENTRY INTO FORCE

Article 63 of the Single Negotiating Text provides that "A State may notify, upon signing this Convention, the Secretary-General of the United Nations that it will apply this Convention provisionally and that it will undertake to seek ratification or accession in accordance with constitutional procedures as rapidly as possible. It goes on "This Convention shall enter provisionally into force upon the thirty-sixth such notification to the Secretary-General of the United Nations."

In other words, the Administration, by such notice, can put the treaty into effect as domestic legislation and as an executive agreement with 35 other nations as soon as they have deposited similar notices.

This would bypass both the constitutional functions of the Senate with respect to treaty ratification, and the powers of Congress to legislate in this field.

Inasmuch as the ratification process in 150 nations will take many years, and may indeed never be completed, American industry would find itself saddled with a wholly uncertain international situation for an indefinite time. Who is to administer the half-populated but cumbersome Authority, negotiate its contracts, impose its production controls, fix its profit-sharing percentages, write and enforce its regulations? What if the Senate eventually refuses to give its advice and consent? What if it annexes conditions to that consent?

The scheme, so earnestly supported by the American negotiators, should be summarily rejected by Congress, and in advance of the August negotiating session. The Constitution provides a much better way for the consideration and implementation of treaties.

Senator PELL. I think it would be best if we heard from the whole panel, and then asked our questions.

Mr. FLIPSE. Thank you, Mr. Chairman. My name is John E. Flipse, and I am chairman of the board of directors, president and chief executive officer of Deepsea Ventures, Inc.

I have been actively engaged in the development of deep ocean mining since 1962, and have served as an "expert" on the U.S. delegations to the U.N. Seabeds Committee, and more recently the U.N. Conference on the Law of the Sea.

My testimony today will focus on the single negotiating text, and how it impinges on our ongoing business.

The business is to profitably locate, mine, and process manganese nodules from the deep seabed.

I hope to convince you that operation of a natural resource-metals business under the current terms of the revised Committee I SNT is impossible, and to indicate the motivation of its promulgators.

From the businessman's point of view I will also address Dr. Kissinger's April 8, 1976, concessions, concessions made in the midst of a negotiation where I was present and where I felt any U.S. bargaining points were effectively removed from Committee I consideration.

In my prepared text I bring you a series of observations regarding how Dr. Kissinger's proposals specifically affect us. And I further point out my concern over his promise of further concessions if indeed Dr. Kissinger assumes the leadership of the negotiations in the fall.

In the testimony I object to the impossibly large bureaucracy that is to be established to govern the few people you see here who are the "ocean mining industry."

We sincerely doubt that the negotiations scheduled for August and September will result in any improvement over the present single negotiating text because of the reported rejection of that text, in principle, by the Group of 77.

Hence, further concessions appear to us to be inevitable. I think that the Group of 77 recognizes the success they have achieved by delay. That success has frequently jeopardized the continuation of our company, has resulted in a change of ownership, and a depression of the level of investment.

In my testimony I also cite the danger of having the U.N. law of the sea negotiation record as the legislative history of an ongoing regime, where there is lawmaking, rulemaking, and judicial decision-making.

The cost uncertainties resulting from the single negotiating text, our inability to forecast and plan for the financial burdens, is a restriction that essentially puts us out of business if not clarified.

Our hope, of course, is that it will be clarified by domestic legislation.

The earlier negotiating text provided that the Authority must give us a contract; the new one says they must enter into negotiation for a contract. Hence, what ever hope we had that there was a right to go into business is now a discretionary matter for our competition, the Authority, something we consider intolerable.

I think the most emotional issue is Secretary Kissinger's willingness, later endorsed by certain branches of the Government, to give away, without consulting with us even in a cursory fashion, the technology that has been so laboriously and so expensively developed by the ocean mining industry in this country.

It was a disappointment to hear our Government representative announce this technology would be "generously" given to our competition, something entirely inconsistent with the facts, since foreign interests in this technology will probably prevent it from being given to anyone, if indeed it is pursued.

The revenue-sharing taxation authority Mr. Ely has covered in his testimony indicating the uncertainties that are unlivable.

My own list of the incomplete issues that still concern us is almost the same as Congressman McCloskey's. I share his doubts that they will be resolved except his 50-50 likelihood I would reduce to a one-in-a-thousand chance.

I would like to address briefly, because it has been mentioned but not from the businessman's point of view, the matter of provisional application. If it was a good treaty, with a mechanism that would work, fine.

But provisional application represents an inhibiting influence for us to fight the confirmation of a bad treaty. Industry would set up and go to work, if it still existed, under these rules and regulations and restraints, and would rather do anything than change the rules after 5 or 6 years, or whenever the treaty came up for confirmation.

Hence, we might be in here pleading with you to maintain the treaty, rather than reject it, when really the Nation's interest would demand its rejection.

I believe this dilemma is something that interim legislation will prevent. It will permit us to operate under existing law until such a time as there is a treaty that supersedes and will give the Nation a chance to do their homework and confirm the treaty or not, on its merit.

In the prepared testimony I make some other observations regarding the Group of 77, and I clearly state my conviction that they are here to control us and to maintain a resource monopoly.

I also regretfully speculate that U.S. bureaucratic objectives seriously influence the substance of the negotiation. Shall the State Department formulate and administer U.S. economic and mineral policy? This seems to be the case today. Do we have to have an international government larger than that of the United States to manage this harassed new industry? And, after all, is the United States prepared to pay for all of this?

That is an inherent consideration in the deliberations of how to set up the Authority and later the Enterprise.

In my prepared testimony I also attack Mr. Learson's promise to do something if the treaty doesn't move ahead. This adds to the large stack of promises that Mr. Ely suggests become an appendix to your record.

And I think that the summary of my message is that the Committee I text provides now a serious risk to continuation of our business.

At our board meeting yesterday I was directed to put into this testimony that unless there is legislation, because that is really the only

basis that we believe a workable regime can be established on, that one of our principal American investors will seriously consider withdrawing support of the program.

Now we have been through this crisis before, and they say that troubles build character; so we have lots of character.

Therefore we would urge you to pass this legislation as soon as possible.

[The statement follows:]

STATEMENT OF J. E. FLIPSE, PRESIDENT AND CHAIRMAN OF THE BOARD, DEEPSEA VENTURES, INC.

Mr. Chairman: My name is John E. Flipse. I am Chairman of the Board of Directors, President and Chief Executive Officer of Deepsea Ventures, Inc. of Gloucester Point, Virginia. I have been actively engaged in the development of deep ocean mining since 1962 and have served as an "expert" on the U.S. delegations to the U.N. Seabed Committee and, more recently, the U.N. Conference on the Law of the Sea.

I am appearing today on behalf of my company and also on behalf of the National Ocean Industries Association, an organization with more than 200 member companies engaged in industrial activities over, on, in, under, and with the oceans. NOIA members are active in all significant types of commercial operations involving the Oceans and all share in the common desire to promote the best interests of the United States in the maintenance of a healthy resource base to supply the day-to-day needs of our national economy.

My testimony today will focus on the new Single Negotiating Text of Committee I—the result of the 1976 New York Spring Session of the Conference, and the proposed ocean mining bill before you today. My point of view is that of an American engineer-businessman responsible for developing the technology necessary to profitably locate, mine, process and market the seabed manganese nodules and their contained metals.

My purpose is to convince you that operation of a natural resource/metals business under the current terms of the revised Committee I SNT is impossible. The motivation of the countries promulgating this confiscatory system is absolute control of several metals essential to the industry and economy of the United States. The time has come to pass domestic ocean mining legislation.

Mr. Northcutt Ely, who serves as a legal consultant to and advocate for Deepsea Ventures, is a witness here today and will present our views in detail on the legislation before you today and on the revised Committee I SNT.

Let me provide this Committee with a businessman's evaluation of the effect of that SNT, the United Nations Law of the Sea Conference, and Dr. Kissinger's recent interventions on our ongoing deep ocean mining program. I feel it imperative to advise you at the onset that the new revised Committee I SNT, which embodies Dr. Kissinger's April 8th concessions, represents an unacceptable level of international control on access to the seabed resources. It provides for a degree of administrative discretion in allocation of contracts which is equally unacceptable to private enterprise. It contains intolerable ambiguities with regard to future conditions under which the miner must operate. The current text, if not substantially improved or offset by domestic legislation, will cause a serious impact on current investment decisions in our program. The probability that Dr. Kissinger has further concessions in store can only make matters worse for U.S. industry and the national minerals position.

It is my opinion that the painful progress of these negotiations, which are almost a decade old, has been the result of perceptions by the Third World that if they can exert enough inertia the State Department will respond with more preemptive concessions. Dr. Kissinger, in his oral comments following his April 8, 1976, announcement of his candidacy for head of the U.S. Delegation in the summer 1976 session of the Conference, signalled that further concessions can be expected from the United States:

"I'm here to tell you that we are dedicated to succeeding; that at our political level we are following this Conference; we are prepared to work with the political levels of your countries if the issues become intractable on a technical level; that we will listen with good will to your proposals."

As a partial answer to Dr. Kissinger, I suggest to you today that if a huge bureaucracy and repressive regime such as is reflected in the Committee I SNT

is established, there will likely be no mining of deep seabed modules by private industry, by state enterprise, or by the U.N. Enterprise for decades.

It is important to remember that the Group of 77 has not accepted the revised SNT or any part thereof, nor has any nation in that group. In fact, reports during the final week of the last session indicated wide disapproval and a strong trend toward summary rejection within that Group, coupled with a lack of desire for a summer session to consider it further.

I am unqualified to judge the reasons for these attitudes within the Group of 77. I can, however, outline some of the reasons I find the revised SNT and its predecessor, which was also unacceptable, to be prejudicial to the efficient, equitable and timely development of the resources of the deep seabeds.

First, the SNT and its legislative history is shot through with a bias against the USA, private enterprise, and Developed Countries, in that order of priority of bias. This bias is pervasive, it is not at all subtle, and a quick reading of the document and its Annexes is all that is needed for the most uninitiated reader to identify the bias. The effect of this bias will continue far beyond the process of signing, ratifying and bringing the Treaty into effect. As legislative history, it will color all legislative and administrative decisions by the Authority, it will be a guiding principle affecting all rule and regulation making during the life of the regime and machinery created in the Treaty. Possibly most damaging will be its effect on judicial decisions made by the Authority's dispute settlement machinery, including those decisions concerning interpretation of the Treaty itself.

Secondly, the costs and uncertainties created by provisions of the SNT, many of which may be traced directly to Dr. Kissinger's preemptive concessions of April 8, 1976, have reduced the incentives of the ocean miner who wishes to invest in a U.S. mining operation bringing manganese nodules into the U.S. and World Market.

Examples are the provisions, unique in mining law, that the corporate miner (but not, of course, the Enterprise) must, at double the usual cost, discover, evaluate and bring two equal mine sites to the Authority from which he *may* be granted, after an unspecified time, only the right to "enter into negotiations" on the mine site which the Authority does not wish to retain.

Dr. Kissinger's proposal that seabed minerals should be under a supra-national body with power to control production and hence prices brings us full circle from the objectives of private U.S. industry which has been spending millions of dollars in research and development to assure that these minerals can be competitively produced and marketed.

Private industry efforts in that direction are motivated by a desire to prevent nickel, cobalt, copper and manganese, which occur in limited territorial areas, from becoming controlled by OPEC type cartels which could raise prices beyond all economic justification. Thus, we have an ironic development. Our government, which supposedly champions and indeed enforces the free enterprise system, has taken the initiative in forcing industry into a world wide cartel.

Secretary Kissinger has offered, without even a cursory consultation with industry, our hard won and costly technology as a concession. The SNT fails to address how this technology would be paid for as it is channeled directly to the Enterprise, our competitor. The SNT does indicate that industry's willingness to transfer technology will give rise, at the discretion of the Authority, to tax incentives, but the threat of fiscal discretion on the part of the Authority far overpowers any sense of comfort raised by the possibility of tax incentives, given the anti-free enterprise bias of the SNT as a whole.

The question of revenue-sharing and the taxation authority of this international OPEC raises many problems to private industry. It is clear in the SNT that Dr. Kissinger's U.N. Enterprise, our competitor, would pay no taxes, whether levied by the Authority or by any other governmental unit. We, on the other hand, would be faced with an international tax (the method and rate or rates of which have not yet been determined) plus the normal U.S. taxation imposed on domestic industry. If the trends of this issue continue in the mold of the past, the international tax, in all probability, will be in the nature of an excess profits tax.

These are only a few examples of unsupportable cost burdens and inhibitory uncertainties contained in the current version of the SNT. This document is only some eight days old at the time of drafting this testimony and Deepsea plans, as part of its corporate responsibilities, an in-depth analysis of the docu-

ment. We would be most happy to provide your Committee or Committees with a copy of this document when it is completed.

Before leaving this subject, however, it may be important to list for you some of the areas of Committee I negotiations, vital to industry and the United States economy, which have been put off by Committee I until the summer session of the Law of the Sea Conference.

1. The allocation of powers and functions between Assembly and Council.
2. Composition of the Council and its voting procedure.
3. Financing of Authority and Enterprise.
4. Management and accountability of Enterprise.
5. Interim production controls.
6. Taxation system and rates.
7. Revenue sharing system and allocation scheme.
8. Dispute settlement.
9. Quota (or anti-U.S. monopoly) provisions.
10. Provisional application.

Please let me voice a concern as to the last item. One of the "bones" that the Conference has thrown to industry is the promise of provisional application of the treaty. As I understand the process, the Executive Department of our government can approve "provisional application" thereby circumventing the advice and consent of the Senate for some years. In the off chance that the Authority could put itself in business within a few years and execute a contract with a still interested corporation, that corporation would then find itself defending a poor treaty in the ratification process to avoid uncertainty and costly change. This is a dilemma that domestic legislation can prevent by independently regulating an on-going ocean mining industry during the years necessary for normal ratification and bringing into force of the treaty, if ever.

With regard to the above, and other, opportunities for Secretary Kissinger to make further concessions, our opinion is that other countries may take note that any further concessions may be meaningless. Those already made by the State Department and Dr. Kissinger may be sufficient to assure the death of deep seabed mining.

The question arises as to why a decade of negotiations has produced an incomplete document lacking any sponsorship except that inferred to the United States by reference to Dr. Kissinger's April 8th "give-away?" There have been fundamental conflicts in the objectives of the participants at the Law of the Sea Conference which have existed through the life of these debates and which remain unsolved.

On the one hand, the Group of 77 has wished to replace existing international law with new law in whose formulation they have participated. Lately, of course, the cartel policies and principles of the New International Economic Order have been the major element of the law which the Group of 77 wishes to impose on the seabeds. Aiding in this effort to an extraordinary degree have been the Third World countries who are major exporters of manganese, copper, cobalt and petroleum, and who wish to suppress ocean competition. Their effective leadership in the Group of 77 is evidenced by the new SNT, and particularly Article 9, but including the mass of administrative, legislative, and fiscal burdens contained throughout the document and its Annexes. Their leadership may well continue with regard to the management and operation of the Enterprise, thus ensuring that the benefits of seabed minerals remain unavailable to the consumers of the world.

On the other hand, there have been the publicly announced objectives of the United States. These, in general, have stated that nondiscriminatory access to seabed minerals by States and their national should be guaranteed by the treaty, which should supplement existing international law, promote ocean development, and make a portion of the benefits of such development available for promoting the development of poorer countries.

I regretfully speculate that U.S. bureaucratic objectives also seriously influence the substance of our negotiations. Shall State Department formulate and administer the U.S. economic and mineral policy? Shall we create a massive new international seabed government, unrelated to the size of its task, in order that an experiment in international socialism may take place at the expense of the United States? Is State Department again trying to purchase the love and loyalty of those sworn to confound and control us?

I note the testimony of Mr. Learson early this week to the effect that the Administration is "laying the necessary foundation for appropriate action" on

legislative alternatives, with the intention of making appropriate recommendations this summer with respect to "necessary action by the U.S. Government to protect our deep seabed objectives." I feel it necessary to point out that the Administration has a long string of broken promises to Congress on this subject, stemming back some six years to President Nixon and his quickly forgotten "interim regime" and including unfulfilled promises from Mr. Brower, Mr. Moore and Mr. Maw of the Department of State. All have promised action on alternative domestic ocean mining strategies in consultation with Congress. I suggest to you that the apparent commitment on the same subject made by Mr. Learson in his testimony this week should be judged in the light of that record.

The following thoughts summarize my message to you today. First, the current Committee I SNT is sufficiently flawed to cause serious or fatal consequences to the United States deep ocean mining industry. Dr. Kissinger has capitulated on points which the U.S., as a bastion of efficient private enterprise, has formerly considered essential; nondiscriminatory free access and freedom from production controls are the worst, but not the only examples. Second, in view of the record of the U.S. negotiators and their new head (Dr. Kissinger again) the August-September session of the U.N. Law of the Sea Conference can only result in further worsening of those term and conditions and strengthening of the U.N. bureaucracy that will administer them. Third, interim domestic legislation must be passed quickly to fill the void created by these endless Law of the Sea debates.

If some such form of domestic protection is not passed this year, the large investments now being planned in the coming months by my principals and other progressive, farsighted U.S. companies will quickly dry up with deep seabed minerals being lost to the U.S. and to the world for generations. For these reasons I ask help in speeding the legislation before you on its way to early passage.

Thank you.

Senator PELL. Thank you. Now, Mr. Dubs.

Mr. DUBS. Mr. Chairman, my name is Marne Dubs, and I am director of the Ocean Resources Department of Kennecott Copper.

I am also chairman of the Committee on Undersea Mineral Resources of the American Mining Congress. I will testify today on behalf of the American Mining Congress.

My views are supported by Kennecott, and myself fully.

I hope you will put my full statement in the record.

Senator PELL. In each case, the full text will be put in the record.

Mr. DUBS. I would like to note first that Congress has recognized the essential role of metals and other mineral products and fuels in the national interest by enactment of the Mining and Minerals Policy Act of 1970, which said it was the continuing policy of the Federal Government to foster and encourage private enterprise in the development of an economically sound and stable domestic mining industry.

We believe seabed mining clearly falls under this act, but it has not yet received the encouragement promised by this act.

The mineral resources of the deep seabed will be part of a new domestic mining industry for our Nation and will in fact decrease the balance of payments. They will supply critical materials to our factories, and will undoubtedly enter foreign commerce. Their potential is not only to supply U.S. needs, but to become an article of commerce supplied from U.S. factories.

I note that the committee report, the Senator Interior Committee Report 94-754, provides many of the answers to the questions regarding the background need for the legislation.

I am sure that the committees know well the significance of ocean mineral resources. I will not try to summarize this background, but confine my statement to several important areas, namely, the status and acceptability of the law of the sea negotiations, the basic needs

of the industry, the status of seabed mining development, and recommendations on legislation.

With respect to the product of the Law of the Sea Conference just ending in New York, the single negotiating text is some 77 pages long, and is a document so complex that even experts require a detailed annotated road map to tour it. It is true the document produced in New York is markedly different than the one produced in Geneva. I am afraid it is this difference that can introduce an atmosphere of progress that may well prove illusory.

The chairman of the Committee himself did point out that this text was a personal effort, and he expressed it as being a possible direction in which the desirable consensus we seek might be found.

These weren't idle words. The text is far from any consensus, and in my opinion could not be expected to obtain any more than minority support it put to a vote.

I think its appearance produced at atmosphere in the Group of 77 somewhat of shocked surprise. We characterized the Geneva text as an unmitigated disaster; I suspect they will characterize the New York SNT as something of a sellout to the developed world.

Thus this text could only appear as a personal work document and I don't consider it to have any official status.

In my opinion it can only get worse from here on in, and I think we can expect to see a formidable backlash at the August session of the conference.

Some of this backlash has already appeared. For example, a controversial part of the text is article 9, having to do with the adverse economic effects of seabed production. This article flirts with commodity agreements, which we in industry believe are inimicable to private enterprise. It goes further by establishing an interim production limit. As you well recognize, this is not a provision which we in industry consider desirable.

Notwithstanding that this idea of a production limit is inimical to the private enterprise concept and represents a very large potential concession by the United States, we already find it under the expected attack to make it even worse. In the Committee chairman's notes, he states that certain questions require further study, including—

A method for assuring that the production limitation prescribed does not adversely affect the ability of the enterprise to conduct activities on its own or of developing countries in prescribed association with it at the earliest possible date.

I interpret this as a proposal to not only limit total production, but to prevent any production until the enterprise is established and is in production.

Two separate notes dealing with the defining of the growth segment of the nickel market are included. Their intent is obvious, to limit production severely. Thus the idea of an interim production limit, proposed in Secretary Kissinger's speech of April 8 is rapidly progressing toward the rigid and complete control that in no way has been relinquished as a goal of the developing world. The unacceptability of this to industry is patently obvious.

Another problem one might point to is the concept of reservation of areas for the exclusive use of the enterprise or by the developing

countries directly. This would require any potential seabed miner to propose two mining sites and only get one. This concession represents a substantial extra cost and a complication in timing for the potential miner.

Undoubtedly, implementing provisions could well be so complex as to deny a miner his site while wrangling about the acceptability of his proposals went on and on. Over the very long run, at least half of the seabed would be under the direct control of the authority and ultimately the access of the United States to seabed minerals could be denied.

The acceptance in the SNT of the enterprise as an operating arm of the authority must be examined more carefully. At Caracas and Geneva the enterprise was an unfleshed idea. In New York it took substance and every effort is being extended so that in the long run it would be the only exploiter of the seabed. Great attention is being given to the financing of the enterprise and to all measures required to give it an early and advantageous beginning. The ocean miner from the private enterprise world would find that his regulator and his competitor were one and the same. The consequences of this are obvious.

The SNT is far from satisfactory and promises to get worse. However, even if it were otherwise perfect from the U.S. point of view, but the decisionmaking machinery of the Assembly and Council were under the complete domination of the Group of 77, we should be sorely troubled. If power is lodged in the Assembly and the Council is a tool of the Assembly, it is certain that the seabed authority would in no way be responsive to U.S. needs and problems. The SNT appears to be moving strongly in this unwanted direction. The Assembly is defined as the "supreme organ of authority." No number of later caveats is likely to destroy that power.

The matter of the composition and voting of the Council, where we have been told to expect U.S. interests to be upheld, was too hot politically to handle at New York and was not really coped with. However, the SNT instructs that the Council must operate "in a manner consistent with the general policies prescribed by the Assembly." I am not sanguine that we will get a magic Council so composed and voting in such a manner as to protect U.S. interests, not in the face of what is already in the SNT.

I could enumerate many more points, but time does not permit that. The whole matter of provisional application has been touched upon. The main point I want to make with regard to that is that without some method for early application of a treaty, even a very acceptable and satisfactory treaty, the ocean miner would be kept from mining for 5 to 10 years into the future. This is an impossibility.

I have been critical of what was obtained in New York. However, I would like to join Representative McCloskey in saying that the work at New York was extraordinary. The performance was very high and I would like to express my confidence in the team. It is unfortunate that they are trying to climb out of a deep abyss, with pretty slippery sides, and I think they are destined to return to the bottom.

With regards to the basic needs of ocean mining, the most basic need is the proper investment climate. We cannot undertake the approaching very large risk capital expenditures required for developing the resources of the deep seabed unless it is assured that these expenditures

will not be made in vain because of adverse political actions over which the industry has no control.

We are in no way seeking subsidies, as mentioned by the earlier witness today. What we seek basically is security of tenure to mine specific areas of the seabed for a specific length of time, and under specific conditions that will not change.

The rest of the risks are ours. The technical and economic reasons for this security of tenure requirement can be summed up by saying that a production facility costing a half billion dollars or more is utterly dependent on an uninterrupted known source of ore of known characteristics and cost. Thus investment in such a facility, and in fact in the very costly research and development that it is still necessary to complete, is not possible without better assurance.

Now we understand that U.S. domestic interim legislation cannot provide absolute security of tenure. In S. 713 we believe that the lack of security of tenure is in fact protected against by the guarantee and insurance provisions. These guarantee and insurance provisions all basically apply to the investment. They do not apply to the normal commercial technical risks that are involved.

I believe that S. 713 accomplishes the above purpose well enough, but not perfectly. Now, of course many detailed provisions are required for the implementation of the basic provisions for establishing the relationship of ocean mining and domestic laws. I believe S. 713 has these provisions.

Mr. Chairman, I thought it would also be useful to the committee to discuss the status of the ocean mining industry.

In brief, there are now several strong commercial groups in ocean mining. My own corporation, Kennecott Copper, is one of these, and has established a major consortium for ocean mining. We have present today on my left and right two other organizations working on this, the Deepsea Ventures group and the Lockheed group. Not present is a large U.S. based group, the International Nickel group.

It is difficult to assess the level of accomplishment of these groups, because of their need to protect proprietary positions. My own assessment is as follows:

They have identified nodule deposits which will provide satisfactory minesites. Minesite definition will require a large amount of work and substantial expenditures. To carry this work out without protection of investment and assurance for the future ability to mine the site is financially very risky.

They have largely solved the metallurgical problems of winning metals from nodules. They have either run pilot plants or will do so in the near future. The next steps will require much larger and more costly pilot plant or demonstration plant tests. These tests must be run with nodules obtained from a minesite which would constitute a known supply for the commercial plant whose design would be based on these tests.

Senator PELL. If I could interrupt you for a moment, Senator Stevens has to leave and has a comment to make.

Senator STEVENS. I am sorry, we all know about twisting arms around this place, but I have twisted my neck and I am not sure who to blame.

But I did want to state that I do think—I have read your statement and Mr. Ely's statement—that the problem here seems to be one of time.

And yet I am disturbed to hear you, Mr. Dubs, state that after seeing the latest draft of the single negotiating text you believe that even time won't correct this situation. Is that correct?

Mr. DUBS. That is correct. I believe that the only direction the single negotiating text can go is backwards. When we look at the text and see such a change from Geneva, we are inclined to say look at what the conference has produced. But that text is not very well accepted by the Group of 77. In fact, it is mostly opposed by them.

Senator STEVENS. Isn't this an educational process that is involved as far as the Law of the Sea Conference is concerned?

It is a better text than the Geneva text, isn't it, from your point of view?

Mr. DUBS. It is a better text for the United States to negotiate from. I think the issue you asked me to comment on was whether negotiating could proceed from this text and remove the problems that we all see present in the text.

In my opinion the greatest efforts will in fact be exerted by the Group of 77 to destroy that text.

Senator STEVENS. As you know, I am one who has faced for several years the problem of whether Congress would destroy the Conference if we acted on the 200-mile bill.

We did act, and we are now proceeding to move ahead to establish a meaningful program, and it has not destroyed the Conference. What I would like to know from you gentlemen is if we act in regard to a bill similar to S. 713, will our action in your opinion, destroy this Conference?

Mr. DUBS. Well, I have heard this issue of destroying first the seabed committee and then more recently the Conference for many years now.

Before the predecessor legislation was introduced, the watchword at that time was that legislation would destroy all negotiations. Yet, if one examines the record of negotiations, one finds that the opposite is true. Over the years the activity on this legislation and the positions that many Members of Congress have taken has, I believe, stimulated the achievement of a satisfactory treaty.

Now, I am afraid that in the present situation, with the strong desire of the Group of 77 to alter this text to achieve many more concessions, and in the absence of strong action by Congress, the 77 will not be inclined to negotiate seriously, but to seek to return this text to the Geneva version.

From that point of view, I believe that movement of this legislation in the Congress could have a very positive effect on the Conference.

Now this is not to say that movement of this legislation would not cause discussion, that it would not cause cries of dismay. I believe that is natural. However, I think in the long run, in fact even during the summer session, it would have a very helpful effect.

Looking at the potential accommodations in the SNT out of New York, one could characterize them as being a recognition by the land-based producers that if they do not achieve some concessions in the treaty now, ocean mining will go ahead under domestic legislation and they will obtain nothing.

Senator STEVENS. I think we should be cognizant of an ultimate goal. I assume we all have the same ultimate goal of trying to find a consensus internationally to produce a stability that will encourage the utilization of seabed resources.

And on the other hand I share a great many misgivings about the recent single negotiating text.

Now I would welcome any guidance that we might get from both Government and industry about what we might do to provide a magnet to further draw that text over to the point of livability as far as U.S. interests are concerned. At the same time we don't want to destroy the process which would create a permanent arrangement and would remove a great many of the uncertainties for the future.

I would urge you to look at it from that point of view. We don't want to do anything that would destroy the Conference, but I do have misgivings with the text.

I appreciate the interruption, Mr. Chairman. I am sorry I have to leave. Thank you.

Senator PELL. Thank you very much, Senator Stevens. We are in a spot. I have to quit at quarter to one; we have no permission to sit after that hour. So the more time you take, the less time we have for the rest of the people.

I would hope you would wrap up your testimony.

Mr. DUBS. I think the questions that Senator Stevens raised were right at my summation. I would be glad to yield the floor right now and perhaps be able to answer some questions.

[The statement follows:]

STATEMENT OF MARNE A. DUBS, DIRECTOR, OCEAN RESOURCES DEPARTMENT,
KENNECOTT COPPER CORP.

Mr. Chairman: My name is Marne A. Dubs. I am Director of the Ocean Resources Department of the Kennecott Copper Corporation. I also am Chairman of the Committee on Undersea Mineral Resources of the American Mining Congress and a member of the National Advisory Committee on Oceans and Atmosphere. I served as an expert on the United States Delegation to the Law of the Sea Conference and attended the entire session just ended in New York. I will testify today on behalf of the American Mining Congress. However, the views presented are fully supported both by Kennecott Copper Corporation and myself.

The American Mining Congress is a trade association composed of U.S. companies who produce most of the nation's metals, coal, and industrial and agricultural minerals. It also represents more than 220 companies who manufacture mining, milling, and processing equipment and supplies, and commercial banks and other institutions serving the mining industry and the financial community.

Kennecott Copper Corporation has been actively investigating the recovery of the mineral resources of the deep seabed since 1962. Since January 1974, it has been operator for and held a 50% equity interest in an international consortium organized for the development of manganese nodule mining. Later in my statement I will comment on the status of our work and that of others.

The American Mining Congress, recognizing the potential importance of minerals from the seabed, has had an active committee on undersea mineral resources for many years now and includes undersea minerals in its yearly major policy statement. Its 1976 Declaration of Policy is pertinent to this hearing today and I will take the liberty of quoting from it in part. I quote three paragraphs from the 1976 AMC Declaration of Policy:

"Seabed minerals are a major potential source of certain metals and minerals of critical importance to the security and economy of the United States and for which we are presently dependent on foreign sources of supply. Nodules from the floor of the deep ocean may well provide additional supplies of nickel, cobalt, and manganese to the United States, supplement the production of domestic copper and assist in the reduction of foreign dependency.

"The technology of recovering minerals from the depths of the sea and processing them into useful raw materials has been under development by private industry for over 10 years at its own cost. However, the future course of action by industry is threatened by uncertain investment conditions resulting from the failure to achieve a timely and satisfactory international regime on the law of the sea or domestic legislation which moves towards a stable and predictable investment climate.

"Members of Congress have proposed legislative arrangements in identical bills (S. 713 and H.R. 1270) which constitute a first step in providing the basis for a stable and predictable investment climate for ocean mining. This legislation would regulate the activities of U.S. persons and in no way authorizes any unilateral actions by the United States with respect to the nationals of any other country. This legislation is an appropriate response to the problem of encouraging the development of seabed resources, and we urge its early enactment by Congress."

Our policy statement also commented on the negotiations at the Law of the Sea Conference and in particular the failure to achieve U.S. objectives at Caracas in 1974 or in Geneva in 1975. Nevertheless it also stated that, "We continue to support the long-range search by the United States for an acceptable law of the sea treaty on the deep seabed . . ."

We also note that the Congress recognized the essential role of metals, other mineral products and fuels to the national interest by the enactment of the Mining and Minerals Policy Act of 1970, and declared it to be the "continuing policy of the Federal Government" to foster and encourage private enterprise in the development of an economically sound and stable domestic mining industry. Seabed mining clearly falls under the purview of that Act and should therefore be provided the encouragement specified in the Act. This encouragement has not been provided by the United States and in fact the development of seabed resources has been discouraged by the failure to provide a satisfactory investment climate through either domestic legislation or a treaty acceptable to the U.S.

The mineral resources of the deep seabed will be part of a new domestic mining industry for our Nation, will supply critical materials to our factories, and will undoubtedly enter foreign commerce themselves. Furthermore, their exploration and exploitation involves complex ocean technology, an understanding of weather far at sea, and protection of the marine environment. The Committee on Commerce has been a powerful force in promoting the marine interests of the United States—in addition to its historic role in the encouragement of industry and commerce. I hope that the Commerce Committee will act favorably on the plight of the developer of seabed resources who faces what frequently appear to him to be insurmountable odds.

Not least among these odds are the questions on the legal status of the seabeds. So far the ocean miner has done his work in the ocean on the basis of the freedom of the high seas. However, that freedom—with respect to the seabed—would be eliminated by any law of the sea treaty. He cannot predict the outcome and thus faces a future so uncertain that capital investment in seabed resources is impossible and the requisite, very expensive large-scale ocean experiments will have to be delayed. I hope that the Foreign Affairs Committee will help resolve our dilemma in facing the loss of a fundamental ocean freedom in exchange for an at best onerous future treaty which is always just around the corner but never in hand.

Considering that the Committee Report, No. 94-754, to accompany S. 713, provides many answers to questions regarding the background and need for the legislation, and that the members of these Committees know the significance of ocean mineral resources, in the interest of time, I will confine my statement to several important areas; namely: the status and acceptability of law of the sea negotiations, review of the basic needs of industry, the status of seabed mining development, and recommendations on legislation.

The current session of the Law of the Sea Conference ended in New York on May 7. With respect to deep seabed mining, a new single negotiating text (SNT) was produced by the Chairman of Committee I and was issued at mid-day on the last day of the session. The text is some 77 pages long and is a document so complex that even experts require a detailed and annotated road map to tour its intricacies. It is noteworthy that the Chairman required eight pages of introductory notes to explain the nature of the document.

It is true that the document produced in New York is markedly different from the one produced at Geneva. It is this difference that can induce an atmosphere of progress that is in fact illusory. The Chairman of Committee I himself pointed that out, and I quote, "What I now present does no more than reflect my personal view, as Chairman, of the possible direction in which the desirable consensus we seek may be found." He further stated, and I quote, "However, I take full responsibility for the text which I now present to the Conference. It owes its authorship to none but my personal conclusions as a Chairman who has followed the negotiations with undiluted enthusiasm for a successful conclusion of a consensus text." These were not idle words. This text is far, far from any consensus and could not be expected to obtain any more than minority support if put to a vote. Its appearance produced an atmosphere in the Group of 77 of shocked surprise. We characterized the Geneva SNT as an "unmitigated disaster". I suspect they characterize the New York SNT as a sell out. This text could only appear as a personal work document. Thus, it has no official status. It is my opinion it can only get worse from here on in and we can expect to see a formidable backlash at the August session of the Conference by the Group of 77.

Some of this backlash has already appeared. A very controversial part of the SNT is Article 9 having to do primarily with so-called adverse economic effects of seabed production. This Article flirts first with the idea of commodity agreements which we in industry believe are inimical to private enterprise. It goes further by establishing an interim production limit, or control, on the seabed minerals that limits seabed production to the growth segment of the nickel market. Again, this is not a provision which we in industry consider in any way desirable.

Notwithstanding that this idea of a production limit is inimical to the private enterprise concept and represents a very large potential concession by the United States, we already find it under the expected attack to make it even worse. In the Committee Chairman's notes, he states that certain questions require further attention including, and I quote, "a method for assuring that the production limitation prescribed does not adversely affect the ability of the Enterprise to conduct activities, on its own, or of developing countries in prescribed association with it at the earliest possible date." I interpret this as a proposal to not only limit total production, but in addition, to prevent any production until the Enterprise is established and is in production.

In addition, two separate notes dealing with defining the growth segment of the nickel market are included. Their intent is obvious—to limit production severely. Thus the idea of an interim production limit, proposed in Secretary of State Kissinger's speech of April 8, is rapidly progressing toward the rigid and complete control that in no way has been relinquished as a goal of the developing world. The unacceptability of this to industry is patently obvious.

Another problem one might point to is the concept of reservation of areas for the exclusive use of the Enterprise or by the developing countries directly. This would require any potential seabed miner to propose two mining sites and only get one. Obviously this concession represents a substantial extra cost and a complication in timing for the potential miner. Undoubtedly, implementing provisions could well be so complex as to deny a miner his site while wrangling about the acceptability of his proposals went on and on. Over the very long run, at least half the seabed would be under the direct control of the Authority and ultimately the access of the United States to seabed minerals could be denied.

The entire question of access to the seabed is also very complex. Since unrestricted access is one of the chief goals of U.S. policy, it is curious that no place in the SNT spells it out. Close examination will show that the simultaneous use of several articles including Appendix I must be made to obtain "automatic" access. I am certain that reasonable lawyers could show that access is not guaranteed. More pragmatic souls such as myself would say that there are too many links in the chain and several of them are weak. These weak links would be easily broken by an hostile Authority. If any Committee member is so interested, I would be glad to trace out this "chain of access" during the Q and A period.

The acceptance in the SNT of the Enterprise as an operating arm of the Authority must be examined more carefully. At Caracas and Geneva the Enterprise was an unfleshed idea. In New York it took substance and every effort is being extended so that in the long run it would be the only exploiter of the

seabed. Great attention is being given to the financing of the Enterprise and to all measures required to give it an early and advantageous beginning. The ocean miner from the private enterprise world would find that his regulator and his competitor were one and the same. The consequences of this are obvious.

The SNT is far from satisfactory and promises to get worse. However, even if it were otherwise perfect from a U.S. point of view but the decision-making machinery of the Assembly and Council were under the complete domination of the Group of 77, we should be sorely troubled. If power is lodged in the Assembly and the Council is a tool of the Assembly, it is certain that the seabed authority would in no way be responsive to U.S. needs and problems. The SNT appears to be moving strongly in this unwanted direction. The Assembly is defined as the "supreme organ of the Authority." No number of later caveats is likely to destroy that power. The matter of the composition and voting of the Council, where we have been told to expect U.S. interests to be upheld, was too hot politically to handle at the New York session (or its avoidance was clever political strategy) and was not really coped with. However, the SNT instructs that the Council must operate "in a manner consistent with the general policies prescribed by the Assembly." I am not sanguine that we will get a magic Council so composed and voting in such a manner as to protect U.S. interests—not in the face of what is already in the SNT.

Mr. Chairman, I have only touched on a few of the most important examples of trouble in the SNT. Time does not permit the enumeration of all of them. I hope I have made these points: that the SNT contains substantial concessions derived from Secretary Kissinger's April 8 speech in New York and a previous one in Montreal; that a significant number of detailed problems exist in the text; and that the basic machinery of the Authority does not protect U.S. interests.

One final point is the matter of provisional application. Provisional application was proposed by the United States to the Seabed Committee in 1972. It was not discussed again until late in the New York session. The reception to provisional application was less than enthusiastic—I believe it barely stayed in the text at all. Yet, without provisional application, the treaty—even an acceptable—one would not be ready for use until after ratification which might take 5 to 10 years. This would be impossible for the ocean miner. Obviously, the availability of working machinery is what concerns us. The existence of a political agreement unratified and not in force is of no consequence. The ocean miner is ready to proceed and cannot wait the long years inevitable under the present situation.

Although I have been critical of what was obtained in New York and apprehensive of future directions, I must remark on the enormous energy, intellect, and negotiating skill that our negotiating team displayed in New York. The results obtained in Committee I were in fact phenomenal when measured on a relative scale. Speaking on a purely personal basis, I would like to compliment Mr. Ratiner on his extraordinary performance and express my confidence in Ambassador Learson and his entire team. It is unfortunate that they are trying to climb out of a very deep and slippery-sided abyss and that they are destined to return to its muddy bottom again.

NEEDS OF THE INDUSTRY

Mr. Chairman, I would now like to turn briefly to other matters. The basic need of industry in ocean mining is easily characterized. The only thing holding back the next stage of development is the lack of the proper investment climate. This is the problem of industry. We cannot undertake the approaching very large risk capital expenditures required for developing the resources of the deep seabed unless it is assured that these expenditures will not be made in vain because of adverse political actions over which industry has absolutely no control.

The term "investment climate" itself is a euphemism which is subject to misunderstanding and distortion. S. 713 in Sec. 2(a) (6) is more precise in its language; namely, "that United States mining companies . . . , given the necessary security of tenure, are prepared to make the necessary capital investment for such development and processing." Security of tenure means to us the exclusive right to mine a specific area of the seabed for a specific length of time and under specific conditions that will not change during the period of tenure. It is this security of tenure that is the basic requirement of industry.

The technical and economic reasons for this security of tenure requirement can be summed up by saying that a production facility costing one-half billion

dollars or more is utterly dependent on an uninterrupted known source of ore of known characteristics and cost. Thus, investment in such a facility is not possible without such a secure ore source.

Industry, then, is seeking a system which will provide this security of tenure. At this time, only the United States Government can provide these exclusive rights in the first instance and seek to maintain them over their stated term. Industry understands that it may not prove to be possible to maintain these rights without diminution because of other important policy objectives and that, therefore, the Government cannot be committed to the absolute protection of such rights come what may.

Nevertheless, if, in the process of achieving the best overall solution to all of the public policy questions involved in the Law of the Sea, the Government should after most serious deliberation conclude that it must agree to the diminution of the rights of the ocean miner, then, as in other cases where the Government takes or diminishes the value of property for other public purposes, the Government must provide compensation as a basic constitutional right. Therefore, industry believes that in the event it proves not possible to continue these rights under all circumstances, financial protection must be provided which will compensate for such loss of security of tenure or adverse change in the terms, conditions, and financial arrangements attached thereto. This is the very essence of domestic legislation from industry's point of view.

S. 713 accomplishes the above purpose well enough albeit not perfectly. Sec. 5 (b) (1) provides exclusive rights with respect to persons subject to the jurisdiction of the United States or of any reciprocating state. Sec. 19(a) treats the matter of reciprocating states. Sec. 12 recognizes that the Government may not be able to protect the rights under the terms of an international regime. Sec. 13 provides for financial compensation for any economic losses resulting from failure to maintain rights under an international agreement. Sec. 14 provides investment insurance against economic losses resulting from interferences with mining activities by those against whom a legal remedy either does not exist or is unavailable in any legal forum to which the licensee has access.

Although the above is the most basic need of industry, many detailed provisions are required for the equitable implementation of the basic provisions for establishing the relationship of ocean mining to domestic laws, and for important matters of public interest and policy other than secure mineral supplies, such as the protection of the marine environment. S. 713 has the necessary detailed provisions, which in general appear adequate to the task.

I do not intend to go into detail, but the point I want to make with absolute clarity is that S. 713 does satisfy the basic needs of industry. It falls within the policy statement of the American Mining Congress and is acceptable, with only minor changes.

Mr. Chairman, I thought it would be useful to the Committees to discuss the status of the ocean mining industry, and current developments in ocean mining. There indeed has been substantial progress in the past few years.

Today, industry has progressed to the point where the next steps in unlocking the resources of the deep seabed require very large development expenditures. Industry is deeply concerned about making such expenditures, since the investment may be negotiated away at a Law of the Sea Conference, and there is no assurance that their own government will afford them protection against interference in the interim period before a treaty. As a result, without a solution to this problem, progress toward commercial recovery will be halted or reduced to an insignificant rate.

It is true that industrial activity in ocean mining has continued high in 1974 and 1975 and the beginning of 1976 and ambitious plans have been made for the future. However, this activity and these plans are based on a prediction and a faith that in the absence of a satisfactory treaty, domestic legislation will be enacted into law and will become effective in 1976.

In the case of my own company, if the above does not occur in the next few months, we would review our development plans in detail. I predict as a result of that review that we would at the very minimum greatly curtail our program. It also is not inconceivable that we would abandon the project. We would find it extremely difficult to embark on a program costing of the order of one hundred million dollars to take us through our next stage of work into commercialization in the absence of appropriate legislation or a satisfactory treaty.

Now, what has been happening? Perhaps I should start with the Glomar Explorer. This ship could be a tool for achieving early success in ocean mining.

Its accomplishments, as revealed by the press, are indeed impressive and there is little doubt that it is a further confirmation of our contention that the technology of ocean mining is at hand.

Of course, it appears that one potential ocean miner, The Summa Corporation, has disappeared. However, a new one, Lockheed, has appeared and appears to have a substantive program and serious plans.

In early 1974, Kennecott Copper Corporation announced the establishment of a major consortium to work on ocean mining. It consists of Kennecott, Noranda Mines of Canada, Mitsubishi Corporation of Japan, Consolidated Gold Fields of the United Kingdom and Rio Tinto Zinc of the United Kingdom. A major program has been under way and is essentially on the projected schedule.

In this same period, both Deepsea Ventures and the International Nickel Company (INCO) announced consortia. The Deepsea Ventures group consists of U.S. Steel, Union Miniere of Belgium, and Tenneco. The INCO group consists of INCO, SEDCO, (a U.S. oil drilling contractor), a Japanese group led by Sumitomo, and a West German group containing Metallgesellschaft, Preussag, Saltz-gitter, and Rheinbraun. These, like the Kennecott effort, are substantial, serious efforts to bring the mineral resources of the seabed into production.

In addition, the CLB group (Japanese Continuous Line Bucket System) remains active and is planning tests in the Pacific this year. The CLB group has a large number of participants including the French organization CNEXO. In Japan, an association called DOMA, Deep Ocean Mining Association, is carrying out work emphasizing exploration in the Pacific Ocean.

It is difficult to assess the level of accomplishment of these groups because of their need to protect their own proprietary positions. My own assessment based on informed observation of the scene is that the "collective" position of the seabed developers is as follows:

1. They have identified nodule deposits which could provide satisfactory mine sites. Mine site definition will require a large amount of work and substantial expenditures. To carry this work out without protection of investment and assurances for the future ability to mine the site is financially very risky.

2. They have largely solved the metallurgical problems of winning metals from nodules. They have either run pilot plants or will do so in the near future. The next steps will require much larger and more costly pilot plant or demonstration plant tests. These tests must be run with nodules obtained from a mine site which would constitute a known supply for the commercial plant whose design would be based on these tests.

3. Development of the mining systems has progressed from the drawing board and computer stage and away from simple laboratory tests to large-scale at-sea experimentation. Present schedules, as indicated during industry discussions of NOAA's environmental research program, call for several major at-sea tests beginning in late 1976 and continuing through 1978. The costs of such work are very high and in fact are unique in industrial technology development.

In conclusion, there is no longer any doubt about the technical and economic feasibility of ocean mining. The technology is ready; the investment climate is not.

Although I do not wish unduly to burden the Committees, I believe it is important to again emphasize the need for an acceptable investment climate. Looking at it operationally, the miner needs security of tenure over a mine site in order to spend the money necessary to explore completely the mine site, devise a mining plan, develop the expensive equipment to mine and process the minerals, and, finally, to invest in the production facilities. This is the usual basis under which a mining project can be financed and undertaken. Since such security of tenure cannot be obtained under present circumstances, a substitute must be found. This substitute is protection from the risk that the industry will no longer be able to mine or will have investments impaired from financial burdens as a result of a LOS Treaty agreed to by the U.S., and insurance against interference by foreign governments or firms against which no legal remedies are available. This, Mr. Chairman, is the essence of the cure for the present unsatisfactory investment climate.

I would now like to say a few additional words about the state of the art on ocean mining as seen through the eyes of my own company. We believe we understand quite well the location, metallurgical grade, and tonnage of large manganese nodule deposits of potential commercial interest. We have obtained detailed information on specific potential mine sites with respect to these parameters required for design of mining equipment.

We have tested mining equipment at a 15,000-foot depth on the floor of the Pacific Ocean. This equipment demonstrated successfully certain key aspects of nodule recovery and has given us confidence in our engineering designs. We believe the technical feasibility of ocean mining is clear.

Finally, we have completed our pilot plant work on the development of a hydrometallurgical process to extract metals from nodules. This unique process is low in energy consumption.

In summary, we have completed Phase I of our program to bring nodules to commercial reality. We must now tackle Phase II which involves the development of prototype equipment. This effort will be very expensive, requiring massive equipment and large ships. Once committed to these expenditures, there is almost no turning back from commercialization. Thus, we hesitate because of the uncertainty of the investment climate resulting from the law of the sea issues. We have carried it this far on faith. We cannot go very much further. If legislation to solve the problem is not enacted into law in the next few months and there is no satisfactory treaty, we will be forced to review our plan in view of the large financial risks such inaction would impose.

Mr. Chairman, I would like to conclude my statement with some perspectives and a recommendation. My first perspective is that the resources of the deep seabed are important to the United States and the technology to exploit these resources is at hand. Private enterprise has invested large sums in the development of this technology, has assembled teams of experts and made plans for orderly development. These plans are frustrated by the law of the sea issue and the continued deferral of decision on the issue. Government has not provided the encouragement to go ahead, yet it seems that the Mining and Minerals Policy Act of 1970 and good common sense require it.

The Law of the Sea Conference session scheduled for August in New York is not likely to settle the deep seabed issue and we will be further away from a solution rather than closer. There will be truly enormous pressure by the developing world for further compromise by us and they need to know that such compromise has already gone too far in our view. Our negotiators will be under great pressure to get the treaty they have sought so many years in one last chance, and they will move right up to the thin line of disaster. The danger of negotiating a treaty unacceptable to the Nation and which the Senate will not ratify is real.

Immediate forward progress on domestic legislation with a broad and clear mandate by Congress that the legislation will be enacted into law during this session of Congress is our strong and urgent recommendation. This would provide initial encouragement to the ocean miner immediately and provide him the basic assurance of obtaining the needed security of investment this year. Both of these are essential to avoid loss of momentum in the development programs and the degradation of the U.S. lead in this field. It would serve notice on both our negotiators and their adversaries that time has run out and the well of compromise has run dry.

Mr. Chairman, thank you for providing me with this opportunity to testify on this important matter.

Senator PELL. I am not sure there is going to be any time left for me to ask questions.

I had the pleasure of meeting the next witness in New York at the Law of the Sea Conference, Mr. Welling.

Mr. WELLING. Mr. Chairman, members of the committee, I am Conrad G. Welling, program manager-ocean mining, within ocean systems at the Lockheed Missiles and Space Co., Sunnyvale, Calif.

In this position I am responsible for the planning and development of the Lockheed deep ocean mining system.

I am honored to have the opportunity to appear before this committee to present my views of the pending legislation on deep ocean mining and the importance of having a favorable legal and political climate in which the develop this new industry.

I hope that my statements, provided from the perspective of an industrial firm with a long-standing interest in this field, will assist

the committee in developing national ocean policy and a posture on this subject.

Lockheed activities in ocean mining extend over a period of more than 12 years and include the development of mining and processing technology, and related environmental and economic studies.

Through our participation on the American Mining Congress and the National Petroleum Council Committees relating to undersea mineral policy, and through our current support of the National Security Council's Inter-Agency Task Force Advisory Board on Law of the Sea, we have kept well aware of international and domestic activities affecting deep ocean mining.

Our studies and work over this period have strengthened our opinion that a strong ocean mining industry is a national need if we are to assure U.S. self-sufficiency in supply of the critical metals of nickel, copper and cobalt in the years ahead.

Our research and technology developments have been focused on critical limiting technology and the engineering and economic impact, and interaction of major system elements such as the sea floor miner, the lift and surface systems, transportation and processing.

Our studies and research to date have convinced us that the development of an efficient ocean mining system is feasible from the viewpoint of engineering technology and mineral economics.

The development of a reliable and efficient mining system to recover the one under these conditions represents a significant technical challenge—feasible, but costly.

Our program has been progressing through a series of planned and phased risk management milestones.

We have developed a test miner, and have essentially completed on-land system tests of the miner submerged in a test tank and in a large sea floor simulator or mud pit.

In our processing work we have verified laboratory results of key product element recovery from the feed stock ore in a minipilot plant.

We have now reached a critical milestone in our systems development activities. Our technology program to date has been carried out entirely at Lockheed expense.

Those expenditures have been moderate and, although a great deal has been accomplished over the years, the major system development activity and full-scale on-site system tests still lie ahead.

Our immediate next phase calls for proof-testing at sea of the test miner, and initiation of process scale-up, the funding requirements of which exceed our ability to carry out the work alone.

It is commonly known and understood that the total development and capital funding requirements for placing a complete ocean mining system in production operation, including both mining and the processing plant, have been estimated at \$300 million to \$600 million.

When these costs are compared with similar data for landing mining, that is, investment capital per annual pound of capacity, the ocean mining venture appears very attractive. Furthermore, the energy requirements are low.

This is important because the primary metals industry is a larger user of energy. But the magnitude of the investment requirement and the length of the payback period makes a stable business climate a vital consideration.

As with any major systems development effort, hardware procurement commitment funding for mining systems, platforms, processing equipment and transport components must be placed several years in advance of delivery date requirements.

For example, the funding plan in the case of an operating mining system must allow for 3 to 4 years' lead time for the major capital investments.

In recent months we have been very actively exploring ways and means and problems associated with moving into the next phase of our program.

It is clear from our discussions within industry that major concerns exist within the investment community regarding the lack of a firm U.S. ocean policy as to the nature of the legal regime under which the proposed mining industry would operate.

The next step in system development, as I stated earlier, requires a major investment.

The high probability of the future establishment of a new international authority which would take control of the sea bed resource, imposing currently undefined rules concerning production, price and royalties which have the potential effect of destroying the economic viability of the venture, is an obvious concern to potential investors.

I am sure that we all understand the value of the efficient development of natural resources to the United States as well as the world.

The development of science and technology is making it possible to achieve many goals at an ever-increasing rate so that not only can the living standards of the people of the United States be constantly improved but also that of the rest of the world.

At the same time it appears that many activities are occurring in the legal and political area that are counterproductive because of misunderstandings of the true nature of resource development.

There is a tendency to confuse resources with reserves and production.

Resources in themselves have little value except potential. Manganese nodules are in this category.

At any particular time the extent of known resources are dependent upon exploration and reserves upon economics of extraction.

To turn resources into viable materials requires large amounts of risk capital.

In either case the limits change with time.

As an example, there are huge nickel resources in the United States, but at such low grade that the economics of extraction, a major portion of which is energy, are such that they cannot in the foreseeable future, perhaps several centuries, be considered an economic reserve.

Resource development is a risk. It is a gamble. And, therefore, potential great losses can be counter-balanced only by potentially good returns.

The price of the final product depends upon how efficient industry has been in developing the resources.

Over half, perhaps two-thirds of the revenue of initial deep ocean mining will come from nickel.

The cost of developing new nickel land mines in lieu of ocean mining is rising at an alarming rate, so much so that it is beginning to hamper investments in new nickel land mines, apart from the political problems.

The results are such that the price of nickel could easily double in the next 5 years. It has doubled over the last 5 years for similar reasons.

Shortfalls of supply are a distinct possibility.

The United States imports almost all of its nickel so we are talking about practical economic reality.

It takes appreciably less energy to produce a pound of nickel from manganese nodules than it does from nickel laterite land ores.

Today the United States imports approximately \$1 billion a year of the four metals—nickel, copper, cobalt, and manganese—that will be derived from ocean mining. This could easily grow to \$6 billion or \$7 billion by the year 2000.

Severe inflation, of course, could increase these numbers appreciably.

Nevertheless, if the United States can create a favorable political climate for its ocean miners which would enable the industry to grow at reasonable rates, the estimated savings in balance of payments over the next 24 years is approximately \$40 billion.

This I do not believe can be easily ignored.

In the case of deep ocean mining, those of us who have spent 10 to 15 years in its development believe firmly that an efficient industry can be brought forth, but we will not know for another 5 to 10 years just how efficient it truly will be.

I would be remiss if I attempted at this stage of the game to write detailed regulations or place in the hands of those in the international regime who know the least about it the power to unduly control deep ocean mining and change it from a potentially efficient industry to an inefficient one and, therefore, unduly increase the risk.

This in no way should be interpreted that we do not look forward to a well-documented and well-negotiated law of the sea treaty. But how anyone believes this can be accomplished in a few years is beyond comprehension.

The normal time for a new industry development is 20 years or more and this will certainly be the case for deep ocean mining.

I believe a law of the sea treaty is no less complex and, while I do not suggest it will take 20 years, neither do I believe it is possible to achieve practical success in a few years.

My observation at the present is that the United States has made too many concessions without comparable gains in its behalf.

What we want to know is whether we are going to be able to operate in a relatively free competitive market with known constraints or will we be forced to operate under conditions of excessive regulations and unknown and changing constraints.

We are not asking for a subsidy or for normal business risk insurance.

What we desire is political insurance to provide a reasonable stable environment in which to attract the necessary capital to develop this new industry that we believe has great potential value to the United States.

The domestic legislation which has been proposed and has been reviewed and commented upon by the several industrial and commercial organizations is urgently needed.

It is needed now. It must provide the U.S. Government's acknowledgement of the need to foster and encourage the fledgling hard

minerals deep seabed industry, and provide assurance for security of tenure and freedom of operation.

It should not be considered in conflict with a good law of the sea treaty. It is interim. It is complementary and will allow for healthy and normal political development.

In summary, we strongly believe that the proposed legislation can create a favorable climate wherein the progress in existing ocean mining development activities can continue on an orderly productive course within normal business venture constraints.

We highly recommend enactment of this essential legislation.

I would be most happy to attempt to answer any questions your committee and staff might have.

Senator PELL. Thank you, gentlemen.

I have some questions I would like to have asked you, but I don't have the time. I regret that.

Thank you very much.

Will the next panel come forward? I would hope you could digest your testimony, so we could have a little exchange. It is Mr. Frank, Mr. Moore, Mr. Charney, and Mr. Houseman.

One is missing.

Mr. FRANK. Mr. Houseman is not here.

Senator PELL. I apologize for the lack of time. We do not have permission to meet after 1 o'clock. I think you know that all statements will appear in the record in full. We are now down to one Senator and one member of the working press, so in order for the ideas to be implanted in my thinking, I find the opportunity to ask questions and get spontaneous answers, rather than recital of a written text, is more stimulating and helpful to me.

Maybe Ambassador Moore would care to lead off. I admire him greatly. I served with him many times at law of the sea meetings and am delighted he is here. Welcome.

STATEMENT OF JOHN NORTON MOORE, DIRECTOR, THE CENTER FOR OCEAN LAW AND POLICY, AND FELLOW, THE WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS, SMITHSONIAN INSTITUTION, WASHINGTON, D.C.

Mr. MOORE. Thank you, Mr. Chairman, and let me say what a great personal pleasure it is to again be appearing before a committee chaired by you on a very important matter of national oceans policy.

Mr. Chairman, the issue today can be summarized fairly simply. There are two principal considerations in considering S. 713, and indeed U.S. policy toward the deep seabed mining industry.

The first is that the United States has a major stake in successful conclusion of a law of the sea treaty.

Such a treaty will, I believe, be the best way to provide the stable legal regime, missing at the present time, for deep seabed mining.

In addition, as you know well, Mr. Chairman, we have a large range of other important U.S. ocean interests, including vital security interests, at stake in the law of the sea negotiation.

That negotiation is making progress, though slower than we would like, and though it has not yet produced in Committee I and in some other areas an acceptable text.

The second consideration is that the United States also has a national interest in a viable deep seabed mining industry, both in terms of the access to the mineral resources of the deep seabed, and in terms of the associated deep ocean technology.

Americans can be proud of this industry to date. We must also understand the problem which the industry has.

As I understand it, it is that their developmental sequence is ahead of the slow negotiating pace in the Law of the Sea Conference. And second, they are worried that the treaty which emerges may not have the kinds of guarantees which will encourage deep seabed mining to go forward.

Now it seems to me that the question then in considering S. 713 is really one of balancing these two principal considerations, and asking the question, what is the effect of S. 713 on those two principal considerations, and what other alternatives might be available which would better balance them?

One can get a broad range of views as to what the effect of S. 713 would be on the law of the sea negotiations.

One view is that it would serve as a prod to move things forward against an extreme "Group of 77" position.

Another view supported by Congressman McCloskey this morning is that passage of S. 713 would inevitably lead to disintegration of the negotiation.

My own feeling, Mr. Chairman, after talking to a large number of conference leaders over the last 2 or 3 years of the negotiations, is that though we cannot be certain what would happen, enactment of S. 713 would pose an unacceptable risk of damage to the overall negotiation and indeed to obtaining the kind of stable legal regime in deep seabed mining which is the very object of S. 713.

Now, more specifically, I think that that action would be likely at this time to encourage the extremists, and to move the negotiation away from the moderate elements which are beginning to come more into play.

I think also that such action is likely to endanger some of the gains in other areas, as well as some of the gains that have been made in the deep seabed negotiation.

I would like to add, in response to Senator Stevens' very important question this morning that this is not like the fishery bill, which, as you know, Senator, was basically building on and confirming a general consensus at the Law of the Sea Conference. This bill goes absolutely counter to the prevailing sentiment in the Law of the Sea Conference, which is that the issues should be worked out through a comprehensive treaty and not be undertaken through individual national unilateral actions.

Senator PELL. There is one other great difference. The fish were being vacuumed up and exhausted at an unacceptable rate. At this point the mineral resources of the deep seabed are not being vacuumed up and exhausted.

Talking about the heritage of mankind, it seems to me what is really important here is not what happens in the next few years, but that some kind of system be evolved that for generations ahead provides an operable system of law, recognizing maybe there will have to be a period of no exploitation for a few years.

But from the viewpoint of mankind as a whole, a year or 2 or 3 or 10 are not all that important, although I recognize the problems the industry has, because they have stockholders, capital commitments, and there are professional careers at stake. They are interested in seeing this thing move now, not move in 20 years.

But I think from a governmental viewpoint, our responsibility is to the generations not yet born in our own country and others as well.

Mr. MOORE. I agree with that thrust completely, Senator. Our problem in this whole question is that we are still approaching U.S. interim policy from an either-or standpoint.

Either we conclude a law of the sea treaty at the next session, or the next session beyond that, or the executive branch will promise to go to the fallback.

Senator PELL. As it now stands, where we have anarchy on the seabed, if a company now moves in there with an installation, and citizens of another country come along and engage in either stealing by stealth, or with violence, does international law cover this point?

I am struck here by the case of murder on a Texas tower in the North Sea off Great Britain beyond the territorial limits. My recollection is that because it was not a vessel underway, flying a flag, but a fixed installation beyond the territorial limits, no national law applied.

What would happen in this case to such a venture if it went ahead now and a more aggressive military nation seized their resources?

Mr. MOORE. I don't know the answer to that, Senator, and I think that points up part of the problem for the industry.

Senator PELL. In your opinion as an international lawyer, which you are, what law would apply to two acts: One, stealing by stealth, no violence being done, but you knew who it was, and the other, if violence were done and murder committed in the process?

Mr. MOORE. I would be happy to try to answer that at greater length, but I would not wish to undertake an off-the-cuff answer.

Senator PELL. I would be very interested in Mr. Ely's response to that, because he is a very able lawyer.

Mr. ELY. Mr. Chairman, with respect to murder committed on an offshore rig in the North Sea, beyond the limits of national jurisdiction, British law could by act of Parliament of course be made applicable to such a crime. But if there is such a statute in force in Great Britain now I don't know.

With respect to your question on potential conflict in the area beyond limits of national jurisdiction, between nationals of two different countries, the international law now provides in effect that the freedom of the seas, that is, the right to use the high seas or the seabeds for that matter, is hedged about by the requirement that it shall not interfere with other reasonable use of the freedom of the seas.

Consequently, a forcible intrusion upon what is a lawful operation by the national of one country, occasioned by the unlawful act of another, would be a violation of international law, which would be subject to redress by the nation state of which the injured national was a subject or citizen.

The forum for such an activity would be either normal diplomatic remonstrances and conference, or perhaps pursued in some agreed-upon arbitral tribunal.

Mr. MOORE. Senator, returning to the principal issue I could summarize it easily by simply saying I think it is time for us to stop the either-or approach to this problem. That is, either we conclude a satisfactory law of the sea treaty in the next session of the Conference—it is always the next session—or we are going to go to the fallback.

The truth of the matter is that the United States is engaged in a time-consuming important negotiation which is making progress, and it is in the overall interests of our country and our overall oceans interest that that negotiation succeed.

We candidly cannot say that it is going to be concluded at any particular point in time, though I think there are beginning to be signs that next year looks like a better year, but we cannot say when it will be concluded, and we cannot pressure-cook it in terms of one nation getting all of the other nations to be ready to conclude a treaty.

That means we should shift to really having a look at what interim legislation, what kinds of alternatives would assume uncertainty as to when the treaty will be concluded, and nevertheless be able to get at some of the industry's problems without destroying the law of the sea negotiations.

I have tried to set out, Senator, in my testimony, a number of possibilities at least that might be examined. I doubt that they would meet all of the industry's concerns.

On the other hand, I doubt that they would meet all of the administration's concerns that we have heard on the other side of the equation.

It seems to me we ought at this point go back to committee and seek to develop legislation which would be a genuine interim alternative, which would not destroy the law of the sea negotiation and which would encourage the deep seabed mining industry to get on with its very important developmental sequence.

One last point, Mr. Chairman, if I could. I think it is particularly important to look at the jurisdictional aspects of this problem. And that is, is the United States going to go with the basic approach of the Senate bill that would entrust deep seabed mining to the Interior Department, or the House version, which entrusts regulation to the Commerce Department.

My own feeling is that this is not simply a jurisdictional battle between two giants, the Interior Department and the Commerce Department, and we ought not to sit back and wink at it and say well, let's see what happens in the administration. I think it is extremely important in terms of the future of U.S. oceans policy in general.

The recommendations of the Stratton Commission, in terms of centralization, everything that you, Mr. Chairman, have stood for in your work in chairing the Oceans and International Environment Subcommittee, that Senator Magnuson has stood for in trying to get central planning and direction in oceans, points the way to this being placed firmly under NOAA.

It is an extremely important decision for the future of NOAA and the very concept of an ocean agency with central direction and planning.

Mr. Chairman, I will not go into the organizational recommendations for strengthening the Government for the making of a national

ocean policy that I have set out in my testimony since it is not the focus of this hearing. But if at any time you would like me to elaborate on them I would be pleased to do so.

[The statement follows:]

STATEMENT OF JOHN NORTON MOORE, DIRECTOR, CENTER FOR OCEANS LAW AND POLICY, AND FELLOW, THE WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS

It is a great pleasure to appear before this joint hearing to share a few thoughts on S. 713, the Deep Seabed Hard Minerals Act, and more generally on the direction of United States oceans policy. These two Committees have been the leaders in calling for a coordinated national oceans policy and in stimulating the organizational changes necessary to achieve it. Much progress has been made toward that goal but further progress is still critically needed.

In commenting this morning, I will first comment on S. 713 and then turn to a few comments on strengthening the organization of our Government for the making of a national oceans policy. In doing so I am speaking solely in a personal capacity and not on behalf of the Center for Oceans Law and Policy or the Woodrow Wilson International Center for Scholars. These Centers are dedicated to the free exchange of ideas and do not adopt institutional positions on public policy issues.

There are two principal considerations in assessing S. 713 and more broadly national policy toward the new deep seabed hard minerals industry.

First, our nation has a major stake in successful conclusion of a good law of the sea treaty and we must not by our actions pose an unreasonable risk to the negotiations. As these Committees well know, the United States and its oceans allies are engaged in the most difficult and important oceans negotiation in our history in an effort to achieve a comprehensive and widely accepted new oceans charter. That effort is strongly in the national interest and is making slow but steady progress.

An acceptable treaty which provides guaranteed access to deep seabed minerals is the most effective way to end the legal dispute concerning deep seabed mineral resources and to provide a stable legal basis for our industry. Moreover, our national stake in the negotiation touches every aspect of our oceans interests including vital security needs. The United States also has an obligation to make every reasonable effort to achieve an international agreement which will provide meaning to the hope shared throughout the world and voiced by the past two Administrations that the resources of the deep seabed shall be managed as the common heritage of mankind as part of an acceptable comprehensive law of the sea treaty. This must be achieved, however, in a manner that will protect guaranteed access to the mineral resources of the deep seabed and promote development in the common interest of all nations. I do not believe that the United States Senate will or should give its advice and consent to a treaty which offers less. But equally important I believe that the Senate will and should strongly endorse a good treaty as one of the major international achievements of our time.

Second, we have a national interest in a strong innovative deep seabed mining industry both for national access to the minerals of the deep seabed and for the associated deep oceans technology. Americans can take pride in the accomplishments of this new industry to date. We must also recognize the fundamental problem of the industry which is the lack of an agreed legal regime on which to base the substantial investments necessary for commercial recovery. Though the industry has supported the law of the sea negotiations they are concerned both that the process is taking longer than their own developmental schedule and that the treaty which finally emerges may not provide incentives for development. Their fears are reinforced by an erratic negotiation in Committee I (deep seabed mining) and an extreme Group of 77 position on deep seabed mining.

We must be realistic in understanding with the industry that the law of the sea negotiations, though making progress, are extremely difficult and complex and are by their nature time consuming. Though there is a good opportunity to conclude the negotiations during 1977 there is no assurance that they will be so concluded or that even if concluded the deep seabed provisions will be immediately applicable on a provisional basis. In short there is no way to an instant treaty and too much pressure could even be counter productive. But until such a

treaty is concluded and provisionally applied the problem continues of no stable legal regime for major deep seabed investment.

In balancing these two principal considerations I believe that enactment at this time of legislation such as S. 713 which in effect provides governmental sanction for commercial production poses an unacceptable risk of harm to all United States oceans interests including deep ocean mining.

No one can be certain of the effect of passage of S. 713 or similar legislation on the law of the sea negotiations. Some see passage as a spur to prod what has been a hard line "Group of 77" position on deep seabed mining. Others see passage as certain to lead to disintegration of the negotiation. For example, Congressmen Paul McCloskey and Benjamin Gilman have recently reported to the Congress from their experience at the most recent session of the Conference that enactment of S. 713 "would clearly end any treaty incentive on the part of a majority of the nations participating in the third LOS Conference."¹ My own assessment, based on conversations with many Conference leaders over the last several years, is that regardless of what *might* happen, passage at this time of legislation such as S. 713 poses an unacceptable risk of harm. Passage would, I believe, be likely to encourage extremist opponents and could endanger gains in the deep seabed negotiation and elsewhere. Aspects which would be particularly controversial at this time include governmental endorsement of commercial recovery beginning January 1, 1977 and the general political expectations surrounding the bill. It should also be pointed out that unlike the recently passed 200-mile fishing bill S. 713 cuts against rather than building on Conference consensus. Thus the political effect of the two bills is quite dissimilar.

To conclude that passage of S. 713 is unwise at this time, however, is not to reject other interim legislation which might more adequately balance the principal considerations. Indeed it may be time to develop a genuine interim policy which can permit industry investment without posing an unacceptable risk of harm to the negotiation. The approach of S. 713, including an effort to conclude agreements with reciprocating states, is in my judgment not an interim measure. Rather it is very close to the final fallback if at some point in the future a reasonable law of the sea treaty is not achievable. Progress, though slower than we would like, is being made in the law of the sea negotiations and it is not a time to invoke our fallback. Indeed much of the problem seems to be that rather than concentrating on needs of the industry which can be met on an interim basis we have adopted an either/or approach which promises an acceptable treaty by a particular date or if it is not achieved promises support for fallback legislation such as S. 713. The result is a string of broken promises with a frustrated industry, a restless Congress and an annoyed Conference.

It seems to me that the time has come to candidly admit that we do not know precisely when a new law of the sea treaty will be concluded or when it will be applicable to deep seabed mining, though there are signs that the negotiation is moving to the final stages. We should be equally candid in fairly assessing that the negotiations are making progress and that a good treaty will be strongly in the national interest. The issue then become what interim measures, whether investment insurance, tax incentives, loan programs, or some other can be enacted now which will not pose an unacceptable risk of harm to the broader interest. I will not presume to provide an answer for these Committees but would pose several questions which I believe should be thoroughly explored in fashioning any interim legislation. These are:

(1) Assuming normal industry development sequence what is the likely date at which commercial recovery is expected to begin?

(2) What investments must be made and at what times in order to protect this sequence?

(3) What is the impact on the industry of delay in those decisions or otherwise of delay in entry into commercial recovery?

(4) If some or all of these investments will be deterred by the present uncertain legal climate and the impact of such delay will be serious, what assistance can be offered which would not pose an unreasonable risk of harm to broader ocean goals?

Possibilities which might be explored include tax incentives (for example, investment tax credits and/or advance assurances that payments made to an inter-

¹ "Report by Honorable Paul N. McCloskey, Jr. and Honorable Benjamin A. Gilman, House of Representatives—Congressional Delegates to the Third United Nations Law of the Sea Conference, April 9, 1976." Reprinted in *Senate Interior Committee Report on S. 713, the Deep Seabed Hard Minerals Act, 94th Cong., 2d Sess.*, 45 at 46. (Report No. 94-754, April 14, 1976.)

national authority will qualify for tax credit treatment), an investment insurance program, low interest loans, assistance in obtaining credit or possibly some combination of these or other incentives.

We have a strong national interest in both a successful law of the sea treaty and a healthy United States based deep seabed mining industry. We need not shrink from assisting the industry provided we recognize the extraordinary nature of its problems, the public interest in a viable industry, and the overriding importance of not posing an unacceptable risk of harm to our broader oceans goals and the long run future of the industry itself. Moreover, since the majority of nations will depend at least initially on the technology of United States firms to bring meaning to the concept of the common heritage of mankind, I believe they would be at least less unsympathetic to legislative efforts genuinely intended to protect the normal developmental sequence of the deep seabed mining industry and not intended for political effect or as an alternative to a treaty.

My view in opposition to passage of S. 713 at this time and in support of development of alternative interim legislation is predicated on the assessment that progress is being made toward a good law of the sea treaty despite the difficulty of the deep seabed negotiations. If at any time it were to become apparent that an acceptable treaty were not possible, a treaty including guarantees of unimpeded transit of straits used for international navigation and guaranteed access to deep seabed minerals, then I would wish to carefully reassess the fallback options including S. 713. To protect this contingency the United States is correct in maintaining its juridical position that until a law of the sea treaty with provisions on the deep seabed is concluded and binding deep seabed mining constitutes a lawful use of the deep oceans provided that it is undertaken so as not to interfere with other reasonable uses of the high seas.

In view of the overriding importance of the international political effect of S. 713, I have not commented on its details. Several points, however, are of particular concern. These are:

The January 1, 1977 date for authorization of commercial recovery is not realistic in terms of current Conference prospects:

It does not seem consistent with the report of the Stratton Commission and the thrust of these Committees toward centralized direction over oceans policy to designate the Department of the Interior rather than NOAA as the primary implementing agency for deep oceans mining. This issue is not merely one of competition between Departments but cuts to the heart of whether we will have an effective NOAA;

It does not seem consistent with the professed interim nature of the bill to direct the Secretary of State to enter into international agreements with reciprocating states. Moreover, I do not believe this provision would be workable at this time with other principal industrial nations interested in deep seabed mining. In the present climate of slow but real progress these nations are unlikely to conclude any such reciprocating agreements. If at some future time they became convinced that an acceptable treaty were not possible then such a provision would be an important part of a fallback option; and,

The sweeping investment guarantee and insurance provisions would seem applicable to any company in the World through the simple expedient of incorporation of a subsidiary in the United States. That could be quite an open ended obligation for the U.S. taxpayer.

Because of the serious potential adverse effect of enactment of S. 713 at this time, as well as the need to examine more balanced interim measures, I hope that these Committees will not recommend passage of S. 713 but rather that they will begin development of alternative interim legislation which will balance the principal considerations at stake.

Mr. Chairman, with your indulgence I would like to add a few comments on the strengthening of our Government for the making of oceans policy. These comments are based on my observations over a three-year period as Chairman of the National Security Council Interagency Task Force on the Law of the Sea and Deputy Special Representative of the President for the Law of the Sea Conference.

Historically, the organization of the Government for the making of oceans policy has been a principal focus of oceans interest and particularly of Congressional oceans interest. Indeed the Senate Commerce Committee under the leadership of its Chairman, Senator Magnuson, and the Oceans and International Environment Subcommittee of the Senate Foreign Relations Committee under the leadership of its Chairman, Senator Pell, have provided much of the

impetus for the organizational progress which has been made. In reviewing that progress I would single out the following as particularly significant organizational milestones:

Creation of the National Council on Marine Resources and Engineering Development pursuant to the Marine Resources and Engineering Development Act of 1966 (phased out following the creation of NOAA);

Creation of NOAA in October 1970 following the 1969 recommendation of the Stratton Commission;

Establishing the National Security Council Interagency Task Force on the Law of the Sea as a separate coordinating and action office within the Department of State in September 1973; and, most recently,

Creation in October, 1974 of the new bureau of Oceans, Environment and Science within the Department of State.

Throughout the debate on organization there have been several recurring themes which are as valid today as ever. They are:

(1) The need to upgrade the attention given the oceans in overall national priorities;

(2) The need for clear articulation of national oceans goals and development of an explicit national oceans policy for achieving them;

(3) The need for a greater degree of centralization of oceans programs; and,

(4) The need for continuing interagency coordination and implementation of oceans policy.

There has also been an ambivalence throughout the debate between the desirability of a strong oceans agency to achieve centralized direction and control and a White House Council to perform the same function. Thus when NOAA was created the National Council on Marine Resources was encouraged to fade away. Now five years later there is strong sentiment to reinstitute a more sweeping White House Marine Affairs Council under the direction of the Vice President. Senator Humphrey, who as Vice President chaired the National Council on Marine Resources, recently testified before a Subcommittee of the Senate Commerce Committee in favor of such a proposal. Interestingly, except for the recent creation of the new Oceans Bureau within State, little attention has been given in the debate to the organization of the process for making and coordinating our international oceans policy.

Further progress in organization of the oceans policy process I believe requires understanding that a strong lead agency and an effective planning and interagency coordinating mechanism are both required and that the oceans policy process inescapably includes an international as well as domestic component. The experience of the NSC Interagency Task Force on the Law of the Sea in locating the interagency coordinating office in the lead agency offers an example which might well be emulated on the domestic side.

Based on these general points and my own experience in an interagency coordinating role I would like to make the following specific organizational recommendations for consideration by these Committees at the appropriate time. I would be pleased at any time to explain these recommendations and their supporting reasons in greater detail for the members of these Committees.

(1) We should, where appropriate, accelerate the centralization of domestic oceans programs under NOAA. For example, regulation of deep ocean mining must be primarily entrusted to NOAA. We might also take a fresh look at oceans programs created outside of NOAA since its formation;²

(2) We should create within NOAA an interagency Task Force on Domestic Oceans Policy chaired by the Administrator or Deputy Administrator. NOAA would be recognized as lead agency for domestic oceans policy and would be charged with coordinating domestic oceans policy through the mechanism of the new Task Force. The Task Force would be accorded a separate status within NOAA and would be serviced by an adequately staffed office;

(3) We should take a fresh look at the composition of the new Oceans Bureau within State with a view to turning it into a genuine Oceans Bureau rather than the present amalgam of pre-existing offices. In general the Assistant Secretary of this bureau should be selected for *oceans* leadership. Similarly, the bureau must make a transition from its fisheries and science background to a broad-based office concerned with the full range of oceans issues. For example, the

² In continuing to strengthen NOAA perhaps also we might take a fresh look at the Stratton Commission recommendation to make NOAA an independent agency or in the alternative perhaps it would be sufficient to give the Administrator of NOAA direct access to the President.

office must upgrade its role with respect to deep seabed mining. It will require bureau vision and the full backing of the Department to accomplish this shift;

(4) At such time as the law of the sea negotiation is concluded the NSC Interagency Task Force on the Law of the Sea and its associated office should be phased out and a new Interagency Task Force on International Oceans Policy should be created within the Department of State chaired by the Assistant Secretary of the reconstituted Oceans Bureau and reporting to the Deputy Secretary of State in his capacity as Chairman of the NSC Under Secretaries Committee. Just as NOAA is recognized as lead agency on the domestic side so too the Oceans Bureau should be recognized as lead agency on the international side. To assist the bureau in the transition perhaps consideration should be given now to placing the NSC Interagency Law of the Sea Task Force under the direction of the new Assistant Secretary for Oceans;

(5) The Assistant Secretary for Oceans should report directly to the Secretary without intermediaries except as he may be reporting directly to the Deputy Secretary in his capacity as Chairman of the Interagency Task Force; and,

(6) We should create a new cabinet level Marine Affairs Council within the Executive Office of the President chaired by the Vice President and with a presidentially appointed Executive Director and adequate staff. The new Council should perform two principal functions: First, articulation of national oceans goals and development of an explicit national oceans policy for achieving them; and second, the new Council would serve as the necessary White House coordinating mechanism for the Interagency Task Force on Domestic Oceans Policy. Thus disagreements within the Task Force on Domestic Oceans Policy would be appealed through the Council to the President just as such differences within the Law of the Sea Task Force are now resolved by the NSC Under Secretaries Committee or appealed to the President through the Committee. As a corollary to this structure, the Director of the Interagency Task Force on Domestic Oceans Policy, located within NOAA, would report directly to the Vice President as Chairman of the Marine Affairs Council.

These recommendations would provide for centralized White House goal direction and planning for a national oceans policy, would strengthen the lead agencies for both our domestic and international oceans policy, and would provide an institutionalized mechanism rooted firmly in the lead agencies for day-to-day interagency coordination and resolution of oceans disputes. It would only remain for the Marine Affairs Council and the National Security Council to coordinate our domestic with our international oceans policy. Perhaps even this could be simplified by providing that the new Interagency Task Force on International Oceans Policy would like its domestic counterpart report directly to the Vice President as Chairman of the Marine Affairs Council (i.e., an MAC Interagency Task Force on International Oceans Policy chaired from the Oceans Bureau in the State Department and a MAC Interagency Task Force on Domestic Oceans Policy chaired by the Administrator or Deputy Administrator of NOAA both reporting to the Vice President as Chairman of the Cabinet level Marine Affairs Council). For the present, however, the experience and depth of the NSC on oceans matters seems too valuable to lose.

Thank you, Mr. Chairman.

Senator PELL. Thank you. The Chairman of the Commerce Committee on Oceans, Senator Hollings, has made some very constructive reorganizational proposals in connection with the current sea grant college bill, which is on the Senate floor now.

Mr. Frank.

STATEMENT OF RICHARD FRANK, CENTER FOR LAW AND SOCIAL POLICY, WASHINGTON, D.C.

Mr. FRANK. Mr. Chairman, thank you. I am Richard Frank, and I represent six environmental groups: The Environmental Defense Fund, the Environmental Policy Center, Friends of the Earth, National Audubon Society, the Sierra Club, and the Natural Resources Defense Council.

I have two basic points to make today, and I will be brief in making them.

First, the environmental groups believe that S. 713 should not be passed today, tomorrow, or next year. That bill was drafted by the industry. It contains unusual provisions; it does not provide any assurance that a sound environmental regulatory system would be established; and it assumes certain things like resource need, which cannot justifiably be assumed.

Let me point out one of the basic provisions which we find deficient—the provision which gives to the Department of the Interior the responsibility for establishing the environmental regulatory system. The Department of the Interior in the past has tended to do what industry has wanted it to do in this area. For example, it has not established sound environmental standards or enforced them in connection with offshore drilling.

There is no assurance it would do so here.

I do not agree with Ambassador Moore that NOAA ought to have that responsibility, because NOAA is in the Department of Commerce. Both the Department of the Interior and the Department of Commerce have basically promotional responsibilities and consider business their constituency. The same agency that promotes deep sea mining should not be regulating it from an environmental point of view.

We suggest rather that the Environmental Protection Agency, which has responsibilities of precisely this nature, ocean dumping for example, should be the agency responsible for environmental protection.

We have listed in our written statement other parts of S. 713 which are objectionable. We would hope the committee will take our comments into account.

Our second basic point is that legislation is needed now, legislation which would establish an environmental regulatory system. Mr. Dubs mentioned in his testimony this morning that industry is on the eve of moving from the drawing board to very expensive prototype equipment. Once that equipment and techniques are developed, it will be very difficult for the Government to establish environmental standards that are adequate and to enforce them.

For example, if the industry decides that it will discharge effluents on the ocean surface, but in fact effluents should be discharging one hundred meters down, the equipment modification needed to accommodate the lower discharge may be very expensive. If the Government could establish that standard now, I think the cost would be modest, and the industry would be perfectly prepared to comply with it.

In sum, I hope the committees holding this hearing will draft new legislation, legislation that will lead to sound environmental standards and provide for effective enforcement of those standards.

There is another reason why domestic legislation with a sound regulatory system is needed. It is not at all clear that the international negotiations, even if they are successful, will result in an effective environmental regulatory system.

First of all, there is a time problem. Licenses will be given out, and we will have mining before the seabed Authority is established, or

at least before the seabed Authority establishes standards. So its standards will be too late.

Second, as Mr. Flipse pointed out, the single negotiating text is ambiguous. The text could be improperly interpreted. For example, it could be misread to the effect that the seabed Authority did not have jurisdiction over environmental standard-setting and enforcement, of mining activities other than the scraping up of nodules. There is ambiguous language which one could misinterpret to mean the seabed Authority did not have jurisdiction over the water column or processing on the ocean surface.

There are ambiguous provisions which could be misinterpreted (1) to provide that national governments like the U.S. could not establish additional or stricter standards, or (2) to provide that subsequently established environmental standards would not apply to prior licenses.

These subjects were recently considered, Senator Pell, by a distinguished panel of scientists and lawyers of the American Society of International Law. They have produced a pamphlet called "Seabed Mining and Environment." It considers such subjects as the inadequacy of the Government's present environmental analysis process, the inadequacy of legislation like S. 713, and it proposes ways in which these systems should be improved. It proposes provisions for both the international treaty and also for domestic legislation.

If the committees would like, I would be happy to provide a copy of the work of this panel to the committees.

Thank you, sir.

Senator PELL. Thank you very much, Mr. Frank.

[The statement follows:]

STATEMENT OF RICHARD A. FRANK, REPRESENTING THE ENVIRONMENTAL DEFENSE FUND, THE ENVIRONMENTAL POLICY CENTER, THE FRIENDS OF THE EARTH, THE NATIONAL AUDUBON SOCIETY, THE NATURAL RESOURCES DEFENSE COUNCIL, AND THE SIERRA CLUB

Mr. Chairman, Members of the Committees,

I am Richard Frank, of the Center for Law and Social Policy in Washington, D.C. I appreciate this opportunity to appear before you today on behalf of six environmental groups—the Environmental Defense Fund, the Environmental Policy Center, the Friends of the Earth, the National Audubon Society, the Natural Resources Defense Council, and the Sierra Club.* These national, non-profit organizations, with a combined membership of more than 597,000, have long taken an active interest in protecting the marine environment. They have had a particular interest in the environmental implications of deepsea mining, and have presented their views to the government on this subject in connection with their participation on the Secretary of State's Advisory Committee on the Law of the Sea and through testimony to Congressional committee's relating to proposed deep seabed hard minerals legislation.

*EDF, whose principal place of business is 162 Old Town Road, East Santauket, NY 11733, has a membership of approximately 57,000 persons and a 700-member Scientists' Advisory Committee, including members residing in 18 foreign countries. EPC, whose principal place of business is 324 C Street, SE, Washington, DC 20003, is a privately funded organization engaging in research, analysis, and representation on energy-connected environmental issues. FOE, whose principal place of business is 529 Commercial Street, San Francisco, CA 94111, has a membership of 20,000 persons and is affiliated with "sister organizations" in 12 foreign countries. The National Audubon Society, whose principal place of business is 950 Third Avenue, New York, NY 10022, has a membership of approximately 340,000 persons including members in more than 100 foreign countries. NRDC, whose principal office is 15 West 44th Street, New York, NY 10035, and which has additional offices in Washington, DC and Palo Alto, CA, has a membership of approximately 20,000 persons, including members residing in 8 foreign countries. The Sierra Club, whose principal place of business is at 550 Bush Street, San Francisco, CA 94108, has a membership of approximately 160,000 persons, including persons residing in 67 foreign countries.

The environmental organizations would like to stress three points with respect to S. 713 and to deepsea mining legislation in general:

First, S. 713, a bill drafted by the mining industry, does not contain a sound environmental regulatory system or adequate provisions to ensure that deepsea mining will not significantly adversely affect the marine environment. For that reason, and since S. 713 would not otherwise be in the national interest, S. 713 should not be reported favorably by the Commerce and Foreign Relations Committees, should not be approved by the Senate, and should not become law.

Second, domestic legislation establishing environmental regulation of deepsea mining is needed now. The industry is in an advanced stage of developing equipment and techniques and is proceeding without government supervision. Government supervision is the best means of assuring that industry's plans will be compatible with environmental protection. If the government does not set and enforce standards soon, but rather waits to do so until after the fact, deepsea mining may result in substantial degradation of the oceans and will be inconsistent with other ocean uses, like fishing. A domestic U.S. regulatory system is needed even though the Law of the Sea Treaty will contain a multilateral system, since the multilateral system will be established too late and may well be ineffective (because of limitations the industry is attempting to impose in the negotiations). In sum, we encourage your Committees to begin the process of drafting sound deepsea mining legislation.

Third, as noted before, deepsea mining could lead to significant adverse environmental impact. We do not know the precise nature and extent of that impact because government environmental studies have not been adequate. Your committees will, I hope, take measures to remedy these deficiencies in the environmental analysis process.

Let me amplify the above views.

S. 713 IS ENVIRONMENTALLY UNSOUND AND SHOULD BE REJECTED

S. 713, as drafted, should not be passed and the environmental organizations could not support it. The bill, after all, is essentially the draft submitted by the mining industry; while it may satisfy the needs of the industry, it should be fundamentally modified to take into account other parts of the national interest, including environmental protection.

The following comments point to provisions which are unsatisfactory. The comments propose specific changes and mention issues which are not addressed in the bill but which should be addressed in order to make the legislation environmentally acceptable. Most of the comments below do not include recommended language, but we would be happy to provide that if the Chairman believes they would be useful.

1. *The assumption that deepsea mining should be promoted.*—One of the underlying assumptions of the bill is that deepsea mining should be promoted by the U.S. because of possible future supply needs and in light of other factors relating to the national interest. We do not believe that such a conclusion, at present, could be a reasoned judgment because of the incomplete information on resource need and on environmental impact. The bill should be changed to reflect that many unknowns still exist about resource need, environmental impact, etc., and that these must be resolved by the Executive branch before taking the specific steps outlined in the bill.

Section 2(b)(1) of S. 713 states that the purpose of the Act is "to establish a national program to promote the orderly development of certain hard mineral resources of the deep seabed". We do not believe that Congress, on the basis of information before it, can state so categorically that development of deepsea mining should be promoted. In Section 2(a)(9), it is said that it is in the "national interest of the United States to utilize existing technology and capabilities of United States mining companies". No one, including Congress, knows whether existing technology and capabilities are acceptable from an environmental point of view. Industry will, no doubt, attempt to argue that this language implies a Congressional judgment that existing technology should be utilized.

2. *Relationship to environmental impact statement and NEPA.*—The bill does not adequately express what we believe to be the intent of Congress with respect in the preparation of environmental impact statements and the opportunity for public input. Under Section 7, "environmental standards" are to be established, under Section 18, the responsible government agency is to issue rules and regulations including, *inter alia* those related to "environmental standards

and compliance"; and under Section 5, a decision must be made by the responsible government agency that a prospective licensee has demonstrated the ability to comply with applicable "regulations" and that operations under the license will not pose a threat to the marine environment.

As members of Congress have stated in hearings and as Committee staff members have informally indicated, it is the intent of Congress that the National Environmental Policy Act should be fully followed; but that it was not thought necessary to so indicate explicitly in the legislation or to indicate when environmental impact statements would be prepared. A programmatic environmental impact statement should be prepared before licensing is permitted; regulations should be accompanied by an environmental impact statement; and a project environmental impact statement should be required before each license can be issued. It would be highly preferable if the legislation spelled this out. Some commentators (the Marine Board Panel of the National Academy of Sciences) have gone further and suggested that regional environmental impact statements should be prepared; we are inclined to believe that regional impact statements may be unnecessary if the programmatic statements and individual project statements are adequate, but that is the type of issue that should be considered by these committees.

3. *Timing and standards for environmental guidelines.*—The bill states that licenses may only be issued after the responsible government official determines that operations under the license will not pose an unreasonable threat to the integrity of the marine environment and that all reasonable precautions will be taken to minimize any adverse impact on the environment." First, as noted earlier, environmental guidelines and standards are to be promulgated. It should be explicitly stated that no license will be issued until the environmental guidelines and standards are prepared. Such a prohibition appears in some bills before Congress, but is not stated in S. 713. Second, the bill should set forth, as the underlying standard for environmental guidelines a best-available-technology requirement.

4. *Prototype or pilot project testing.*—It has been generally agreed by industry, the scientific community, the Executive branch, and the environmental community, that the full implications of a major deepsea mining program will not be understood until we have been able to monitor and analyze the impacts of a few mining operations. We believe, therefore, it is essential that licensing should proceed cautiously and be limited to prototype and pilot projects in the first instance. It would be understood that earlier determinations regarding environmental standards can and will be modified as more information becomes available as a result of the projects and that continued monitoring will occur. The bill does not suggest proceeding with prototype or pilot projects, in the first instance, and it should be changed to state such a policy.

5. *EPA responsibility for environmental standards and enforcement.*—S. 713 places most of the Executive branch authority in the Department of the Interior. (Other similar bills before Congress place that responsibility in the Department of Commerce.) Two types of responsibilities are included, one oriented toward promotion of deep seabed mining and economic regulation, and the other toward environmental standard-setting and enforcement. Environmental protection can be assured only if the same agency is not assigned the responsibility both of promotion and also of environmental regulation. Such dual and sometime cross-purpose jurisdiction represents an inevitable, potential conflict of interest and results in non-objective decision-making benefiting those who favor development and harming the national interest. The agency best suited for environmental standard-setting and enforcement duties of the type in question is the Environmental Protection Agency which has responsibilities of this nature in various other areas. Without answering whether the Department of the Interior (or the Department of Commerce) should be seized with any regulatory or promotional functions, the Environmental Protection Agency should have jurisdiction for environmental regulation. The approval of two agencies would thus be required before issuance of a license. The EPA would determine whether the applicant complies with environmental standards, and the other agency would determine perhaps the economic or royalty considerations.

6. *Scope of regulation.*—It is our understanding that the intent of Congress in the bill is that all aspects of deepsea mining would be regulated. However, the bill speaks about authorizing "development" of hard mineral resources. "Development" is defined in Section 3(f) as "any operation of exploration and com-

mercial recovery, other than prospecting, having for the purpose of discovery, recovery, or delivery of hard minerals from the deep seabed". One could misinterpret the bill by concluding that authorization is required for, and regulations and standards apply to, only retrieval and not, for example, processing at sea or other such activities. The bill should be amended to point out explicitly that it covers all activities at sea including retrieval and processing. Furthermore, Congress should consider whether some generic, but perhaps not site-specific decisions relating to activities on land, such a onland processing, should also be covered.

7. *Jurisdiction.*—The jurisdictional provision of the bill is quite broad but somewhat vague. U.S. companies have already forewarned the government that if they consider governmental standards too high, or if other countries have significantly lower standards which give competitive advantages to entities operating under their jurisdiction, they will attempt to avoid U.S. controls. U.S. mining vessels might fly foreign flags and the companies might incorporate abroad or act through foreign subsidiaries or consortia. But, the U.S. has the responsibility to control these companies in such circumstances when the result may be significant adverse environmental impacts in the ocean. And, of course, if development of U.S. mining industry is in the national interest, control over that industry is in the national interest. As a consequence, the bill should make clear that it covers U.S. nationals under all circumstances. Jurisdiction should extend to U.S. nationals or subsidiaries of U.S. nationals, even when they are operating a vessel flying a foreign flag. It should also extend to activities of consortia which can be said to be controlled by U.S. nationals.

8. *Preservation of certain areas.*—Until recent years, the earth's resources have most often been exploited without regard to the need to preserve at least some wilderness areas in their natural state for observation, study enjoyment and use by future generations. It is important that the deep oceans and seabed not suffer for the lack of foresight in this regard. The bill should contain a mandate for the responsible government agency to identify adequate numbers of ocean blocks to be set aside and made not subject to licensing for exploration or commercial development.

9. *Relationships with foreign countries and reciprocity.*—The U.S. has an interest in assuring that other countries adopt adequate environmental regulatory systems, both because the adverse environmental impact of foreign mining vessels will effect the oceans and the U.S. uses thereof, and also because failure by other countries to adopt such regulations could put entities subject to U.S. regulation at a competitive disadvantage and would encourage attempts to avoid U.S. regulations. In order to achieve this objective the bill should be changed in two ways. First, the bill contains a reciprocity provision (Section 19) which provides that licenses issued by states whose laws are in "essential harmony" with U.S. law will be given equivalent legal status. This provision should be modified so that, or the legislative history should clarify that, reciprocity would apply only if the reciprocating state also has adequate environmental controls. Second, the legislation should encourage the U.S. Executive branch to make a special effort to assist other governments in their environmental activities. There are a variety of ways in which that could be done, e.g., by including those governments in our environmental impact statement process, by including them in our environmental research, etc.

10. *Liability.*—The bill does not set forth whether and to what extent deepsea mining operators would be liable for pollution damage, nor the means of recovery. The bill should provide that the licensee will be subject to absolute liability for pollution damage and the Executive branch should be authorized to establish a liability scheme ensuring that claims for all damage will be paid.

11. *Investment insurance.*—Section 14 provides insurance to compensate for "any damages suffered through the impairment" of a licensee's investment. The intended meaning of that provision should be clarified in the legislative history—that it does not refer to an environment standard imposed by any international authority.

12. *Emergency authority.*—Licenses can be revoked, under Section 5(e) [sic], for willful, substantial failure to comply with the provisions of the Act or with any regulation promulgated thereunder; however, the revoking authority must provide written notice and the actual revocation may take some time. While it is certainly generally desirable to give the licensee an opportunity to have his case heard, the responsible government agency should have emergency authority either to revoke or suspend a license if the operation is posing an unreasonable

threat to the integrity of the marine environment and if the danger is sufficiently imminent and large-scale so that immediate action is necessary.

13. *Review of government inaction.*—Federal courts should have jurisdiction to review any violation of the legislation, including illegal inaction or arbitrary action by government agencies and a citizen civil action provision should entitle any person to institute such a suit, with attorneys' fees awarded to a prevailing plaintiff.

LEGISLATION PROVIDING ENVIRONMENTAL REGULATION OF DEEPSEA MINING IS NEEDED

As previously indicated, mining companies are presently making fundamental decisions regarding techniques, equipment and site selection with respect to retrieval and processing, and these decisions may determine, for years to come, where and how much environmental degradation will be caused by mining operations. A timely system of regulation is needed to assure that such decisions comport with U.S. national interest.

If government standards are established during the present period, industry will simply comply with them. If standards are not, industry will have essentially a free hand. From a practical point of view, it may be difficult for government later to undo what industry has already done. Industry would claim that retooling would be too expensive and time consuming, and that such *ex post facto* regulation is inequitable. In short, because deepsea mining could cause serious environmental harm, it should be regulated. Because delay makes effective regulation less likely, regulation should be started now.

A basic argument against such regulation has been that it may be unnecessary since the United States is negotiating the Law of the Sea Treaty with a deepsea mining regime and environmental controls.

That argument is unsound because:

(1) Deepsea, mining techniques and equipment will be substantially or completely developed and mining may take place before a treaty goes into effect, or after the treaty goes into effect but before an international regulatory system is established pursuant to the treaty.

(2) Even if a Law of the Sea Treaty with an international deepsea mining regulatory system is successfully concluded, complementary regulation of vessels and nationals by national governments will be essential for effective environmental protection. This is so because of some ambiguities in the Committee I Single Negotiating Text which emanated from the March/May 1976 Law of the Sea Conference. For example:

It is the intent of virtually all delegations and the drafter of the Committee I Single Negotiating Text that the Seabed Authority have power to establish and enforce environmental standards for all deepsea mining activities, when those activities take place outside national jurisdiction. Some of the Seabed Authority's powers over the lifting of nodules or activities, like processing, that might take place over the lifting of nodules or activities, like processing, that might take place at the ocean surface.

The United States, of course, will want to retain the right it presently has to establish and enforce environmental standards for deepsea mining operations under its jurisdiction. If necessary, these standards would be stricter than, or in addition to, those established by the Seabed Authority. It has been the intent of virtually all delegations at the Conference and the drafter of the Single Negotiating Text that such supplementary national regulation could take place. Paragraph 17 of Annex I of the Committee I Single Negotiating Text provides that "[n]o State Party may impose conditions on a Contractor that are inconsistent with this Part of the Convention." Some may improperly interpret the above provision as preventing national governments from establishing and enforcing environmental standards.

The understanding among the negotiators—and the intent of the drafter of the Single Negotiating Text—is that environmental standards ultimately adopted by the Seabed Authority should, as one would assume, apply to all contracts, past, present or future. Paragraph 12(B)(2)(iii) notes that when the Seabed Authority renews a contract with any licensee, rules and regulations which the Seabed Authority has adopted after the date of the original contract should adhere to the new contract. This provision could be improperly interpreted to mean that environmental rules and regulations adopted by the Seabed Authority after a contract is entered into would *not* be applicable to the contract until this renegotiation takes place. If this were so, early licensees could avoid all regulation since no environmental standards will be in effect at that early date.

I cite the above examples so that the committees will be fully aware that there are ambiguities that could be misinterpreted and lead to an ineffective international regulatory system. This is simply another reason Congress must adopt a sound national system.

In light of the foregoing, we recommend that the Commerce and Foreign Relations Committees proceed with preparation of deepsea mining legislation. Such legislation should contain the following provisions:

(1) Except as provided for under the legislation, deepsea mining would not be permitted.

(2) No license to exploit would be issued until unanswered fundamental questions relating to environment are resolved; a determination (based on all information that can be obtained) that deepsea mining would not result in significant adverse environmental effects is made; and a consideration of resource need (and alternative sources) in relation to environmental harm is undertaken. These questions could be the focus of Executive branch administrative proceedings.

(3) The Environmental Protection Agency should be responsible for environmental standard-setting and enforcement; if advisable, a second agency could be selected for economic functions (such as the setting of royalty payments) and promotion.

(4) Before licenses may be issued, the EPA would adopt standards applying a best-available-technology requirement, and assuring that any adverse environmental impact would be eliminated or minimized and that any beneficial environmental impact would be maximized.

(5) All activities at sea including retrieval and processing, and generic, but not site-specific, decisions relating to activities on land, would be covered.

(6) No lease or production license would be issued unless, following a project environmental impact statement and an adjudicatory hearing pursuant to the Administrative Procedure Act based on record evidence, it is concluded that;

(a) the applicant can and will comply with all applicable standards;

(b) the project will not result in significant environmental effects, including effects with respect to other ocean uses such as fishing; and

(c) the specific site is not of special scientific or archaeological importance.

(7) Licensing should proceed cautiously and be limited to prototype or pilot projects in the first instance with the clear understanding that earlier determinations regarding environmental standards can and will be modified as more information becomes available as a result of the projects and that continued monitoring will occur.

(8) Controls under the legislation should extend to vessels controlled by U.S. nationals, regardless of registry, and to activities of consortia which can be said to be controlled by U.S. nationals.

(9) The Environmental Protection Agency would be empowered to enforce violations through criminal sanctions, penalties, and suspensions and terminations of licenses.

(10) All information relevant to health and safety would be available to the public (since this need not entail disclosure of technology data which is justifiably proprietary).

(11) The licensee would be subject to absolute liability for pollution damage, and a liability scheme ensuring that claims will be paid should be established.

(12) The United States would recognize the mining claims of nationals of other countries which recognize the claims of persons operating pursuant to U.S. legislation and which have adequate environmental controls.

(13) Federal courts would have jurisdiction to review any violation of the legislation, including illegal inaction or arbitrary action by government agencies, and a citizen civil action provision should entitle any person to institute such a suit, with attorneys fees awarded to a prevailing plaintiff.

(14) The Executive should be empowered to conform the legislation to any international regime to which the U.S. becomes party (although such power could be delegated in implementing legislation to the law of the sea treaty).

GOVERNMENT ENVIRONMENTAL ANALYSES HAVE BEEN INADEQUATE

I would like to emphasize here the problems caused by the failure of the Department of the Interior and the Department of Commerce to undertake timely and comprehensive environmental analyses.

The form and extent of the environmental impact from deep seabed mining is, at present, impossible to predict with any degree of accuracy. This is due to the lack of detailed measures relating to, and limited knowledge about, the environments being considered and insufficient data and analysis to forecast the impacts that would be created by large-scale mining operations. Part of the problem is the inherent difficulty of forecasting the effects of a new and developing technology. But the key constraint has been the inadequacy of the government's environmental research and analysis.

The Executive branch, with an uncoordinated program, has been slow in moving forward with research, e.g., the collection of baseline data. It has thus far failed to establish an adequate work plan to interpret such data and to predict environmental effects on the basis of that data and possible disturbances caused by mining. And, perhaps far more disturbing, the Executive branch has not yet committed itself to assessing, nor has developed work plans to assess, such basic and fundamental issues as (a) the impacts at sea and onshore of processing, and (b) the comparative impacts of land and ocean mining.

Finally, even in those areas where the government is undertaking analysis, it is proceeding in a rather informal fashion. For example, although industry has indicated a willingness to provide a substantial amount of environmental information, the government has not, in writing, requested that essential information.

I mention the above failures of the government to fulfill responsibly its environmental responsibilities in the hope that the Commerce and Foreign Relations Committees will insist on proper assessments from the Executive branch before they ultimately sanction deepsea mining.

Thank you.

Senator PELL. Mr. Charney.

**STATEMENT OF PROF. JONATHAN I. CHARNEY, VANDERBILT
UNIVERSITY SCHOOL OF LAW, NASHVILLE, TENN.**

MR. CHARNEY. I am Prof. Jonathan Charney, an associate professor of law at Vanderbilt University, and I am here to testify in opposition to enactment of this legislation at this time.

In my statement I indicated five reasons for opposing the legislation.

First, I believe that enactment of this legislation is likely to impose serious adverse consequences on U.S. foreign and domestic interests.

Second, it is likely to have a detrimental effect on the law of the sea negotiations.

Third, it could be considered a violation of international law.

Fourth, it could encourage activities harmful to the marine environment without offering offsetting protections.

And, fifth, the potential cost to the American taxpayer is unnecessarily high.

In my oral statement I will concentrate on the first, that is, the foreign relations aspect of this legislation. I think most of the other subjects have been dealt with to some extent by other witnesses.

All of the witnesses that have testified today have concentrated on the law of the sea negotiations, and the impact of this legislation on deep seabed mining, and perhaps its impact on the law of the sea negotiations in other committees of the Conference.

I would like to bring another perspective to this bill and to these negotiations and that is the relationship of deep sea mining negotiations on international trade of raw materials.

As we all know, there is a great amount of interdependence of nations of the world on raw materials and we depend on imports of raw materials from developing and developed countries.

And despite the vastness of the resources on the deep seabed, we will continue to have that dependence in the future.

The deep seabed resources only involve four metals that contribute to our well-being. We must negotiate with other countries cooperative arrangements for trade in all raw materials. And this negotiation may be a test case for future cooperation and pricing and access to those raw materials.

I believe that many nations at the negotiation consider this negotiation such a test case.

In that environment, it is important for us to be forthright and progressive in negotiating a treaty that is fair to all nations. This means that we can not afford to take unilateral action that would undermine the negotiations and set the stage for very selfish activities on raw materials trade.

Due to the availability of the specific resources in question, I don't think that it would be very costly for us to be so forthright.

If one looks at the final report of the National Commission on Materials Policy of June 1973, entitled "Material Needs and the Environment Today and Tomorrow," we would see the United States, within the North American Continent has what they consider large identified reserves of copper, nickel, and manganese and they define large reserves to mean that we have in the continent 75 percent to twice the expected demand for these resources by the United States through the year 2000.

That is a large amount of resources that could be developed in an alternative to deep seabed mining.

We are not as dependent on these foreign sources of raw materials as our statistics on trade and import would indicate. We are simply going to the cheapest source at the present time. It does not mean we couldn't be independent or less dependent by use of land-based sources.

Second, if one looks at the single negotiating text, ambiguous as it is, it seems to me to be extremely favorable to the industry. It may be construed to provide virtually automatic access to the industry. It may be interpreted as Mr. Frank indicated to give the industry a vested right in environmental regulations at the date the contract comes into force.

That could mean for 20 to 40 years regulations that are adopted in 1977 would be the only environmental regulations controlling this industry.

There are many other very beneficial provisions in the text that in fact I think may be a bit of overreaching on the part of the industry in the United States, rather than being too many concessions.

Accordingly, I would encourage the Congress to encourage the industry and the Executive to be progressive in negotiations of this treaty rather than regressive.

I would like to point out finally that I think the Treasury statement on the financial impact of this deep sea mining legislation ought to be taken into account very seriously. The liabilities may be extraordinarily large and not worth their cost, particularly in light of the land-based resources that we have.

Lastly, I think that it is possible to view this legislation as being out of order on the Senate floor this session of Congress, because construing the Congressional Budget Act of 1974, 31 U.S.C. 1351(c), I think this legislation calls for new spending authority and such new

spending authority must be considered through the budget process and there must be an authorization.

So at this time it should not be considered on the Senate floor.

Thank you, Mr. Chairman.

[The statement follows:]

STATEMENT OF JONATHAN I. CHARNEY

Mr. Chairman and members of the committee; I am Jonathan I. Charney, Associate Professor of Law, Vanderbilt University School of Law. I am here to speak in opposition to passage of any deep sea hard mineral mining bill at this time. My opinion is based on nine years of work in the field of the law of the sea within and without of government, my membership on the United States Public Advisory Committee on the Law of the Sea and my attendance at the Caracas, Geneva and New York Sessions of the Law of the Sea Conference. I oppose this legislation for five reasons. First, I believe that enactment of this legislation at this time is likely to impose serious adverse consequences on United States' foreign and domestic interests. Second, it would probably have a detrimental effect on the law of the sea negotiations. Third, it would probably violate international law. Fourth, it would probably encourage activities harmful to the marine environment without requiring offsetting protections. Fifth, its potential cost to the American taxpayer is unnecessarily enormous.

Before discussing the details of my objections to this legislation, I shall set out my perspective on the issue before you. In forming my opinion on this legislation, I have found two principal goals to consider which may at first glance appear mutually exclusive but on further reflection are not. The first goal is to maintain the high standard of living in the United States. The second is the goal of narrowing the gap between the less developed and the developed nations. The reasons for the first goal are obvious. The second is based not only on the humanitarian desire to benefit the populations of those less advanced countries, but is based on the real need to minimize world conflict that inevitably results from the presence of extremes of wealth and poverty in the world.

There is no doubt that the production of raw materials at low cost would contribute to the narrowing of the gap between rich and poor countries if it results in lower resource costs worldwide. Deep sea mining may accomplish this goal in the long run. However, the creation of conflict between nations would negate any possible benefits of seabed mining. Not only is conflict avoidance a proper goal in itself, but the creation of an atmosphere of cooperation is essential to the maximum utilization of the world's resources through trade and the avoidance of unnecessary consumption of resources in war. In considering this legislation, it is important to view the effects of its enactment on these two goals, the maintenance of a high standard of living for the United States and narrowing the gap between the developed and developing countries. As I will show below, it appears to me that enactment of this legislation at this time is counterproductive to each of these goals, because of its likelihood to foster conflict and its questionable impact on resource needs, at least for the short term.

In reaching these conclusions I am in direct disagreement with the two sentiments that motivate some people to support this legislation, the desire to give United States industry what it seeks whatever the cost and hostility of many to any form of cooperation with the less developed countries particularly in multilateral forums. Both of these sentiments fail to appreciate a fact of international life, that the United States well being in the future depends on the creation of a cooperative international climate. They also fail to appreciate that due to the timing and substance of the Law of the Sea Conference these negotiations will be critical in the creation of that climate. Many developing nations have viewed this conference in this way and have negotiated in good faith in an effort to accommodate substantive needs without regard to ideology. Our failure to reciprocate could be a grave mistake. Enactment of this legislation could be such a mistake.

Let me now turn to the specific issue at hand.

The United States is currently engaged in serious and extensive negotiations with nearly 150 other nations to achieve a multilateral convention on the law of the sea. Our commitment to achieving this objective stems from a recognition of the many benefits that will flow from international cooperative management of the ocean and its resources. In the area of deep seabed mining, it is hoped that the convention will provide a secure political and legal framework for

United States investors, while reducing the possibility of military and other confrontations between competing exploiting nations. The net effect will be to guarantee a stable investment climate, which no domestic legislation can achieve.

The last session of the negotiations in New York made substantial progress towards a law of the sea convention. The Committee I Single Negotiating Text that was produced in Geneva in 1975 was the focal point of intense negotiations that took place in New York this spring. The product of those negotiations is found in the Revised Single Negotiating Text (A/Conf.62/WP.8/Rev.1/Part I) that was issued on the last day of the Conference. I assume that it has already been made part of the record of these hearings by a previous witness.

The Geneva Single Negotiating Text described a regime that would manage the resources of the deep seabed through an international organization. That organization would have an Assembly to establish policies, a Council to supervise the execution of the policies, special Commissions to execute the policies, a Dispute Settlement Organ to decide legal and factual issues and an Enterprise to mine the resources of the Area itself or through contractors. A further explanation of that text and discussion of the future of the negotiations is contained in my article, "The International Regime for the Deep Seabed: Past Conflicts and Proposals for Progress," 17 *Harvard International Law Journal* 1 (1976).

The New York Session of the Conference addressed itself to refining the regime set out in the first single text. The result was a text that retained much of the form of the first text but significantly modified the critical matters of control and discretion. When read in its entirety we see that much of the discretion of the Authority that was found in the first text has been eliminated and the remaining discretion has been principally vested in the Council rather than the Assembly. Since the Council will more closely represent the economic and power realities of the international community this shift means that the developed countries, particularly the United States will have significant influence in the Authority. In addition to making these changes, the revised text has provided new texts on various aspects of the Authority not included in the first text. These new textual provisions cover details relating to the Enterprise and the Tribunal as well as the financial arrangements the Authority will have with exploiters.

Although there are some important issues left to be negotiated, it is clear that substantial progress towards reaching a balanced regime for the deep seabed was made at New York. There is no doubt that serious negotiations occurred in New York and that the text is approaching its final form.

If no other fact indicates that the negotiations are making progress, it is the agreement to have a seven week negotiating session this summer in New York. This short interval between sessions is a marked contrast to past procedures and indicates a quickening of the pace of negotiations. Even the site of the next session is important. New York was chosen, not for its climate but for the fact that the necessary support facilities and rapid and efficient communications to every nation's capital are available. This will allow the negotiations to proceed unfettered by the lack of logistic support found in other possible locations.

In light of this situation, it is clear that the passage of any deep sea mining act now is likely to upset and significantly set back these negotiations. To enact domestic legislation at this point would fly in the face of our commitment to establish an international system for orderly seabed production. Unilateral action could so alienate the bloc of developing nations with which we are negotiating as to cause the United States to become isolated and prevent it from having any significant impact on the treaty produced by the Conference.

A serious disruption in one area of the negotiations will upset negotiating alignments throughout the Conference. Even worse, unilateral action could disrupt the Law of the Sea negotiations entirely.

In my view there is little cost in waiting until the conclusions of these negotiations. First, there is much to gain from a successful Law of the Sea Convention. The stabilizing effect of such a convention would produce very valuable political and economic benefits to the United States. Second, the contents of the negotiating texts indicate that the United States will achieve many results that it wants which it cannot get without a convention. Such results include the establishment of the right of transit passage and overflight through more vital international straits than our navy could keep open by force and the establishment of compulsory dispute settlement procedures that are currently not available. The third reason for not taking unilateral action now is based on my opinion that the negotiations will produce the secure economic environment industry seeks.

I believe that unilateral action and the consequent reactions by the international community, on the other hand, are likely to produce only instability, which will inhibit the development of deep seabed mining.

The cost that the mining industry argues makes waiting unsatisfactory is that of delaying development until the negotiations are concluded. My response to this has two parts. First, as I have already noted, unilateral action is likely to produce an equally unstable investment climate that would continue to inhibit development. Second it is clear that the need for these resources is not yet great enough to justify risking the successful outcome of the negotiations and other worldwide interests.

Not only is there no present shortage of the metals likely to be produced from seabed mining, but effective international cartelization of these metals by developing countries acting alone is highly improbable. There is no doubt that the world's supplies of the metals likely to be produced from deep sea mining are not about to be exhausted. The reasons cited in support of early deep sea mining include a desire to keep resource prices low and to provide the United States with a reliable source of these resources. It is clear that we cannot make an intelligent decision based on the first reason. There is no information available to indicate the relative cost of seabed production versus land based production. In addition, in determining the importance of that goal, one must factor in the costs of unilateral action which I believe would be incalculably high. Accordingly, this rationale is not convincing. The goal of providing a reliable source of materials also leads us into the realm of speculation. Although there are differences of opinion, I believe that successful international cartelization of these four metals is unlikely.¹ Not only is the resource concentration not as great as it is in oil but the unifying political issue (such as found in the middle east) is not present for these metals.

Furthermore, if independent secure sources of metal production are necessary, the highly vulnerable mid-ocean location of nodule mining is less than ideal. The Final Report of the National Commission on Materials Policy, *Material Needs and the Environment Today and Tomorrow* (June 1973) that was issued pursuant to the National Materials Policy Act of 1970 Section 201 of Title II of Public Law 91-512 provides some valuable data. Table 4.2.1. classifies the United States identified resources of copper, nickel and manganese as "large". They defined "large" to mean that the size of these deposits are approximately 75% to twice the minimum anticipated cumulative United States demand to the year 2000 of these metals. In fact, many of these deposits are not even being developed.² Under these circumstances, the argument for rapid seabed development through unilateral action appears to me to be very unconvincing.

Let me distinguish the two hundred mile fisheries bill from this situation. I opposed passage of the fisheries bill because I believed that its implementation might have a detrimental effect on the law of the sea negotiations. I believe that unilateral enactment of deep sea mining legislation would present even greater risks to the Conference. Unlike the fisheries zone situation, the legislation you are considering is not compatible with the present negotiating text. Furthermore, in contrast to the fishery bill which provides for government action, the mining bill sanctions private actions that may not be exercised with an eye to diplomacy. Thus, this bill's injection into the negotiating picture at this time is likely to be viewed as an extreme act and result in a harder and more extreme posture by the Group of 77. Such a scenario could set the negotiations back by years.

In this age of increasing interdependence, it is important for each country to seek to minimize conflict with other nations. This is the purpose of multilateral negotiations, and to further that purpose it becomes crucial for each country to maintain a good faith negotiating stance during the time that negotiations are in progress. At this stage, while deep sea mining is under negotiation, it is inconsistent with our goal of minimizing world conflict to take unilateral action by passage of this bill. In my opinion, it is simply not worth the cost.

I also believe that current international law ought to deter action on this legislation. It is now a universally recognized principle of international law that

¹ See, Edward R. Fried, *International Trade in Raw Materials: Myths and Realities*, 191 Science 641 (February 20, 1976); Statement of Frank Zarb, Federal Energy Office, Department of the Interior, Hearings before the Subcommittee on Appropriations of the House Comm. on Interior and Insular Affairs, 94th Cong., 1st Sess., Pt. 6, at 381 (1975). Statement of Simon D. Strauss, Executive Vice President of ASARCO, Inc., *Business Week*, June 30, 1975, at 20. See also *Business Week*, February 3, 1975, at 31.

² Although such supplies of cobalt do not exist within the United States, the market for cobalt is sufficiently small as not to provide an independent justification for seabed mining. In fact, I understand that the industry will seek to minimize seabed production of cobalt.

the deep seabed and its resources are the common heritage of mankind. Some have argued that this situation permits each country to exploit an area of the deep seabed without the explicit consent of the international community. This view assumes that each nation has a possessory interest in a fraction of the whole.

Although arguments exist to support that view I believe that the reverse is true: each nation has a fractional interest in possession of the whole. This distinction is a familiar one in property law; the interest is joint rather than several. Thus, a nation has no right to exploit the deep seabed absent the consent of the community of nations. Division of the deep seabed into mining blocks described by latitude and longitude as proposed in the bills under consideration would be particularly inconsistent with the state of international law. In fact, such a division would be unprecedented in the law of the sea.

If one takes the view, as I do, that international law is judged not so much by a technical legal analysis but rather by a practical examination of what the community of nations understands nations ought to do, then it appears that there is a tacit understanding of the community of nations that no nation should unilaterally exploit and deplete the nonrenewable resources of the deep seabed without the consent of the other nations. In language that left no room for doubt, the U.N. General Assembly passed a Moratorium Resolution in 1969 declaring that, pending the establishment of an international seabed regime, no state or person should claim or exercise any rights over the resources of the seabed beyond national jurisdiction. Subsequently, all nations of the world, including the United States acted upon that assumption by engaging in negotiations to develop a regime that would provide the consent of nations to resource exploitation of the deep seabed. Furthermore, no nation has engaged in commercial exploitation during this period.

At the close of the Geneva session of the Law of the Sea Conference in 1975, the President of the Conference issued a warning against any interim unilateral action to commence exploration and exploitation. This warning was in response to the concern expressed by many nations that some states would violate their commitment to negotiate a multilateral seabed treaty. This concern was particularly acute among the developing countries, who fear that the technological lead held by a few developed countries will prevent the developing countries from realizing any significant share of the profits from seabed mining. However, the same fear is shared by virtually all other developed countries, who do not want to see the United States take the lead in seabed mining.

Although none of the facts that I have just referred to individually creates international law, in my view the net result of this history indicates that the community of nations believes that the United States ought not authorize deep seabed mining, particularly during the pendency of negotiations. Whether the applicable international law on the subject is a prohibition on deep seabed mining per se or a prohibition from frustrating the conduct of active international negotiations aimed at resolving an international dispute is academic. The important fact to consider is that failure to abide by the obligation is likely to meet with the same community reaction as would follow any other violation of customary international law. It is incumbent on the Congress to take this aspect of international relations into account when considering this legislation.

In addition to creating a risk to the success of the Law of the Sea Conference and a risk of violating international law, the current deep sea mining bill fails to provide adequate protections for preservation of the marine environment. The technology of deep seabed mining is of very recent origin. Neither the mining industry, the scientific community nor the federal government has yet produced satisfactory environmental impact studies which would enable Congress to make a responsible decision as to the permissible scope of mining activity.

From the limited research which has been conducted, it appears that seabed mining will produce a broad spectrum of significant environmental disturbances. These will occur in both phases of the mining cycle: retrieval and processing. A properly detailed analysis of the impact of retrieval operations must address three questions: what is the effect on the ocean floor, the middle layer and the surface?

The ocean floor shelters highly-diversified deep sea fauna, which will inevitably be disturbed as nodules are scraped from the floor and lifted to the surface. The ecological value of these fauna has not yet been established. Some of them, however, have reproductive cycles of two hundred years and, without

planned preservation, would rapidly become extinct.³ Another area for independent study is which mining technique will produce the least overall disruption on the ocean floor.

The middle layer of the ocean will receive discharges of sediment as the nodules are separated out. A report by the National Academy of Sciences has estimated that a very small scale mining operation of about 5000 tons would produce a daily sedimentary discharge comparable to that of a major river at flood.⁴ It may take decades for the sediment to settle down to the ocean bottom.

The major impact of retrieval operations will be felt at the ocean surface. It is possible that discharges of sediment at the surface will disturb the photosynthesis process, impairing the food chain.⁵ A similar disruption to the food chain may occur if the discharges discourage the surface feeding of deepsea animals.⁶ In addition to these results, scientists have speculated that the relocation of deepsea bacteria and other micro-organisms to the ocean surface may bring them into contact with incompatible surface fauna or even trigger mutant strains harmful to humans working on the surface.⁷ Finally, mining operations may cause commercial fishing stocks to migrate or become extinct, which would have severe and worldwide economic consequences.

Most United States deepsea mining companies have expressed a preference for land-based processing, because of the probable financial savings. Whether processing occurs at sea or on land similar environmental problems are foreseeable and require study. Approximately 96 percent of the nodules is waste and will be dumped.⁸ Since industry is, for the most part, not interested in the manganese content of the nodules, this mineral will reenter the ocean in huge quantities or produce large land based stockpiles. Toxic reagents used in processing such as acids and caustics, will also require disposal.

From an environmental standpoint, given the lack of collected data, it is premature for Congress to consider any authorization of deep seabed mining. It is already clear that more stringent controls will be needed than the vague guidelines contained in these bills.

Thus far, the interested mining companies themselves have made the greatest effort to measure the environmental impact of seabed mining. The scientific community has also given the area some attention. Neither group, however, has proceeded beyond an initial analysis of the impact of retrieval operations: the processing phase has been completely overlooked. The most glaring omission in this area is the failure to even identify the problem of waste disposal.

The role of the federal government has been very limited. The State Department, the Commerce Department and the Department of the Interior have conducted preliminary investigations, but have not yet produced the detailed environmental impact statement required by the National Environmental Policy Act of 1969. Although the bill you are considering attempts to provide basic environmental protections, it lacks, in addition to evidence of previous environmental assessment, a set of standards and an enforcement mechanism. In particular, no provision for on sight inspection by qualified government agents is included in the bill, at a minimum such governmental supervision ought to be authorized along with the necessary budgetary provisions. Similarly, the bill under discussion makes it impossible for private groups interested in protecting the marine environment to comment on whether a license ought to be issued. This situation is due to the fact that section 6(c) of this bill forbids the disclosure of the location of the block to be mined until the license is issued. Obviously, the environmental issues raised by the legislation have not been fully considered.

The fourth reason for my objection to passage of this bill relates to its potential cost to the American taxpayer. The deep sea mining bill under considera-

³ U.S. Department of Interior, Draft Environmental Impact Statement Proposed for U.S. Involvement in Law of the Sea Negotiations Governing the Mining of Deep Seabed Hard Mineral Resources Seaward of the Limits of National Jurisdiction (March 1974) 3.10.

⁴ Marine Board Panel on Operational Safety and Marine Mining of the National Academy of Sciences, Mining in the Outer Continental Shelf and in the Deep Ocean (1973) at 100.

⁵ Amos, *et al.*, Deep-Ocean Mining: Some Effects of Surface Discharged Deep Water, in Papers from a Conference on Ferromanganese Deposits on the Ocean Floor, O. R. Horn (ed.) (1972).

⁶ Dietz, The Sea's Deep Scattering Layers, 207 *Scientific American* 44 (1962).

⁷ Malone, The Possible Occurrence of Photosynthetic Microorganisms in Deep Sea Sediments of the North Atlantic, 9 *Journal of Psychology* 482-88 (1973).

⁸ Land-Base Requirements for Deep-Ocean Manganese Nodule Mining by Raymond Kaufman, Deepsea Ventures, Inc., Gloucester Point, Virginia at p. 121.

tion would insure private industry from risks inherent in a commercial enterprise.

There are two categories of risks that would be insured against: loss of investment due to intentional interference with mining operations and loss of investment due to the incompatibility of the regime established by the instant legislation and the international regime. Both protections expose the United States Treasury to large liabilities.

There is no doubt that the international regime will be incompatible with the instant legislation, at least with respect to the fact that the legislation requires no payment of royalties on the minerals produced or sharing of profits. It is certain such a payment will be required under the international regime. (See paragraph 9D, Annex II of the Revised Single Negotiations text). Thus, it is certain that the international royalties would have to be borne by the United States Treasury. This liability could be large particularly due to the fact that every deep sea mining operation licensed by the United States would have a right to make the same claim for compensation. Such a situation would basically entail a direct United States subsidy of deep sea mining.

Direct interference with a mining operation could also require the United States Treasury to pay large amounts of money to the mining companies.

Since the amount of investment is high (about a half a billion dollars per mine site) the potential exposure to the United States Treasury, should an insured event occur, would be in the hundreds of millions or even billions of dollars.⁹ In my view, the United States Government ought not assume the risks of private enterprise. Our economic system is based on individual risk taking and no exception should be made here. This is particularly true in light of the amount risked, the significance of the risk involved and the present absence of governmental control of the industry.

Let me make clear that the true nature of the "insurance" or "investment guarantee" provision—the key element in this legislation—is actually a government subsidy. As you know, commercial risks can be insured against by the purchase of insurance. The only value of this legislation to the industry is that the government insurance rates would be lower than private insurance. The difference between the two rates is the amount of subsidy that is being undertaken, not to speak of the virtually limitless fund available in case the insured event occurs. It is sound economic policy that each enterprise should bear the full burden of its costs so that the market can determine which enterprise is most efficient. By subsidizing deep sea mining in this way, the United States will be favoring one method of mineral recovery over others. Before such a step is taken, this fact must be fully realized by the Congress and the public. In my view, the public is not about to subsidize these giant corporations in this new and risky enterprise.

I see no reason why the mistakes made for Lockheed ought to be made for Kennecott Copper, International Nickel and United States Steel and repeated for Lockheed. Furthermore, due to the consortium arrangements, the insurance offered by the United States could also protect against risks assumed by such foreign companies as Union Minière.¹⁰

In conclusion, as a taxpayer and a citizen, I object to the passage of such an insurance—subsidy provision and believe that on that ground alone the legislation should not be enacted. If one considers the other objections that I have relating to its effect on the negotiations, its likely illegality and the environmental risks, it should be clear beyond doubt that the legislation ought not be enacted. At most the legislation should be rewritten by the necessary committees, and reviewed by the budget committee to minimize or eliminate its cost, to add the necessary environmental and regulatory aspects and to hold the bill until the outcome of the law of the sea negotiations is known.

The Congress ought to take steps to encourage the Executive to adopt progressive positions at the negotiations that will facilitate an early and satisfactory conclusion of the Conference and rapid implementation of the resulting

⁹ Mr. Marne Dubs of Kennecott Copper estimates the investment per site to be about $\frac{1}{2}$ billion dollars. If four United States companies engage in deep sea mining, a loss of that investment would total \$2 billion.

¹⁰ Neither Sections 10(b) and 17 of S. 713 nor Sections 10(b) and 18 of H.R. 11879, prevent insurance coverage of foreign corporations. Section 10(b) is limited to the prohibitions of Section 10. Section 17 of the Senate bill and 18 of the House bill do not prevent foreign corporations from establishing United States corporations to engage in deep sea mining. In fact, an attempt to forbid foreign corporations from applying for licenses and insurance might violate bilateral treaties that provide for national or most favored nation treatment.

treaty. In this way the interests of the United States and the rest of the world will be protected.

Mr. Chairman, thank you for this opportunity to speak to the Committee. I hope that my comments have been helpful to you.

Senator PELL. I think you may well be right on that point of order question, which would apply to many other proposed bills before the various committees of the Senate at this time.

Mr. Charney, you were saying you felt there were elements of this text that overreached in the direction of industry.

Could you give me one or two examples?

Mr. CHARNEY. The one example that I think is the most blatant is the vested right in environmental regulations existing at the time of the contract.

That is, there is a provision in the basic conditions, annex 2, the last few paragraphs, that says that the contract under which the industry engages in deep sea mining can not be amended, nor can the regulations under which they act be amended unless there is agreement by the contractor, the industry.

There is also the automatic right of any industry that seeks to go out there and engage in deep sea mining, if it meets specific qualifications listed in the text.

I construe that as meaning there is absolutely no discretion on the part of anyone but the industry to go out there and exploit.

In the situation in which the environmental consequences of deep sea mining have not been explored, it may be unwise from an international environmental standpoint to permit industry to go out uncontrolled.

Is that sufficient?

Senator PELL. Yes.

What would happen if we do nothing, don't pass this bill, and at the same time the law of the sea negotiations take until 1980 or 1985 to come up with an agreed upon regime?

What would be the impact, do you think, any one of you?

Mr. MOORE. Mr. Chairman, if I can take a stab at that, I think that poses the issue very well, because we may well be in extended negotiations which hopefully will not be 1980, but will not necessarily be next year.

My own feeling is that we are going to pay a cost if there is nothing at all. One thing that might happen is the industry will begin to mine the deep seabed in the absence of environmental regulations, for example, and in a climate of great uncertainty, and the second thing, that seems to be more likely to me, is that at least substantial segments of the industry will not make the necessary investments to continue in their normal developmental sequence as indeed they have testified.

Senator PELL. Why would a delay of 5 or 10 years be a disaster from the long-term viewpoint of the country?

We are talking about many many decades ahead.

Mr. MOORE. I think that is one of the issues the committees should study in looking at the interim legislation. It is precisely one of the questions I have posed; that is what is the cost of delay for the industry in this country?

My own feeling is that even internationally there is an interest in having our industry keep to normal developmental sequence, because

the international community is going to be relying on this industry, to develop the common heritage of mankind. It is not going to come from elsewhere in the world, at least for a substantial number of years.

Senator PELL. I would like to get a reaction from Mr. Flipse, who has done as much as anybody in this field, and whose own personal reputation is at issue here.

If no treaty is agreed upon, and no law is passed, what will be the policy of your company, sir?

Mr. FLIPSE. This is a speculation, of course, Senator, but I think the choice would be between abandoning the program because of the high cost of continuation in the face of increasing risk, or to export the technology to a ready and willing buyer, who would be willing to take those risks, either through a national program that is supported or underwritten, or a governmental program, say our friends in the U.S.S.R.

Or, the third possibility is that the economic tradeoff could be made that the lack of protection was a reasonable price for not having to pay U.S. taxes and not having to meet U.S. environmental standards, and that a friendly nation, not part of the law of the sea treaty, would act as a host country and ocean mining could be developed then as a highly speculative industry in some land of opportunity.

I think those are the three alternatives that would be considered.

Senator PELL. Would the third alternative be such a disaster or not?

Mr. FLIPSE. To the United States it would be, because it would not give the United States an opportunity for self-sufficiency in these metals.

Senator PELL. What would you do yourself?

Mr. FLIPSE. I would probably do as John Moore did, and go to the Woodrow Wilson Center, or take early retirement, Senator.

Senator PELL. Mr. Charney?

Mr. CHARNEY. Any of the adverse consequences that might be visited upon the United States by failure to enact this legislation or approve the treaty at an early stage depend on the profitability of the industry.

Right now that is very speculative. We are guessing as to whether it will be profitable or not. If it is unprofitable, delay would not be of any consequence; maybe it would be a saving of investment by private industry. If it is profitable, it may result in some money being made by industry, and perhaps a lowering of some costs of these metals.

But we are not about to run out of these metals, worldwide or nationally. We are not talking about any significant risk of cartelization of it that will put us in jeopardy.

Mr. FRANK. Senator, if I may for a moment, it seems to me that, whether or not the U.S. provides protection, there will be some companies or at least a company that will proceed to mine. There will be some equipment and techniques developed. And it is important from an environmental point of view that this mining and equipment be regulated.

Doing nothing for the next 7 years is bad from an environmental point of view.

That does not mean, on the other hand, that we have to license, that we have to have an insurance program, that we have to promote deep sea mining.

It does mean that we need an environmental regulatory system.

Senator PELL. I am not advocating doing nothing, but I am wondering whether it would be such a disaster if, as I say, no action was taken in either direction for the time being.

I have another question for Mr. Flipse. He mentioned in the course of his testimony that under the draft text, that technology would be given away.

How would the technology be given away under the present so-called agreed upon text?

Mr. FLIPSE. In my testimony I raise the question. The single negotiating text say just that tax incentives at the discretion of the authority, could be made available to the source of the technology.

That is, of course, paraphrasing it. But that is the only mention of reward. It is entirely discretionary.

Senator PELL. But that is not giving away. I think the phrase you used was giving away our technology.

Mr. FLIPSE. Mr. Kissinger's April 8 speech made the statement that the United States would be generous in the transfer of the technology needed for ocean mining to the authority, and enterprise, and I resented him being generous with our technology and not having consulted with us in that regard.

Senator PELL. Even if he had consulted with you, you wouldn't be enthusiastic.

Mr. FLIPSE. That is correct.

Senator PELL. Thank you all very much indeed for being here. All three committees have joint jurisdiction over this measure, and with the pressures the way they are, the point of order question that was raised, I am not sure that any action may be taken on this in this session of Congress.

But we will wait and see. Thank you, gentlemen, for being with us. [Thereupon, at 12:50 p.m. the hearing was concluded.]

It is true that we had an experimental technology system. I am not sure that we had a working model, but I am not sure that it would be such a disaster if we had not had it. It is a question for the time being.

I have another question for Mr. Tamm. He mentioned in the record that the technology transfer technology would be given away.

How would the technology be given away under the present so-called technology transfer?

Mr. Tamm: In my testimony I raise the question. The single technology transfer test says that the technology is the discretion of the authority, could be made available to the source of the technology.

That is, of course, paraphrasing in that this is the only mention of technology. It is entirely discretionary.

Senator Tamm: But that is not giving away. I think the phrase "given away" is giving away technology.

Mr. Tamm: Mr. Tamm, I am a speaker in the statement that the United States would be generous in the transfer of the technology.

It would be generous in the transfer of the technology, and I would need to be generous in the transfer of the technology, and I would need to be generous with the technology and not having control over it.

Senator Tamm: But he had consulted with you, now wouldn't it be correct to say that?

Mr. Tamm: That is correct.

Senator Tamm: I think you all were much indeed for being here. All these committees have joint jurisdiction over this matter, and we are the process of the way they are the point of order question that was raised. I am not sure that any action may be taken on this in this session of Congress.

But we will wait and see. Thank you gentlemen for being with us.

The hearing at 12:30 p.m. the hearing was concluded.

ADDITIONAL ARTICLES, LETTERS, AND STATEMENTS

U.S. SENATE,
COMMITTEE ON COMMERCE,
Washington, D.C., May 7, 1976.

HON. EDWARD H. LEVI,
Attorney General of the United States,
Department of Justice,
Washington, D.C.

DEAR MR. ATTORNEY GENERAL: The Senate Committees on Commerce and Foreign Relations have scheduled joint hearings to consider S. 713, the Deep Seabed Hard Minerals Act, on May 17 and May 19, 1976. The bill would promote and regulate deep seabed mining operations by U.S. corporations. Since S. 713 is somewhat novel, I would appreciate your Department's assistance in analyzing this bill for the Committees.

In particular (and in addition to any general comments or suggestions you may have), I would appreciate answers to the following questions:

(1) Is the definition of "Continental Shelf" contained in section 3(c) of the bill either accurate or appropriate?

(2) Does section 3(i) make a wholly-owned U.S. subsidiary of a foreign corporation eligible for a license (and the investment protection program) under the Act?

(3) Is there any requirement that hard minerals which are recovered under a license issued pursuant to the Act be only used in, or delivered to, the United States?

(4) What is your interpretation of the term "person subject to the jurisdiction of the United States" as used in section 4(a)?

(5) Section 5(a)(1) requires that the Secretary of the Interior determine whether operations under a license application would unreasonably interfere with other reasonable uses of the high seas, etc. Isn't this more properly a function of the Department of State?

(6) What anti-competitive potential is created by the issuance of an exclusive license to a joint venture of competing mining companies? How can the United States exert effective control over mining operations which may be conducted by foreign-flag vessels thousands of miles from our country?

(7) In section 5(c), the bill provides that a license may be revoked for "willful, substantial failure to comply with the provisions of the Act", but only after the licensee is notified of the violation and is given an opportunity to rectify the violation. Is there any precedent for such a provision?

(8) Is it necessary or desirable to require that any conditions contained in a license be based upon promulgated rules and regulations (section 5(d))?

(9) Please list the laws which are made applicable by section 16 of S. 713 to activities which would be licensed under the bill.

(10) Section 17 deals with consortia involving mining companies of differing nationality. Where in the bill is a consortium (containing foreign entities) authorized to obtain a license? Wouldn't the issuance of a license to such a consortium contradict the requirement that licenses be issued only to "eligible applicants"?

(11) Section 17 seems to extend U.S. tax and customs laws, etc., to foreign corporations. Is this your interpretation of that provision? Is there any legal rationale for such a result?

(12) Is there any provision in S. 713 which requires that only U.S. vessels may be used in mining operations at sea under a license issued pursuant to the bill. If not, can foreign-flag vessels be subjected to in rem liability (re: section 21(c)) given the Convention on the High Seas?

I would appreciate your general comments and your answers to the above questions by not later than 10:00 a.m. on Monday, May 17. Should your staff

have any questions, please have them contact James P. Walsh, Staff Counsel for the Commerce Committee, at 244-9347.

Sincerely,

WARREN G. MAGNUSON,
Chairman.

U.S. SENATE,
COMMITTEE ON COMMERCE,
Washington, D.C., March 12, 1975.

MR. JACK W. CARLSON,
Assistant Secretary of the Interior for Energy and Minerals, Department of the Interior, Washington, D.C.

DEAR MR. CARLSON: This is to acknowledge and respond to your letter of March 6, 1975, concerning the authority of the Department of the Interior to establish an Ocean Mining Administration. I appreciate your prompt response and the accompanying legal opinion from your Solicitor on this matter. It would appear by the March 6 date that the opinion was prepared because of my request and not prior to the establishment of the Administration on February 25th.

After reviewing the opinion, however, I am still not as sanguine as you about the legal basis of some, though not all, of the functions of this Administration. Several of these functions were, in my view, transferred to the National Oceanic and Atmospheric Administration of the Department of Commerce by Reorganization Plan #4 (effective October 3, 1970; 84 Stat. 2090). In addition, a statutory basis is totally absent for other intended functions of the new Administration.

1. Reorganization Plan No. 4

On July 9, 1970, President Nixon decreed the creation of the National Oceanic and Atmospheric Administration (NOAA) by Executive Order. This action was pursuant to his authority under the Reorganization Act of 1949, as amended (5 U.S.C. 901 et seq.).

Reorganization Plan No. 4 made several transfers to the Department of Commerce in order to bring together certain ocean—and atmosphere—related functions in NOAA. The provision we are concerned about here is section 1(c) of the Plan and it reads as follows:

"(c) The functions vested by law in the Secretary of the Interior, or in the Department of the Interior or in any officer or instrumentality of that Department, which are administered through the Marine Minerals Technology Center of the Bureau of Mines."

As of the date of that plan, certain ocean mining functions were legally separated from the Department of Interior, although actual transfer took place later according to budget documents. It is well understood that the Department has broad, but general, authority to undertake activity relating to mineral resources. However, in this instance, these general authorities may directly conflict with the very specific pronouncements about "marine minerals" and "mineral resources of the ocean" in Reorganization Plan No. 4 and the Presidential statement explaining it. Furthermore, there is material in the Department's own budget documents indicating a transfer of ocean mining authority containing several of the functions of the Ocean Mining Administration. Read together, this background evidences an indisputable transfer of ocean mining authority and functions out of the Department of the Interior.

It is a fundamental rule of statutory construction that the specific controls the general. (Administrative Law; 1 Am. Jur. 2d, p. 843.) The specific language in the Reorganization Plan and accompanying explanatory Presidential Message would be controlling over the more general, previously conferred, authorities cited in your Solicitor's opinion. Any other interpretation would make section 1(c) of the Plan totally meaningless.

A Presidential Message accompanying an Executive-ordered reorganization is essentially legislative history and can be used to indicate legislative intent and to clarify ambiguity. Your Solicitor completely dismissed this useful and legitimate role for the Message, and, by joining unrelated paragraphs, comes to the conclusion that the relevant passages were "intended primarily to alert the Congress of possible future Executive actions . . ." These passages are as follows:

"We also face a compelling need for exploration and development leading to the intelligent use of our marine resources. The global oceans, which con-

stitute nearly three-fourths of the surface of our planet, are today the least-understood, least-developed, and the least-protected part of our earth. Food from the oceans will increasingly be a key element in the world's fight against hunger. *The mineral resources of the ocean beds and of the oceans themselves, are being increasingly tapped to meet the growing world demand. We must understand the nature of these resources, and assure their development without either contaminating the marine environment or upsetting its balance.*

Establishment of the National Oceanic and Atmospheric Administration—NOAA—within the Department of Commerce would enable us to approach these tasks in a coordinated way. By employing a unified approach to the problems of the oceans and atmosphere, we can increase our knowledge and expand our opportunities not only in these areas, but in the third major component of our environment, the solid earth, as well.

Scattered throughout various Federal departments and agencies, we already have the scientific, technological and administrative resources to make an effective unified approach possible. What we need is to bring them together. Establishment of NOAA would do so." (Emphasis supplied)

It was in the last section of the message, entirely apart from the language quoted above, that the President referred to "possible future actions". The Message quite obviously does not have the narrow impact your Solicitor has summarily given it. On the contrary, the Message serves to clarify any ambiguity which might exist as to what was in fact transferred from Interior to NOAA.

The key legal question reduces to this: what were the "functions . . . administered through the Marine Mining Technology Center of the Bureau of Mines" at the time of transfer? There is no better place to look than the Department's own budget documents. The Senate hearing record on H.R. 17619, the FY71 appropriations bill for the Interior Department, provides a useful starting place. At page 899 of that document the Bureau of Mines "marine mineral mining program" is described. This program has appeared as a line item in the Department's budget for several years. By a continuing reference to the term "marine mining", the Bureau's description evidences a program which conceptually includes broad functions related to nearly all marine mineral resources, including manganese nodules. In fact, the program description pinpoints ocean-floor nodules as one of the primary rationales for an expenditure of \$925,000 in fiscal 1971. More than sand and gravel mining was contemplated under this activity; much of the program was work in the deep-ocean, well beyond areas where sand and gravel could economically be recovered, and related to all ocean minerals. One specifically noted accomplishment was the development of a system of automatic plotting useful in the delineation of hard minerals on the seabed.

The budget documents for fiscal year 1972 state simply that this entire program was transferred to NOAA pursuant to Reorganization Plan No. 4. The particular elements of the marine mineral mining program, according to these documents, were the following: (1) to assure that the marine mining systems ultimately developed will minimize damage to the marine environment; (2) to assure that marine mining will not interfere with the development of other marine resources; (3) to provide the necessary tools and techniques for accurate delineation of marine mineral deposits as a basis for proper engineering evaluation of their economic potential; and (4) to encourage the development, ultimately, of privately-owned-and-operated marine mining industries. These elements of the transferred program obviously conflict with a number of the functions of the new Ocean Mining Administration. That the Marine Minerals Technology Center's role was "largely limited to analysis of the environmental implications of sand and gravel mining on the U.S. outer continental shelf" is irrelevant. If it had the authority to address ocean mineral mining questions generally, as defined in the program description, these functions passed to NOAA. The Center, at the time of transfer, did possess this legal authority, and was actually administering a program which included broad functions relating to much of what this new Ocean Mining Administration has now been formed to undertake. Once transferred, a function ceases to exist in the agency from which it is removed (5 U.S.C. 907(a)). While the Department of the Interior retains general but vague authority for mineral mining, it is barred by law from filling an administrative gap caused by reorganization. To do so would violate the purposes of the Reorganization Act to "reduce expenditures and promote efficiency" and to "eliminate overlapping and duplication of effort" (5 U.S.C. 901(a)).

In summary, Reorganization Plan #4 transferred broad authority over marine mineral mining to NOAA from the Department of the Interior. This conclusion comports well with the President's Message and with the common sense notion

that the marine mineral mining transfer meant mining in the deep ocean. That your Solicitor should conclude that the Department's authority over ocean mining was not materially affected by the Plan seems to defy the plain meaning of language and events.

2. Other Functions beyond the Department's Authority

It is conceded that the Secretary of the Interior has ample legal authority to reorganize the Department and to provide a mechanism to oversee, supervise and coordinate the many related mineral mining activities throughout the Department. But, in so doing, he cannot expand the Department's authority into areas where it has none. To conclude that general statutes confer plenary power on administrative agencies is repugnant to a government of limited powers. From the plethora of powers conferred upon the Ocean Mining Administration, the Department seems to have come to the remarkably premature conclusion that it will be (or is) empowered to lease deep seabed areas for ocean mining.

The statutes cited by your Solicitor confer no such authority. The Geological survey can conduct "examinations"; the Bureau of Mines may undertake "inquiries" and "investigations"; but nowhere is the Department given the power to lease ocean mining sites or to draft regulations pertaining to ocean mining in areas beyond the limits of national jurisdiction. Preparation of a programmatic environment impact statement (besides being several years from being necessary since the environmental data is yet to be developed by NOAA) hinges upon authority to take a major Federal action. None presently resides with the Department of the Interior, although legislation is pending. It may very well be that Congress will give this authority to the Department of Commerce.

In conclusion, it would appear that the Department's legal authority to create an Ocean Mining Administration for certain marine mining functions is not all clear. Some of these functions have been transferred to NOAA; some simply do not exist. It is therefore extremely questionable whether funds should be appropriated for this new office at this time. The way in which this office was created has left considerable uncertainty among the various agencies of the Federal government. In fact, the entire episode seems to have proceeded without coordination with the various interested agencies and with not so much as a word to the Appropriations Committees of the House and Senate. This is not good practice and certainly does not contribute to efficiency, economy, or the coordination of our government.

I therefore respectfully request that the Department abolish this new Administration, or in the alternative, pare down substantially the functions it will exercise to those which the Department legitimately possesses. Failing this, I will be obliged to press for legislation to prevent the expenditure of appropriated funds for these purposes.

Sincerely,

ERNEST F. HOLLINGS,
Chairman, National Ocean Policy Study.

LOUISIANA STATE UNIVERSITY,
Baton Rouge, La., May 12, 1976.

HON. T. VINCENT LEARSON,

Ambassador at Large and Special Representative of the President for the Law of the Sea Conference, Office of the Law of the Sea Negotiations, Department of State, Washington, D.C.

DEAR AMBASSADOR LEARSON: As a member of the Advisory Committee on the Law of the Sea and as one who has been involved in law of the sea issues on a nearly full-time basis since 1967 when the United Nations first began discussions of these issues, I should like to address a few comments to you. I do this in writing because our family vacation will conflict with the next regularly scheduled meeting of the Advisory Committee which would, of course, be the preferred forum for raising these issues.

1. Alternatives to a Law of the Sea Treaty

I was for several years a staunch supporter of efforts of the United States Government to negotiate a timely, comprehensive, and widely accepted law of the sea treaty. I attended the entire Caracas session of the Third United Nations Conference on the Law of the Sea as an expert attached to the United States delegation. Though I did not subsequently attend either the 1975 Geneva or the 1976

New York session, I maintained close communication by telephone with persons both within and without government during those sessions. I have researched and written widely on law of the sea issues and believe that I have a good grasp of the problems involved in these negotiations (a copy of my curriculum vitae is enclosed for your information).

Approximately two years ago I began an effort to diversify the United States approach toward the protection of its vital economic and security interests in the oceans. After the Caracas session it became clear to me, and others, that securing a timely, comprehensive, and widely accepted law of the sea treaty would be, if not impossible, a very time consuming process. It is clear *now* that the probability of securing a treaty at all is low, and that the probability of securing its wide ratification (over 100 nations) is virtually zero. It therefore seemed logical to me for the United States to begin to pursue alternative methods for achieving its oceanic objectives. In several papers, speeches, and letters, I advocated pursuing a wide range of alternatives (while continuing in the LOS Conference) including bilateral treaties, multilateral arrangements, domestic legislation, and the threat or use of force to preserve existing high seas freedoms and other rights. Neither the representatives of the United States Government nor the international legal community seemed to see much merit in what I considered to be a rather rational approach to the protection of our National interests. The United States Government has therefore continued its policy of opposition to all domestic legislation and of putting almost all of its effort into the LOS Conference while allocating little effort to other avenues for securing national ocean policy objectives. For your information I am enclosing copies of two relatively brief papers which succinctly outline my "alternatives" philosophy.

My recommendations at this point would be to reduce the effort expended by the Inter-Agency Law of the Sea Task Force on the LOS Conference to about 25 percent of its present level. The remaining 75 percent effort should be channelled into the following activities, among others:

(1) Negotiation of bilateral fishery and continental shelf boundary agreements with Canada, Mexico, the Bahamas, and Cuba.

(2) Negotiation of "Governing International Fishery Agreements," as called for by the "Fishery Conservation and Management Act of 1976," with the Soviet Union, Japan, and other nations wishing to engage in fishing off the United States coast.

(3) Negotiation of a multilateral treaty on seabed mining only with other industrially advanced nations possessing seabed mining technology (probably no more than 10), with a view toward adopting a simple registration procedure to avoid claim conflicts.

(4) Negotiation of bilateral agreements concerning straits and archipelagic passage with Spain, Indonesia, the Philippines and other affected nations.

(5) Negotiation of oceanographic research access agreements with coastal nations in whose waters our oceanographic institutions desire to conduct investigations.

(6) Deployment of naval vessels in straits, territorial waters, and economic zones in order to demonstrate our intent to maintain existing international legal rights to unimpeded straits passage, innocent passage, and high seas freedom of navigation.

(7) Cooperation with Congress in enacting deep seabed mining legislation, bringing the expertise of our LOS delegation to bear positively on this issue rather than by way of objection to enactment of any law whatever.

(8) Cooperation in speedily effectuating all of the provisions of the "Fishery Conservation and Management Act of 1976."

(9) Promulgation through legislation or executive pronouncement of a limit of United States continental shelf jurisdiction coterminous with the seaward extent of the continental margin.

These and other measures can ensure that United States ocean objectives are accomplished even in the event of a failure of the LOS Conference to produce a comprehensive and widely accepted treaty.

2. *Consequences of Non-Agreement*

During 1975 I undertook a study for the American Society of International Law of the consequences of non-agreement at the law of the sea conference. I believe this is a very important subject and one which our delegation should, in its internal deliberations, consider more carefully. The conclusion reached in my

study, a copy of which is attached, is basically that the United States can secure all of its ocean-related objectives without a global treaty, and that in fact a global treaty on presently available terms would do less toward securing those objectives than the use of traditional devices such as bilateral and multilateral treaties and domestic legislation. I believe I have made a strong case that is difficult to refute. I would hope that in future deliberations of the Task Force more attention and time could be given to the possibility that National interests might be better served without global agreement and instead by putting more energy and financial support into alternatives such as the negotiations of bilateral and multilateral arrangements and the enactment and support of domestic legislation.

3. *Effect of Signature of an LOS Treaty*

I have enclosed for your information a copy of my memorandum dated May 20, 1975, concerning the legal effect of United States signature of a law of the sea treaty. Although I transmitted a copy of this memorandum to members of the Task Force one year ago, I have never received any response to it. My point is simply that the mere *signing* of a law of the sea treaty adopted by the LOS Conference could impose *legal obligations* on the United States Government. Executive agreements excluded, it is commonly supposed that only through the process of formal ratification (preceded by Senate advice and consent) can this Nation be legally bound to an international obligation. This is not true, as my memorandum points out. It seems to me that the people of the United States, acting through their duly elected representatives in the Senate should be the sole determiners of whether or not the United States is to become legally bound to a law of the sea treaty. The members of the Task Force and of our LOS delegation should limit themselves to the *negotiation* of a treaty, for which they are expertly qualified, while leaving the decision of binding force to the Senate. After all, not a single one of our negotiators has been *elected* to his present position and there is therefore little assurance that the will of the Nation's citizenry is reflected in these negotiators' personal views.

My recommendation is, therefore, that the delegation's instructions for the next session of the LOS Conference contain a specific disclaimer of authority to sign any treaty which may be adopted there. In lieu of signature, should a treaty actually be adopted, the United States could simply make a statement to the effect that it cannot be bound until the Constitutional process of ratification has been fulfilled, and that because there are questions concerning legal obligations imposed by signature we shall not sign the document but will with all deliberate speed submit the treaty to the Senate for the latter's advice and consent. In this manner you could indicate your support for the treaty—if that should be your decision—while not usurping the authority of the Senate to pass on questions of undertaking treaty obligations.

I greatly appreciate your considering these points, and if I can be of assistance to you in elaborating on these views or in providing you with other help please do not hesitate to call on me.

Best regards,

H. GARY KNIGHT,

Campanile Professor of Marine Resources Law.

LOUISIANA STATE UNIVERSITY,
Baton Rouge, May 13, 1976.

HON. WARREN G. MAGNUSON,
*Chairman, Committee on Commerce,
U.S. Senate, Washington, D.C.*

DEAR SENATOR MAGNUSON: I am a member of the Advisory Committee on the Law of the Sea which serves the National Security Council's Inter-Agency Law of the Sea Task Force and have been involved on a nearly full-time professional basis with law of the sea issues since 1967. It was therefore with great interest that I read of the hearings on S. 713 ("The Deep Seabed Hard Minerals Act") jointly sponsored by the Committees on Commerce and Foreign Relations.

As an international lawyer I should like to address some comments on this bill and would hope that you could include this communication in the record of your proceedings.

It is my opinion, and I believe that of virtually all international lawyers who have investigated the issue, that the legal status of deep seabed minerals located

beyond any nation's continental shelf jurisdiction is *res nullius*. This means that the minerals are the property of no one, but are subject to appropriation with title vesting in him who first reduces them to his possession. Accordingly, United States citizens are free at the present time to engage in the exploitation of such resources.

A few persons have argued that because of United Nations General Assembly Resolution 2749 (relating to the seabed question) the manganese nodules beyond the limits of national jurisdiction are the "common heritage of mankind" and may not be exploited until an international agency is established to license and regulate such activities. This view is without foundation, for two reasons. First, United Nations General Assembly resolutions, even when adopted by overwhelming majorities, do not have the binding force of law and, at most, simply reflect expectations of the nations casting assenting or dissenting votes. Second, and more important in this case, the majority vote by Resolution 2749 (108-0-14), including the affirmative vote of the United States, did not reflect agreement on substance by the world's industrially developed nations, but was rather a concession to the underdeveloped countries which refused to move the law of the sea negotiations further until some general principles had been adopted in the form of a resolution. The wording of Resolution 2749 is in most respects sufficiently ambiguous that the developed countries were able to support it for the purpose of removing a roadblock in the negotiations without committing themselves to any particular legal framework for deep seabed minerals.

In the law of the sea negotiations, the seabed question has been one of the most contentious and divisive issues on the agenda. The industrially developed nations generally seek a regime which will provide open access on a non-discriminatory basis in order to further their objective of facilitating recovery of deep seabed minerals. Underdeveloped nations, in turn, seek a restrictive regime characterized by monopoly operating rights in an international agency complete with price and production control power. In an attempt to break this apparent impasse, the United States recently offered some significant concessions to the underdeveloped nations, in particular a willingness to accept partial international agency mining operations and limited price and production controls. It is my view that these concessions are both unnecessary and undesirable. They are unnecessary because the United States needs to make *no* concessions on the seabed mining issue—we *now* have, as noted above, the international legal right to mine these resources on a completely open access basis. To limit an existing right makes no sense. Such concessions are undesirable because they will, if adopted in a treaty, inhibit the opportunities for the United States to derive benefits from mining deep seabed minerals and could, through the price and production control mechanism, totally deny to us these benefits.

How then, can enactment of S. 713 be in the national interest at the same time that negotiations are proceeding in the United Nations? The outcome of the law of the sea negotiations on the seabed mining question simply cannot be satisfactory to the United States. If there is no treaty, then there is no new legal regime to govern deep seabed mining. If there is a treaty on presently available terms, perhaps along the lines of the United States compromise, it is unlikely that the United States Senate will give its advice and consent to such a regime. Accordingly, it seems that inevitably the United States must enact domestic legislation to regulate its citizens in the pursuit of their unquestioned international legal right to exploit deep seabed mineral resources on a non-exclusive basis. My view, then, is that there is no point in deferring action on S. 713 because the law of the sea conference will either fail to produce an agreement or will produce one which will be unsatisfactory to the United States Senate when the treaty is brought for advice and consent pursuant to the requirements of the Constitution. Deferral can gain us nothing, yet it can greatly impair the ability of those companies which have invested millions of dollars in manganese nodule recovery systems to proceed with their work. As you have unquestionably heard from other witnesses, the metals contained in manganese nodules are vital to our economy, and sea-based sources of the minerals can help to alleviate our dangerous dependency on foreign suppliers.

Finally, I would urge that in whatever form S. 713 is ultimately adopted it contain a provision for reciprocal recognition of claims filed with other nations' governments where those nations have similar or identical deep seabed mining legislation. This will enable seabed miners from various nations to avoid claim conflict situations among themselves without the necessity for any elaborate international machinery or unnecessary regulatory apparatus.

If I can be of any further assistance to you on the international legal issues involved with S. 713, do not hesitate to call on me.

Respectfully submitted.

H. GARY KNIGHT,
*Campanile Professor
 of Marine Resources Law.*

THE SEAFARERS INTERNATIONAL UNION
 OF NORTH AMERICA, AFL-CIO
 Washington, D.C., May 19, 1976.

Hon. WARREN MAGNUSON,
*Chairman, Senate Committee on Commerce, Dirksen Senate Office Building,
 Washington, D.C.*

DEAR SENATOR MAGNUSON: The Seafarers International Union of North America, AFL-CIO, strongly supports the goals of S. 713 to promote the conservation and orderly development of the hard mineral resources of the deep seabed. We believe such legislation is necessary to provide U. S. ocean mining companies the security of investment they must have in order to confidently begin the costly process of ocean mining. Without the legal and diplomatic protection of the United States against interference by other nations, American ocean mining projects will be severely limited.

S. 713 will provide the framework for the United States to capitalize on its technological lead in the science of mining the hard mineral resources of the deep seabed which are vitally important to the industrial economy and security of the United States. Adding to the importance of developing these deep seabed resources as quickly as possible is the fact that the United States lacks sufficient domestic supplies of cobalt, manganese, copper and molybdenum which will be among the principal products of such development.

American seabed mining projects will lead to greater U. S. self-sufficiency in our supply of these vital minerals. This in turn aids both the national security and the U. S. balance of payments, by lessening the dependence on and purchase of essential minerals from foreign sources.

The Seafarers International Union is concerned however that S. 713, as presently written, does not go far enough to fully protect the best interests of the United States. This concern involves the question of ensuring that U. S. ocean mining projects use U. S. equipment and employees and that the minerals produced by the projects be carried in American flag vessels.

Too often in the past the United States has developed new technology, only to see the fruits of our efforts lost to foreign countries offering tax shelters and cheap labor. If the United States is to realize the full benefits of the ocean mining industry that it will be encouraging through investment guarantees and insurance protection, it must require that these projects use American equipment vessels and crews to the fullest possible extent.

As it now stands, section 16 of S. 713 extends the requirements of section 27 of the Act of June 5, 1920 (the Jones Act) to all hard minerals recovered from the deep seabed under a license issued pursuant to this Act. In other words, deep seabed minerals recovered by an ocean mining company operating under an American license must transport its recovered minerals to the United States on American built, documented and manned vessels to the same extent as minerals recovered within the United States and shipped to another point within the United States must be.

While we fully support this provision, its beneficial efforts may be completely voided unless S. 713 is amended.

1. Language should be added to section 5 of this legislation to require that an additional precondition for an American entity in obtaining an American ocean mining license would be that all minerals recovered under authority of the license will be processed in the United States or on United States vessels. The reasons for such an amendment are many. First, unless that holder of an American license is required to process the recovered minerals in the United States, they may likely be processed in foreign facilities by foreign workers. We are still experiencing the disastrous effects of allowing the unchecked exportation of America's oil refining capacity. The United States must not allow the same thing to happen with respect to the processing of vitally needed mineral resources.

Secondly, the holder of the American license is receiving U. S. diplomatic protection as well as investment guarantees and insurance. The whole purpose

of extending these protections is to encourage the development of the deep seabed to strengthen and protect the national security and economy. To fully satisfy this purpose, the recovered minerals must be returned to the United States for processing and use.

Finally, this legislation recognizes, through section 16, the importance of encouraging the use of American merchant vessels for the carriage of these minerals. Yet, unless the recovered minerals are transported to the United States for processing, United States flag vessels need not be used at all. Thus, ocean mining companies may not only export processing capacity to foreign sites, but employ runaway flag vessels for their transport.

For these reasons, we respectfully urge that S. 713 be amended as we recommend.

2. Along these same lines, we would urge your Committee to amend section 17 (a) of S. 713 to make the Jones Act applicable to all deep seabed minerals transported to the United States for processing by an international consortium operating pursuant to a U. S. ocean mining license.

Presently, section 17(a) only requires the U. S. portion of the consortium to use American vessels if it chooses to process its recovered minerals in the United States.

Taken in conjunction with existing section 16 and our proposed amendment to section 5, this amendment means that the U. S. entity which is part of this international consortium must process its portion of recovered minerals in the United States and must transport them for processing to the United States on American vessels. The foreign portion of the U. S. licensed international consortium would not be required to process its share in the United States, but any of its portion that it chose to ship here for processing must be transported on American vessels.

Again, we strongly believe that the holders of an American deep seabed mining license, should use, to the fullest practical extent, American vessels, workers and equipment. We urge that this amendment to S. 713 be adopted.

3. Similarly, we believe section 17(b) of S. 713 should be amended to make the Jones Act applicable to all deep seabed minerals recovered by an international consortium operating under a foreign mining license which are transported to the United States for processing. This amendment does not require a foreign licensee to process its minerals in the United States. It simply increases the utilization of American vessels in those instances when a foreign licensee chooses to ship to the United States.

4. Insofar as the Jones Act and section 16 do not extend to vessels such as mining vessels which are not engaged "in commerce," we urge that language be added to S. 713 to provide that all mining operations undertaken pursuant to a U.S. ocean mining license will be conducted by mining vessels built in the United States, documented under the laws of the United States and crewed by American citizens.

The construction and operation of deep seabed mining vessels will provide enormous employment benefits for workers in numerous industries. It is another aspect of the ocean mining industry which we should endeavor to use to the benefit of the United States.

5. Finally, we believe your Committee should amend S. 713 to encourage the use of American vessels for the transportation of deep seabed minerals which have completed processing. We urge that language be added to this bill to authorize the Secretary of State to enter into negotiations with those nations processing deep seabed minerals for export to the United States, and with those nations purchasing U.S. processed minerals, for the purpose of entering into bilateral agreements to govern the transportation of the processed minerals.

The Seafarers International Union strongly believes that these proposed amendments to S. 713 will add immeasurably to the security, domestic economy and balance of payments of the United States. These amendments, which will provide thousands of Americans with jobs in a new industry, simply imposes on those who are benefiting from the diplomatic and investment protection of the United States the obligation to use American equipment, vessels and workers.

We urge the Committee to adopt these amendments and to favorably report S. 713.

Sincerely,

PAUL HALL,
President.

ASSISTANT SECRETARY OF DEFENSE,
Washington, D.C., May 25, 1976.

HON. WARREN G. MAGNUSON,
Chairman, U.S. Senate Committee on Commerce,
U.S. Senate, Washington, D.C.

DEAR SENATOR MAGNUSON: Pursuant to your request in your letter dated May 20, 1976, I am enclosing answers to a series of questions regarding the national security interests involved in deep seabed mining with particular emphasis on S. 713, the Deep Seabed Hard Minerals bill.

In view of the time constraints, there has not been sufficient opportunity to have the enclosed responses fully coordinated with all agencies represented on the National Security Council Interagency Task Force on the Law of the Sea. However, with markup of S. 713 scheduled for today, to be of use to the Committee, the information had to be delivered today.

Trusting that you will find the information responsive to your needs and with every good wish, I am,

Sincerely,

STUART P. FRENCH,
Representative of the Secretary of Defense
for Law of the Sea Negotiations.

Enclosure.

Question 1. What national security interests are affected by mining of the deep seabed? Would any of these interests be adversely affected by the passage of S. 713? In what way?

Answer. Mining of the deep seabed is an exercise of a freedom of the high seas. Our national security is dependent to a very significant degree on the ability to exercise other freedoms of the high seas. So long as deep seabed mining is conducted with reasonable regard for the interests of other ocean users, the activity, *per se*, is expected to have no direct impact on national security.

The Department of Defense opposition to S. 713 is premised on its adverse impact on the Law of the Sea Conference, and hence on the broad range of national security interests which are involved in the Conference.

Question 2. If the Law of the Sea Conference fails to reach an agreement on the deep seabeds, would the Department of Defense prefer to have domestic legislation or no legislation on this matter? Why?

Answer. If the Law of the Sea Conference fails to reach agreement on the deep seabeds, it is probable that it will reach no agreement on anything. Under those circumstances DOD anticipates the need for a number of very difficult policy choices in order to best protect our national security interests. The choice between domestic legislation and no legislation on seabed mining has not been identified as an issue of significant importance in protecting national security interests in the oceans in the event of Conference failure. In any event, the DOD position on domestic legislation would depend on the contents of the specific bill.

Question 3. What specific national security interests are affected in the Law of the Sea negotiations? How would the passage of S. 713 affect these interests and the negotiations on these interests? Why is it necessary to achieve agreements on ocean policy in a package at the Law of the Sea Conference?

Answer. The security of the United States requires the mobility of our military forces. Our forces must have the freedom to navigate on and under the high seas and through international straits and the freedom to fly over the high seas and international straits. This is necessary for our nuclear deterrent forces and for general purpose forces to respond to aggression wherever it may occur. In addition to mobility requirements, the DOD has vital interests in conducting anti-submarine and other operations at sea. Unilateral claims to expand the territorial sea or implementation of national legislation to interfere with freedom of navigation in an economic zone or unimpeded passage of international straits will be adverse to those U.S. security interests.

Enactment of S. 713, especially coming right after the lengthy negotiations on deep seabed mining issues held this spring at the United Nations Law of the Sea Conference in New York, could be perceived by other nations as abandonment of good faith bargaining by the United States. It would raise the specter that it would be futile to go to New York for the second negotiating session scheduled to commence on August 2, 1976, in N.Y. The effect this would have on the upcoming negotiations could likely result in frustrating our efforts to obtain a

successful and timely treaty on all ocean interests, including those vital to our security.

These negotiations are the most complex and comprehensive ever undertaken in an international forum; approximately 150 nations are participating in the process. An attempt is being made, as nearly as possible, to satisfy the various interests of the participants. As an incentive for the participants to become parties, there must be features sufficiently attractive to their interest to make the treaty worthwhile. A package offers the best prospect to provide the necessary motivation for a broadly based, widely accepted treaty.

Question 4. What impact did the passage of the 200-mile fishing zone legislation have on U.S. national security interests at the Law of the Sea negotiations? How would the effect of passage of S. 713 on the Law of the Sea negotiations differ from the effect of the 200-mile fishing zone legislation?

Answer. It is impossible to differentiate between the impact of the passage of the 200-mile fishing zone legislation on U.S. national security interests at the Law of the Sea negotiation and the impact of the law on other national interests involved in the negotiation. Those nations which perceive themselves as adversely affected by the bill, the distant-water fishing nations, tend to be the same nations which in the past had been most closely associated with U.S. efforts to secure an acceptable resolution of navigation issues at the Conference. One might therefore infer that the burden of ill will generated by the fishing bill fell somewhat more heavily on national security interests than on others. There appears to be no way to quantify this inference.

DOD anticipates that passage of S. 713 would have a more adverse effect on the Law of the Sea negotiations than did enactment of the fisheries legislation.

Unilateral U.S. legislation on deep seabed mining, following so closely on the heels of unilateral U.S. fisheries legislation may be viewed as disinterest on the part of the United States in resolving these issues by international agreement.

Unlike the 200-mile fisheries bill which at least appealed to those coastal states seeking broader fisheries jurisdiction off their own coasts, S. 713 would not, in our opinion, appeal to any foreign state participating in the Conference. Much of the difficulty in negotiating the deep sea mining issue is attributable to widespread fears that the technologically advanced U.S. will, in effect, appropriate unto itself virtually all of this valuable resource for the foreseeable future. S. 713 will be seen as an encouragement to do precisely that.

Seabed minerals are widely regarded by developing countries as the common heritage of the entire international community in which each nation has a form of proprietary interest. One need not accept the legal validity of this position to appreciate the probable impact of passage of S. 713 on the negotiation.

Question 5. To what extent would the United States Armed Forces be required to protect U.S. deep sea miners operating on the deep seabed? What are the national security implications of this commitment?

Answer. Under general principles of international law, the United States Government, has a right to take all reasonable measures to protect U.S. nationals or U.S. flag vessels on the high seas. Presumably the United States Government would undertake such measures in accordance with past practices. The U.S. Government is free to determine the specific actions, if any, it would consider appropriate in a particular case. Such a determination would obviously be based upon a thorough analysis of the relevant facts.

The national security implications would depend on the nature and severity of the threat. We have no way of assessing the likelihood of any specific threat to deep seabed miners. They could, however, be subjected to a variety of risks, ranging from harassment and industrial sabotage through seizures of vessels or equipment by foreign interests to armed attacks against vessels or equipment by foreign military or paramilitary forces. Additional factors may bear upon what response best serves the national interest. The War Powers Resolution (50 USC. 1541-48) might be relevant. The decision with respect to what specific action should be undertaken is, however, not solely within the purview of the U.S. Armed Forces, whose responsibility under such circumstances is guided by proper direction from higher civilian authority.

Question 6. Would any special provisions need to be made to protect U.S. surveillance devices and navigation aids on the deep seabed if S. 713 were enacted?

Answer. DOD does not envision the need for any such special provisions.

HON. WARREN G. MAGNUSON,
U.S. Senate,
Washington, D.C.

DEAR SENATOR: Recently, joint hearings were held by the Senate Committees on Commerce, Armed Services and Foreign Relations on S. 713, the Deep Seabed Hard Minerals Act. S. 713 is interim legislation to be superseded by a treaty on the law of the sea when ratified and binding upon the U.S., and is designed to help create the stable investment climate essential to the development of a domestic deep seabed mining industry, in accordance with the objectives of the Mining and Minerals Policy Act of 1970 (30 USC 21a).

At those hearings, Mr. Marne A. Dubs, Director, Ocean Resources Department, Kennecott Copper Corporation, presented testimony, which is enclosed. Mr. Dubs serves as Chairman of the Committee on Undersea Mineral Resources of the American Mining Congress and is a member of the National Advisory Committee on Oceans and Atmosphere. He served as an expert on the United States Delegation to the Law of the Sea Conference at the recent March-May session in New York as well as at the Geneva session last year and the Caracas session the year before. He also serves on the State Department's Interagency Task Force Advisory Committee on Law of the Sea.

I mention these matters simply by way of background, as I believe Mr. Dubs has a breadth and depth of knowledge of both the scientific aspects of ocean mining as well as the international negotiations on law of the sea which is unique, both in and out of Government. In addition, Mr. Dubs enjoys an outstanding reputation as a scientist in his own right. It is for these and other reasons that I believe his testimony brings a realistic perspective to and a valued assessment of the status of ocean mining, including the technological development, as well as the status and prospects of the law of the sea treaty negotiations.

There has been discussion of the possible international cartelization of the principal metal commodities to be derived from the seabed manganese nodules; i.e., manganese, copper, cobalt and nickel. Some of the speculation has been to the effect that such international cartels would not be as effective as OPEC. Yet, this ignores the fact that the direction of the treaty negotiations and of U.S. concessions has been towards the creation of such a cartel by the terms of the treaty itself through the establishment of the Enterprise to exploit the nodules directly. As Mr. Dubs points out, "... every effort is being extended so that in the long run it (the Enterprise) would be the only exploiter of the seabed." Since the U.S. must import essentially all of its manganese and cobalt requirements as well as most of its nickel, it is clear to the would-be cartels that access to the world's largest known source of these metals—the manganese nodules of the seabed—must be denied the U.S. and other industrialized nations for the cartels to work. Hence, as Mr. Dubs observes, "great attention is being given to the financing of the Enterprise and to all measures required to give it an early and advantageous beginning." Should a U.S. ocean miner ever be successful in obtaining rights to mine from the Authority, he would find that his regulator and his competitor were one and the same, with obvious consequences.

In light of these events, and the fact that the U.S. technological lead in ocean mining is fragile and is being dissipated by years of delay in the creation of a stable legal regime made murky by the negotiations, Mr. Dubs strongly urges the enactment of domestic legislation this year. (It should be noted that S. 713 and similar predecessor legislation have been pending before the Congress for nearly 6 years.) The large investments made by companies have been based upon a faith "... that in the absence of a satisfactory treaty, domestic legislation will be enacted into law and will become effective in 1976." If this is not the case, at the minimum, programs will be greatly curtailed or possibly abandoned.

Furthermore, there will be enormous pressure from the developing world for further compromise by us and the August session of the Law of the Sea Conference will move us further away from an acceptable solution. "The danger of negotiating a treaty unacceptable to the nation and which the Senate will not ratify is real."

Enactment of S. 713 would serve two important purposes: First, it would serve unmistakable notice upon both our negotiators and their adversaries "... that time has run out and the well of compromise has run dry." Second, it would

provide needed encouragement to the ocean miner by providing the basic assurance of obtaining the essential security of investment this year so necessary to avoid loss of momentum in the development programs and the degradation of the U.S. lead in this field. The American Mining Congress believes both of these objectives are in the long-term best interests of the nation, its economy and consumers.

It is my sincere hope that you can take time from your enormously busy schedule to read Mr. Dubs' statement, and that you will support S. 713 when it is brought before the Senate.

If you have any questions concerning this important issue, please contact Mr. Charles F. Cook, Vice President and General Counsel of American Mining Congress, and he will be pleased to respond or put in touch with you the most knowledgeable person from our membership.

Sincerely yours,

J. ALLEN OVERTON,
President.

OVERSEAS PRIVATE INVESTMENT CORP.,
Washington, D.C., May 26, 1976.

HON. WARREN G. MAGNUSON,
*Chairman, Committee on Commerce, U.S. Senate,
Washington, D.C.*

DEAR MR. CHAIRMAN: Thank you for giving the Overseas Private Investment Corporation an opportunity to comment on S. 713, the Deep Seabed Hard Minerals Act. The experience OPIC has gained in the administration of the program of political risk insurance for United States private investment in the developing countries has been made available to the agencies involved in developing our Government's position on this important issue. OPIC is pleased to share its experience and perspective with the Congress, as well. It must be noted, however, that the OPIC staff has had only limited exposure to the complex issues involved in the proposed seabed mining and that OPIC's observations on the pending legislation do not represent an official Executive Branch position, which we understand to be opposed to the enactment of S. 713.

OPIC's answers to the question in your letter of May 6, 1976, are enclosed. Please let me know if we can be of further assistance, or contact the Deputy General Counsel of OPIC, Cecil Hunt (telephone: 632-1766).

Sincerely yours,

MARSHALL T. MAYS.

Enclosure.

RESPONSE OF OPIC TO QUESTIONS SUBMITTED BY THE COMMITTEE ON COMMERCE,
U.S. SENATE

Question 1. Please describe OPIC's mandate and its experience in investment risk management.

Answer. The legislative mandate of the Overseas Private Investment Corporation (OPIC) is to promote economic development in friendly less developed countries by encouraging U.S. private investment in those countries. OPIC's two principal programs are the political risk investment insurance program and the financing program. The political risk insurance covers loss due to inconvertibility of currency, expropriation and war, revolution and insurrection. The amount of this insurance outstanding as of June 30, 1975 under policies issued by OPIC and predecessor agencies totalled approximately \$5.8 billion for all three coverages. OPIC was organized in 1971 as an independent U.S. Government agency in corporate form to operate the insurance program on a self-sustaining basis, applying principles of risk management. OPIC has handled insurance claims totalling several hundred million dollars and has achieved substantial recoveries from foreign governments. Premiums total over \$30 million annually.

Question 2. Is the OPIC program available to deep ocean mining operations? Is there any government program parallel to the investment guaranty and insurance programs contained in S. 713? If so, please describe.

Answer. OPIC legislation limits coverage to projects within the national jurisdiction of a friendly less developed country (22 USC Section 2197(a)), so coverage could not be extended to seabed mining facilities located beyond the limits of national jurisdiction, as is provided for by S. 713. OPIC is not aware of any

government program parallel to the investment guaranty and insurance programs contained in S. 713.

Question 3. S. 713 provide an investment guarantee to, and makes investment insurance available for, licensees under the Act. Licenses may be issued to "eligible applicants"; eligible applicants are defined in section 3(i) of S. 713. In effect, these provisions make the bill's investment protection available to a corporation which may not be "substantially beneficially owned by United States citizens." In other words, a wholly owned U.S. subsidiary of a foreign corporation would be eligible for a license and for the investment protections under the bill. Is this your reading of S. 713?

Answer. Section 3(i) of S. 713, in defining "eligible applicant", does not appear to take into account the nationality of the ownership of a business entity.

Question 4. Section 2198(c) of title 22, United States Code, defines an investor who may be eligible for OPIC's investment security program. Why did Congress require that only corporations that are "substantially beneficially owned by United States citizens" be considered "eligible investors" under the OPIC Act? How has the Corporation interpreted this language?

Answer. OPIC deems a corporation organized under the laws of the United States or of any state or territory of the United States to be "substantially beneficially owned" by United States citizens if more than 50 percent of each class of its issued and outstanding stock is owned by U.S. citizens either directly or beneficially. For purposes of this determination, OPIC permits the beneficial ownership of U.S. corporations to be determined by tracing back through any foreign corporate ownership of their shares to the ultimate beneficial owners. This statutory limitation on eligibility has its origins in the earliest program legislation in Marshall Plan days, apparently relating simply to the concept of the program as facilitating the participation by *United States* private enterprise in the development process. Under current OPIC legislation and policies a corporation organized outside the U.S., but at least 95 percent owned by one or more eligible investors, is itself an eligible investor.

Question 5. Are you aware of any private or public investment insurance program which might cover deepsea mining operations?

Answer. OPIC is aware of no such program. We assume there will be an investigation of the possible availability of coverage through private underwriters for at least some aspects of the operations.

Question 6. How are premiums for investment insurance (22 USC 2194(a)) determined? What difficulties do you see in establishing a premium under section 14 of S. 713?

Answer. The high incidence of actual and threatened expropriation insurance claims led OPIC management early in the Corporation's life to increase the premium for political risk insurance significantly beyond the levels established by the prior operators of the program. The limited claims experience in the early years of the program had provided little basis for setting premiums. OPIC followed the general premium increase by introducing some premium differentials taking into account its relatively greater loss experience in certain industries and types of investment. OPIC's basic concern has been to try to determine the premium levels required to enable OPIC to meet its legislative mandate to operate on a self-sustaining basis. Further emphasis with respect to the issue of premium adequacy comes from the involvement of private insurance companies as joint underwriters and reinsurers through the Overseas Investment Insurance Group. OPIC will be working with other Group members to refine the premium rating process as applied to the coverage provided under OPIC authorities.

The principal difficulties in establishing a premium under Section 14 of S. 713 are those of concentration of risk in the absence of an experience base with a comparable risk. Not only does it appear that the amounts of investment dedicated to a seabed mining system will be extremely large, it appears that the program may operate for some time providing coverage for only a small number of such investments. The concentration problem is heightened by the potential for widespread and coordinated political action hostile to seabed mining under a national licensing regime which could affect many or all such investments and give rise to a flurry of large claims.

Question 7. How does the term "investment" in S. 713 compare with that term in OPIC's statute?

Answer. Both statutes define the term "investment" broadly to include non-cash as well as cash contributions to the enterprise. The broad definition of "investment" in the OPIC statute must, however, be read in conjunction with

another section which limits the extent of coverage. This is 22 USC 2197(f) whereby no insurance—

“shall exceed the dollar value, as of the date of investment, of the investment made in the project with the approval of the Corporation plus interest, earnings or profits actually accrued or said investment to the extent provided by such insurance. . . .”

Pursuant to this limitation, OPIC insurance coverage is based upon the investment contribution and realized profits retained in the enterprise and coverage would not be based on, for example, the estimated value of the ore reserve held by a mining company.

Question 8. Is it possible to determine “the estimated monetary value of unrestricted access to hard mineral resources”?

Answer. Such an estimate would be outside OPIC's competence. As noted in the answer to the preceding question, OPIC would not base coverage or compensation on such unrealized future profits.

Question 9. Does the term “value of investment” used in S. 713 exclude past profit, the value of tax benefits, and salvage value in determining damages under section 14(a)?

Answer. OPIC is not aware of the intent of the drafters in this regard.

Question 10. Nothing in S. 713 limits the contingent liability under the investment guaranty and insurance provisions. In contrast, the OPIC statute sets limits of maximum contingent liability for investment insurance and guaranty. Why were limits included in the OPIC statute?

Answer. Guaranties and insurance issued under OPIC's legislative authorities constitute obligations backed not only by OPIC's substantial reserves and other resources available to OPIC but also by the full faith and credit of the United States. The statutory limits on issuing authority serve to control the potential even if unlikely, claim on taxpayers' funds should the program fail to continue to be self-sustaining. These limits also provide for Congressional control of overall program levels.

Question 11. S. 713 contains no general provisions governing insurance and guaranty such as are set forth in 22 USC 2197. Would such provisions be important to successful administration of such a program?

Answer. Without regard to the policy questions raised by the insurance provisions of the bill, most of the provisions set forth in 22 USC 2197 would not appear to be necessary or appropriate to the insurance program authorized by S. 713. Were any such program to be established, some version of the subsection (f) limitation on coverage values and the subsection (1) provision for claims handling could be useful.

Question 12. Does the Corporation have any views as to alternative methods of providing investment security to a deepsea mining operation?

Answer. It must be emphasized at this point that OPIC has no particular expertise on seabed mining and that others in government are responsible for dealing with the question of the possible establishment of an interim national regime for deep seabed exploitation and its relationship to the Law of the Sea Conference. OPIC therefore, has limited its comments to the design and feasibility of the insurance proposals in the various bills, and does not have an alternative method of investment security to propose.

Question 13. Please provide any comments which you believe would be helpful in evaluating the efficacy of the provisions of S. 713 in “promoting deepsea mining.”

Answer. We understand that the Administration has not reached a conclusion that insurance provisions necessarily should be included in any bill establishing a Federal role relating to the mining of deep seabed resources. Therefore, the comments which follow do not imply any recommendation that legislation such as S. 713 should be enacted. Given the extreme difficulty of applying insurance premium rating techniques to the type of insurance coverage provided for in S. 713, it would be essential for the legislation to provide guidance for the determination by the program administrator under section 14(h) that coverage “is not readily available at a reasonable premium elsewhere.” If, for example the premium required to build a premium reserve within the first five years of mining operations adequate to cover a claim for the value of one of, say six projected complete mining systems were to be so high as to preclude dividends on equity capital, should the administrator issue coverage at a lower (and, presumptively, subsidized) premium? What should be the subsidy limits?

Should there be provision for "subsidy recapture" through profit-related premium adjustments or special royalty or income taxation features? Provision might also be made for requiring a minimum percentage of coinsurance or for a deductible feature in the coverage.

STATEMENT OF THOMAS A. FAIN, PRESIDENT, AMERICAN INSTITUTE OF MARINE UNDERWRITERS

The American Institute of Marine Underwriters is an association of insurance companies which are authorized to write marine insurance in one or more States of the United States. The institute was founded in 1898 although its predecessor organization, the board of underwriters of New York, traces its lineage to 1820. At present the institute membership lists some 120 companies in the marine area whose coverage includes hulls, cargo, liability for personal injury and death, hull and cargo war risk, and statutory liability for pollution of the seas by oil or other hazardous substances. Over the decades the institute and its members have contributed significantly to the growth and development of the U.S. maritime industry and, at present, represent a significant share of what has come to be recognized as one of the world's leading insurance markets.

The institute, because of its leading position in the maritime industry, has been requested to examine, from the viewpoint of a marine underwriter, and offer comments on Senate bill 713. Special consideration was requested and attention directed toward sections 13, 14 and 15 of the bill.

Initially the institute would note that the provisions of section 13 of the bill dealing with an "investment guarantee" would not fall within the definition of "Marine Insurance". It would therefore be inappropriate for the institute to offer comment or make observations in this area. Section 14, and indirectly section 15, do include to a limited degree, provisions which could be interpreted to include traditional marine risks. These traditional marine areas, as the institute views them, would include damage done by a third party to the vessel, equipment and other mining paraphernalia utilized at the mining site, claims arising from the personal injury or death of a member of the crew employed on the vessel or other equipment, liability for damage to property of third persons and pollution coverage. Insofar as providing insurance in these traditional marine areas the capacity and expertise exists, given reasonable rates and liability limits, within the domestic maritime insurance community.

Of perhaps greater interest to the marine insurance community than sections 13, 14 and 15 of the bill are the license provisions of section 5A. This section states that in order for a license to be granted an applicant must, among other things, show that: He

"... Is financially responsible and has demonstrated the ability to comply with applicable laws, regulations, and license conditions", and further that

"... Operations under the license will not pose an unreasonable threat to the integrity of the marine environment and that all reasonable precautions will be taken to minimize any adverse impact on the environment".

History and past practices in the field of water pollution have demonstrated that evidence of financial responsibility has most frequently taken the form of marine insurance policies. Such policies have been offered and have successfully met the most stringent governmental requirements in these areas. The domestic maritime insurance community presently has the capacity and the experience, given reasonable rates and liability limits, to extend its coverage to provide such insurance for deep sea mining ventures.

The American Institute of Marine Underwriters would also like to take this opportunity to thank the committee for permitting it to testify today and to indicate its general support for the bill. If we can be of further assistance on this matter or any other involving the marine insurance field we will be only too happy to do so.

REVIEW OF LEGAL AUTHORITIES TO MANAGE DEVELOPMENT OF MINERAL RESOURCES IN THE DEEP OCEAN

Management of the mineral resources of the deep ocean involves four essential elements:

1. An ability to locate and classify the mineral resources involved,
2. A mastery of the technology required to develop these resources,

3. An ability to minimize adverse environmental consequences of the development of these resources, and

4. The regulatory and management authority to arrange for the orderly development of these resources by private industry.

At the present time, no agency of the Federal Government has all of these elements with respect to the deep ocean. Several agencies have authorities and the competence to provide some of these elements.

Discussion of authorities

The Geological Survey, of the Department of the Interior, is authorized pursuant to 43 U.S.C. to provide for the examination of the geological structure, mineral resources, and products of the national domain and to conduct such examinations outside the national domain where the Secretary of the Interior determines such examination to be in the national interest. The specific authority to conduct these activities beyond the national domain is a recognition of the fact that important geological structures exist beneath the seas and beyond the outer continental shelf of the United States. It should be borne in mind that the Geological Survey has a substantial program in delineation of marine resources. The lead agency on the marine mineral side prior to Reorganization Plan No. 4 of 1970 was the Bureau of Mines (as pointed out below, the effect of the reorganization was to transfer that authority of the Bureau of Mines to NOAA).

The National Ocean Survey has a responsibility similar to that of the Geological Survey under 33 U.S.C. 883(a) to provide basic data for engineering and scientific purposes and for commercial and industrial needs by conducting seismological, geomagnetic, gravity and related geophysical measurements and investigations. Public Law 86-409 eliminated a provision which restricted the National Ocean Survey in the conduct of its activities to the United States, its territories, and possessions so that the effect of this amendment is that the present statute must be constructed broadly and not limited to the United States or areas of the outer continental shelf.

Effect of Reorganization Plan No. 4 of 1970

Reorganization Plan 4 transferred to the Secretary of Commerce additional authorities with respect to marine resource development programs. The functions vested in the National Science Foundation by the National Sea Grant College and Program Act of 1966 (33 U.S.C. 1121) were among the authorities transferred.

The Sea Grant program authorizes the Secretary of Commerce to initiate and support programs with public and private agencies for the education of participants in the various fields relating to the "development of marine resources." By definition the quoted phrase includes the development, conservation, or economic utilization of the physical, chemical, geological, and biological resources of the marine environment; the field of marine commerce and marine engineering; the fields relating to exploitation or research in the recovery of natural resources from, and the transmission of energy in, the marine environment; the fields of oceanography and oceanology; and the study of the economic, legal, medical, or sociological problems arising out of management, use, development, recovery, and control of the natural resources of the marine environment. Section 1123(b) of the Sea Grant Act provides express authority to support research programs relating to the development of marine resources, with preference given to research aimed at practices, techniques, and design of equipment applicable to the development of marine resources. Thus, the Sea Grant Act provides all authorities necessary to develop a program of resource management. Authority to implement a program to manage and control the actual development and utilization of the resources of the deep ocean beyond the Continental Shelf and the continental margin is found in no agency.

Section 3 of Title 30 United States Code authorizes the Bureau of Mines to conduct inquiries and scientific and technologic investigations concerning mining, and the preparation, treatment, and utilization of mineral substances with a view to increasing safety, efficiency, economic development and conserving resources through the prevention of waste in mining and other mineral industries, and to inquire into the economic conditions affecting these industries. Section 8, Title 30, authorizes the Secretary of the Interior to establish a number of mining experiment stations to make investigations and to disseminate information with a view to improving conditions in the mining industry, preventing

unnecessary waste of resources, and otherwise contributing to the advancement of this industry.

Pursuant to those authorities the Bureau established a marine minerals technology program in FY 1963, which grew from a modest \$50,000 effort dealing principally with the collection of an analysis of manganese nodules in the Pacific in FY 1963 to \$925,000 in FY 1970. As part of this program, the Marine Minerals Technology Center was also established to carry out the program. In its final full year prior to Reorganization Plan No. 4 of 1970, the two-page Program Statement and the Program of Work of the Department of the Interior contained the following lead paragraphs:

"Program Statement

"The Bureau of Mines marine mining research program is directed toward two major and related objectives. The first is to assure that the marine mining systems ultimately developed will minimize damage to the marine environment and that they will not interfere with the development of other marine resources. The second is to provide the necessary tools and techniques for accurate delineation of marine mineral deposits as a basis for proper engineering evaluation of their economic potential, since the technology presently available is only rudimentary. The Bureau's overall objective is to encourage the development, ultimately, of privately-owned-and-operated marine mining industries."

"Program of work

"The Bureau of Mines research effort with require the development of adequate tools and techniques for evaluating marine mineral deposits; establishing mining system requirements; research and development in areas of technological deficiencies; and encouraging private development of total mining systems compatible with the marine environment." Department of the Interior and Related Agencies Appropriations for Fiscal Year 1971, Hearings Before a Subcommittee of the Committee on Appropriations, United States Senate, Ninety-First Congress, Second Session) on H.R. 17619 (pp. 899-901).

Reorganization Plan No. 4 of 1970 transferred to the Department of Commerce "The functions vested by law in the Secretary of the Interior, or in the Department of the Interior or in any officer or instrumentality of that Department, which are administered through the Marine Minerals Technology Center of the Bureau of Mines." (Reorganization Plan No. 4 of 1970, eff. Oct. 3, 1970, 35 FR 15627, 84 Stat. 2090). This transferred the entire Marine Minerals Program to the Department of Commerce (See Department of the Interior Statement Appendix to the Budget for Fiscal Year 1972, page 581).

Thus the functions vested in the Department of the Interior by statute and employed in carrying out the Marine Mineral Program are no longer in Interior but are now deemed vested in Commerce (5 U.S.C. 707(a)).

Authority on OCS

The agency which presently has authority for the management of submarine mineral resources pursuant to the Outer Continental Shelf Lands Act (43 U.S.C. 1331 *et seq*) is the Department of the Interior. This Act applies to submerged lands lying seaward of a line three geographical miles distant from the coast of each State and with respect to which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control. Subject to the requirements of the Act, the Secretary of the Interior is authorized under the Act to provide mineral leases on the outer continental shelf.

The Act limits this authority to the outer continental shelf as defined above and does not extend beyond the shelf to the deep ocean.

Authorities since 1970

Since Reorganization Plan No. 4, legislation has expanded the authority of Commerce and NOAA with respect to the environmental consequences of man-induced changes in the ocean ecosystem. Section 202(a) of the Marine Protection, Research, and Sanctuaries Act of 1972 (P.L. 92-532) directs the Secretary of Commerce to initiate a comprehensive and continuing program of research with respect to the possible long-range effects of pollution, over-fishing, and man-induced changes in the ocean ecosystem. Carrying out the research the Secretary is directed to take into account existing and proposed international policies affecting ocean problems, economic considerations involved in both the protection and use of the oceans, possible alternatives to existing programs, and ways in which the health of the oceans may be best preserved for the benefit of

succeeding generations of mankind. The Senate Report on H.R. 9727, the bill which became P.L. 92-532, states section 202(b), "... is deliberately broad, so as not to prevent the Secretary of Commerce from taking into account any factors that are relevant to the problems with which it is concerned." (Report No. 92-451)

Furthermore, the Marine Protection, Research, and Sanctuaries Act contains Title III which authorizes the Secretary of Commerce, after appropriate consultation with affected agencies, to designate as marine sanctuaries those areas of ocean waters as far seaward as the edge of the outer continental shelf, which he determines necessary for the purpose of preserving or restoring such areas for their conservation, recreational, ecological, or esthetic values. The Act also authorizes him to issue necessary and reasonable regulations to control any activities permitted within a designated sanctuary and no permit, license or other authorization issued pursuant to any other authority shall be valid unless the Secretary certifies that the permitted activities can be carried out within his regulations. This may impact upon the management authority of the Department of the Interior on the outer continental shelf in some cases.

Recent actions of NOAA, Commerce

In 1974, the Department of Commerce established a Marine Petroleum and Minerals advisory Committee to advise the Secretary of Commerce on matters pertinent to the Department's responsibilities related to marine petroleum and marine minerals resources and on means to facilitate cooperation between the Government and private sectors in these matters. In its advisory role, the Committee takes into account such factors as the economy, quality of the environment, technology, and wise use of the natural resources. The Committee also advises with respect to Law of the Sea affairs. The Committee membership as a group possesses a broad range of experience and knowledge relating to problems involving management, use, conservation, and the development of marine petroleum and marine minerals resources. The members are appointed for 2-year terms and serve at the discretion of the Secretary. This Committee operation will involve an estimated expenditure of \$50,000 per year.

More significantly, Commerce with the approval of the Administration is proposing to expand efforts to assess the environmental aspect of deep ocean mining, to provide base line data, and assist in establishing environmental guidelines for industrial use in the design of marine mining equipment and operational techniques. The attachment sets forth in greater detail the Administration's proposals in this area for fiscal year 1976.

Conclusion

From the foregoing it is clear that NOAA has the sole authority to proceed with the scientific, technological, economic, commercial, legal, sociological, and environmental aspects in developing a Marine Mineral Program for the development of the resources of the deep ocean. It is also clear that the Geological Survey has an important role to play in the delineation of marine resources, but the Department of the Interior has no existing authority to conduct a marine minerals program.

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CONGRESSIONAL RESEARCH SERVICE,
Washington, D.C.

AN ANTITRUST ANALYSIS OF THE CONSORTIA PROVISION (SEC. 17) OF THE "DEEP SEABED HARD MINERALS ACT" (S. 713, 94TH CONG.)

Sec. 17 of the proposed "Deep Seabed Hard Minerals Act" provides that in the event that a development license is issued under the Act or is issued from a reciprocating State (any foreign State designated by the President as a State with requirements and procedures comparable to those of the United States under the Act, and which has undertaken to recognize licenses issued under the Act) to a combination of interests resulting from an agreement between United States and foreign entities, then certain other provisions of the Act will either be limited to the proportion of interests owned by United States citizens, corporations or other judicial entities, or will be applied as if that proportional interest were licensed pursuant to the Act. Thus, in effect, this provision recognizes the possible existence of such a "combination of interests" for the purposes

of the Act, and even apparently provides for such to be capable of receiving a development license thereunder. For terms of legal analysis, such a "combination of interests" is perhaps more aptly described as an "international joint venture", and such term will be so used hereafter. With respect to the possible applicability of United States antitrust laws to such an international joint venture, it would appear that two basic questions can be presented: Would an international joint venture formed for the pursuit of the purposes of the Act be a violation of the United States antitrust laws in the absence of Sec. 17? If some antitrust implications might be present, does the recognition and/or license of a consortium arrangement under Sec. 17 provide an immunity, either in whole or in part, for such international joint ventures?

Before any attempt can be made at making a general legal analysis to answer these questions, some cautionary items should be mentioned to clarify the confines of such an attempt. First, the antitrust laws are not a set of simple prohibitions directed at specific and easily defined acts. The complexity of the conduct sought to be covered and the ends sought to be achieved preclude fast and certain application. Thus, application of the antitrust laws to specific business conduct is often uncertain and difficult. Almost invariably the business facts must be explored and analyzed on a case-by-case basis to determine the motivating circumstances and probable competitive effects. Especially would this seem difficult in applying these laws to international joint ventures. There is "little in the way of solid authority on the antitrust aspects of the situation. The relevant statutes . . . are time tested and familiar but notoriously short on specifics. The cases are even more than usual, only remotely on point." Sproul, Jr., *United States Antitrust Laws and Foreign Joint Ventures*, 54 A.B.A.J. 889 (1968). Second, this analysis is limited solely to the possible application of United States antitrust laws. Other nations, and regional associations of other nations, may have antitrust laws or regulations which may also have some effect based on the foreign participation in the arrangement. Third, this analysis is only an overview of the general problem considered. It is not intended, nor should it be interpreted, as an in-depth study of the myriad complexities and possibilities that may exist, particularly as to any specific fact situation. Finally, as a general rule only a court of law can make a definitive determination as to the applicability of the antitrust laws to a given situation.

Joint ventures can take several forms. "They may be of a temporary or permanent nature ranging from a loose ad hoc association formed for a single or limited purpose to the creation of a permanent business establishment involving capital investment of unlimited duration." Donovan, *Joint Ventures*, 43 Antitrust L.J. 563 (1974). "A joint venture . . . involves the formation of a separate and independent business entity by two or more companies who themselves remain separate; an international joint venture is one in which one or more of the parents or the joint venture is a foreign company or the joint venture is engaged in operations abroad." Spivack, *International Joint Ventures Under the Antitrust Laws*, 40 Antitrust L.J. 871 (1971).

The Justice Department has continually stated that joint ventures abroad by American companies in cooperation with foreign concerns present no antitrust problems unless "(1) participation in the joint venture is a prerequisite to competition and some American firms are arbitrarily excluded or (2) the activity of the joint venture has some substantial impact on the domestic commerce of the United States. In the latter case the enforcement authorities will judge the joint venture by the same standards applied domestically." International Trade Committee, Section of Antitrust Law of the American Bar Association, *ABA Draft Paper Re Trade or Commerce With Foreign Nations 1972*, in *Hearings on International Aspects of Antitrust Laws Before the Subcomm. on Antitrust and Monopoly of the Senate Comm. on the Judiciary*, 93d Cong., 1st & 2d Sess. (1973 & 1974), at 446, 508-509; Antitrust and Foreign Commerce, 5 Trade Reg. Rep. ¶ 50, 129, at 55, 210 (1972). "[R]egardless of the theoretical or hypothetical possibilities that . . . conduct could be found to be violative of some extended definition of American law, there is probably no policy or practical reason for an American enforcement agency or private plaintiff to attack conduct which produces no adverse effect on American or the U.S. market." Joel Davidow, Chief, Foreign Commerce Section, Antitrust Division of the Department of Justice, in a speech entitled "Antitrust and East-West Trade" and delivered on March 10, 1976.

It would seem that as a general statement the creation of an international joint venture is not illegal *per se* (although arguments can be posed that it

should be otherwise), but that either it itself may run afoul of the antitrust laws or that various ancillary agreements made in connection therewith may be in conflict with the provisions of the antitrust laws. "Their existence provides a common meeting place for the officers and directors of otherwise separate corporations, thus creating a potential forum for illegal collusion. In addition, the fact of common management provides for networks of interlocking directorates which can lead to collusive agreements such as reciprocal arrangements concerning other products. . . . Generally, therefore, it can be said that the two basic anticompetitive tendencies of joint ventures are the possibility that the partners will curb the competitive potential of the joint company, and the possibility that the partners incentive to compete *inter se* will be dampened." Comment, *Antitrust Aspects of Overseas Joint Ventures*, 5 J. of Law & Econ. Dec. 82, 87 (1970).

Usually, joint ventures are analyzed according to the standards set forth in Section 1 of the Sherman Act (15 U.S.C. § 1) that—"Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal. . . .", and Section 7 of the Clayton Act (15 U.S.C. § 18) which applies to joint ventures and prohibits the acquisition by a corporation of the whole or any part of the assets of another corporation when the effect tends to lessen competition by eliminating actual or potential competition in a section of the country between the combining firms as well as promoting excessive concentration of production in a market to a relatively few firms.

The Sherman Act only condemns those joint ventures which unreasonably restrain trade. Thus, a consortium arrangement formed for the purposes of the "Deep Seabed Hard Minerals Act" if challenged as a violation of the Sherman Act would depend upon a court's determination as to whether or not the arrangement was an unreasonable restraint of trade, either in its object or effect. It would seem that by virtue of the legislative recognition of such an entity as a proper (or necessary) vehicle to effectuate the development of the deep seabed, it might be argued that such makes the arrangement a reasonable restraint adopted for good business reasons *ipso facto*. Even in the absence of this argument being sustained, it would seem that a good argument could be made that the undertaking is reasonable because of the economic and technological demands of such a pioneering venture. Support therefore might be found in *United States v. Pan American World Airways, Inc.*, 193 F. Supp. 18 (S.D.N.Y. 1961), rev'd on other grounds, 371 U.S. 296 (1963). That case involved the collaboration of Pan American World Airways, Inc. and W. R. Grace & Company in the formation of Pan American Grace Airways, Inc. (Panagra) to engage in air transportation along the west coast of South America. Prior to the joint undertaking, Pan American was engaged in air transportation largely confined to the east coast of South America and Grace was engaged in ocean transportation along the west coast of South America. Recognizing the limited demand for air transportation along the west coast, the heavy capital investment required, and the policy of the United States Government to grant only a single overseas mail delivery contract for each individual route, and thereby to subsidize only one United States flag carrier, it was concluded by the Court that it was economically impossible for more than one airline to operate in the area. Thus, the Court treated the formation as a pioneering venture of two firms with complementary facilities. "The union of their physical and technical resources assured the maximum possibilities of success in instituting and carrying on a pioneering venture, useful to the community which did not theretofore exist" (at 32-33). See, also, Donovan, *Joint Ventures*, 43 Antitrust L.J. 563, 564-566 (1974).

It might also be asserted that there might be some legitimate reason for establishing a joint venture outside of the United States that would not necessarily justify establishing the same venture inside the country. An example might be in the following instance:

Some projects are of such magnitude and high risk that they could not be undertaken alone by even the largest American company in a given industry. Typical projects of this type are construction ventures (hydroelectric, port, tunnel and like infrastructure projects) in underdeveloped countries which are almost universally "joint ventured". With reference to such projects, there are two major problem areas: (1) management skill and know-how and (2) financing. With respect to overseas construction projects, in particular, the special management and technical skills of several

concerns are often required to put the project together and to allow it to proceed. In almost any type of major overseas project, financing quite typically turns out to be a major problem, and in politically unstable and underdeveloped countries the investment risk of the project may be so great that, in order to secure financing, two or more American companies must act in concert. This same situation can, of course, prevail domestically—for example, in missile, satellite and man-on-the-moon projects.—Sproul, Jr., *United States Antitrust Laws and Foreign Joint Ventures*, 54 A.B.A.J. 889, 892 (1968).

A joint venture may violate Section 7 of the Clayton Act (15 U.S.C. § 18) by eliminating actual or potential competition between the parents. Spivack, *International Joint Ventures Under the Antitrust Laws*, 40 Antitrust L.J. 871, 877 (1971). The lessening of competition must take place, in the words of the statute, "in any section of the country". Thus, it would seem that as long as there is no elimination of competition within the territorial United States or in imports into the United States, the Clayton Act's prohibition might not apply at all. Even if deemed to apply, arguments might be based on some of the considerations that a court would encounter to offset an antitrust challenge, to which the thrust of Sec. 17 of the "Deep Seabed Hard Minerals Act" might lend support:

The anticompetitive effect, under 15 USC § 18, of two corporations' forming of a subsidiary corporation as a joint venture is not measured solely either by the probability that both corporations would otherwise have entered the market or by the probability that one of the corporations would otherwise have entered the market. There remains for consideration the question whether the joint venture eliminated the potential competition of the corporation that might have remained at the edge of the market continually threatening to enter. In assessing the probability of a lessening of competition as a result of two corporations' joint venture in the creation of a subsidiary corporation to produce goods for a certain market, the trial court may take into account the number and power of the competitors in the relevant market, the background of their growth, the power of the joint ventures, the relationship of their lines of commerce, the competition existing between them and the power of each in dealing with the competitors of the other, the setting in which the joint venture was created, the reasons and necessities for its existence, the joint venture's line of commerce and the relationship thereof to that of its parents, the adaptability of its line of commerce to noncompetitive practices, the potential power of the joint venture in the relevant market, and appraisal of what the competition in the relevant market would have been if one of the joint venturers had entered it alone instead of through the subsidiary, the effect of the other joint venturer's competition in the event of this occurrence, and such other factors as might indicate potential risk to competition in the relevant market.—54 Am. Jur. 2d, Monopolies, Restraints of Trade, and Unfair Trade Practices § 139.

Thus, normally, an international joint venture would be illegal under the United States antitrust laws only where it involves an unreasonable restraint of existing trade, or the elimination of significant actual or potential competition. "International joint ventures may have positive, neutral or negative effects on competition. Their main advantage from the standpoint of antitrust policy is that they may reduce barriers to entry into new product and geographic markets and thereby introduce a new or a stronger competitive force into such markets, thereby increasing competition. International joint ventures may often be required if there is to be any venture at all in view of the risks and capital investment involved, the requirements of foreign laws, and the need to maintain effective public (consumer, labor, financial and business) relations abroad and effective relations with foreign governments. On the other hand, international joint ventures, like domestic ventures and domestic mergers may eliminate actual competition, eliminate potential competition, foreclose competitors from sources of supply or customers, increase reciprocity, or reduce the vigor of competition within specific markets by creating undue competitive advantage." Spivack, *International Joint Ventures Under the Antitrust Laws*, 40 Antitrust L.J. 871, 875-876 (1971). Therefore, any international joint venture, must be judged on a case-by-case basis on two levels with respect to the antitrust laws—the legality of the entity itself and the legality of any ancillary arrangements made in pursuance thereof. While the consortia provision of the Act might be

used or urged as one of the considerations to show that any restraint of trade is reasonable and that an elimination of competition is necessary (or that competition is not eliminated but rather fostered thereby), it would seem that the only legal conclusion that can be drawn from the Section is that it would allow such a joint venture to receive a development license which, in the absence of that provision, it would not be able to do since it apparently is not included within the definition of "eligible applicant" in Sec. 3(i) of the Act. While one might argue that the thrust of Sec. 17 is to establish or recognize possible commercial conduct which may substitute for normal free market forces and therefore any arrangement thereby cannot be illegal under the antitrust laws, the courts are reluctant to interpret a statute as providing some form of antitrust immunity or exemption from the operation of the antitrust laws in the absence of a clear congressional pronouncement to that effect. "[W]hen . . . relationships are governed in the first instance by business judgment and not by regulatory coercion, courts must be hesitant to conclude that Congress intended to override the fundamental national policies embodied in the antitrust laws." *Otter Tail Power Co. v. United States*, 410 U.S. 366, 374 (1973).

DEPARTMENT OF COMMERCE MARINE MINERALS ACTIVITIES

OVERVIEW

The Department of Commerce believes that the development of marine minerals will be necessary if the mineral requirements of the United States are to be met in sufficient quantities and at fair market prices. The development of marine minerals, in the Department's view, will require a two-pronged approach. First, we believe a technically capable, viable, and effective marine mining industry is needed. Second, and of equal importance, marine mineral resources should be developed in an orderly manner according to a sound and wise mineral resource management program designed both to satisfy this nation's mineral needs and protect the quality of the marine environment. Of course, any governmental assistance and regulations must be kept to the minimum necessary.

The Department of Commerce has various activities associated with the development of marine minerals. The Department of the Interior also has various activities associated with marine minerals development. The two Departments are working together to make the marine minerals activities of each Department complementary and without unnecessary duplication. In any event, the expertise of both Departments will be required, as will those of other Federal agencies.

DEPARTMENT OF COMMERCE ELEMENTS

The Department of Commerce's marine minerals activities are managed through several Departmental offices and agencies.

National Oceanic and Atmospheric Administration.—(NOAA) : NOAA responsibilities related to marine minerals development include prediction and forecasting of weather and oceanic conditions, mapping and charting, oceanographic research, marine environmental impact assessment and prediction, mineral resource assessment technology, environmental assessment technology, education related to the development of marine resources (including practices, techniques, and equipment) and imparting knowledge by instruction, practical demonstration, and publication through marine advisory programs to persons interested or employed in marine resource development related fields. An Office of Marine Minerals within NOAA coordinates these activities.

Office of Energy and Strategic Resource Policy.—(OESRP) : OESRP is responsible for the development and coordination of Departmental energy and resource policies including those related to marine minerals development. Included are responsibilities for the adequacy of supplies to the U.S. consumer at fair and reasonable prices for internationally traded raw materials including energy. International market trends are closely monitored in the formulation of trade policies.

Domestic and International Business Administration.—(DIBA) : DIBA's programs relevant to marine minerals development include close and continuing contact with the domestic mining industry regarding production, processes, consumption, and the market situation through the conduct of studies and in the conduct of extensive market research and domestic policy analysis.

Economic Development Administration.—(EDA) : Pursuant to the Public Works and Economic Development Act, EDA provides funds and assistance to State, local and regional groups for planning programs aimed at creating new

sources of income and employment. It provides technical assistance in dealing with impediments to economic progress and opportunities, including support for pilot or demonstration projects. EDA also provides funds and assistance for public works and development facilities needed for new industry and to encourage business expansion in areas of high unemployment or low income families. Business development in economically lagging areas is assisted through loans to private industry. For a designated redevelopment area, EDA funds and assistance would be available, under appropriate circumstances, to aid in the development of seabed minerals including related activities in the coastal zone.

Maritime Administration.—(MARAD): MARAD programs relevant to marine minerals development include Federal ship financing guarantees and related shoreside marine facilities or equipment; subsidy programs for ships built in American shipyards; port development; ship pollution control; development of safety standards on design and construction of special purpose vessels, such as deepsea submersibles for hard mineral exploration and production; and research and development of promising concepts which could be applied to transporting minerals from ocean sites.

National Bureau of Standards.—(NBS): Major NBS programs related to ocean minerals activities include the development of standard reference materials for calibration and quality control in water pollution measurements, new measurement techniques, chemical and physical properties of water pollutants. The National Bureau of Standards Institute of Materials Research exercises overall management supervision of these programs.

MARINE MINERAL ACTIVITIES OF DEPARTMENT OF COMMERCE ELEMENTS

The following is a summary of historical and/or ongoing marine minerals development related activities of the Department of Commerce since approximately 1970. The summary is subdivided to indicate the Departmental agency or element which performed or is performing the activity.

1. *National Oceanic and Atmospheric Administration*

A. Office of the Administrator.—The Deputy Administrator of NOAA serves on the Executive Committee of the Interagency Law of the Sea Task Force.

The Deputy Administrator of NOAA heads the Commerce delegation to meetings of the Third UN Conference on Law of the Sea.

NOAA co-sponsored the June 9-12, 1976 "National Planning Conference on the Commercial Development of the Oceans", which included a marine minerals panel.

B. Office of the Associate Administrator for Marine Resources.—Provides policy guidance and overview for all of NOAA's marine resources programs including those conducted by its Office of Marine Minerals and its Manned Underseas Science and Technology Office, and the Environmental Research Laboratories, the Office of Sea Grant, and the National Ocean Survey (1970-1976).

Convened an industrial meeting in 1972 at NOAA's Marine Mining Technology Center (MMTC) in order to review MMTC's program and help define MMTC's role and priority research areas and programs to implement this role. One of the major recommendations of this group was that NOAA sponsor a program to determine the environmental impact of deep ocean mining. The subsequent Deep Ocean Mining Environment Study (DOMES) grew out of this recommendation.

Participated in the development of a preliminary draft environmental impact statement (DEIS) for deep ocean mining (1972-1973), information from which was later incorporated into the Department of State's DEIS for the 1975 Caracas Law of the Sea Conference.

Established in 1975 an Office of Marine Minerals to serve as a focal point for NOAA's marine hard minerals activities and to implement new activities required to facilitate the orderly development of marine mineral resources in an environmentally compatible manner.

1. *Office of Marine Minerals (1975-1976)*

Sponsored a major marine minerals workshop in March 1976 in which about 80 experts from around the country participated. The workshop's objectives were:

To provide an information base of past and present marine mineral-related activities conducted through the National Sea Grant Program and by other elements of NOAA;

To encourage better communications among those directly involved in marine mineral-related activities; and

To develop information regarding the future directions of NOAA's existing programs and activities needed to further development of marine mineral resources in an environmentally safe manner.

Provides representation on the Working Group on Effects on Fisheries of Marine Sand and Gravel Extraction of the International Council for the Exploration of the Sea.

Provide background support for Law of the Sea negotiations with respect to the deep seabed by assisting in the preparation and review of position papers and providing membership on the Department's delegation to UN sponsored conferences.

Consideration and analysis of interim legislation for ocean mining.

Coordinated hard minerals panel at the National Planning Conference on the Commercial Development of the Oceans (June 1976).

Maintains close liaison with industrial firms and academic institutions which are conducting marine mineral activities or which have interests in the field.

Engaged in the conduct of studies to evaluate environmental and socio-economic impacts of onshore processing associated with deep ocean mining.

Engaged in the development of a detailed technical assessment of marine minerals technology (being performed by the National Academy of Sciences—National Research Council).

2. *Manned Undersea Science and Technology Office*

Assesses Federal agencies' requirements for the use of manned undersea facilities for the Interagency Committee on Marine Science and Engineering (ICMSE) and serves as a coordinator for the use of such facilities (1972-1976).

Co-sponsor of the French-American Mid-Ocean Undersea Study (FAMOUS) which conducted research that provides additional knowledge regarding the origins of deep ocean marine mineral resources (1974-1975).

Sponsored submersible dives on the East Coast, West Coast, and in the Straits of Florida which provide information regarding the origins and characteristics of marine mineral resources (1972-1975).

C. *Environmental Research Laboratories (ERL)*.—NOAA's ERL has been responsible for a number of research studies and related projects through the four activities under its jurisdiction. Some of this work has been carried out by ERL staff and other work has been done by contractors.

1. *Marine Minerals Technology Center/Pacific Marine Environmental Laboratory*¹

Investigated heavy mineral placer sampling techniques (ERL staff) (1970).

Developed system for real time electronic positioning and navigation at sea (Barnes, Newman—ERL staff) (1970-1971).

Investigated slurry flow in vertical pipes (Wing—ERL staff) (1970-1971).

Conducted literature search on marine mining environmental impact (Battelle Memorial Institute) (1970).

Conducted laboratory studies on effects of suspended sediments on marine organisms (Padan, Davis, and Nudi—ERL staff) (1970-1972).

Developed technique to detect self-potential field of seafloor metallic ore bodies (Corevin—University of California) (1970-1971).

Geophysical identification and classification of sea floor sediments (Barnes—ERL staff) (1970-1971).

Studied United Kingdom offshore sand and gravel mining industry (Hess—ERL staff) (1970-1971).

Conducted literature search on anchor blocks and laterally loaded piles (Keller, Duncan—University of California) (1970-1972).

Developed diver-operated seafloor sampler (Jenkins—ERL staff) (1971-1972).

Investigated effects of suspension sediment on the eastern lobster (Cobb—ERL staff) (1971-1972).

Continuing laboratory studies on effects of suspended sediments on marine estuarine organisms (Peddicor—University of California, Bodega Marine Lab) (1972-1976).

Studied manganese nodules (infrared micro-analysis) (Estep—U.S. Bureau of Mines) (1972).

Deep Ocean Mining Environmental Study (DOMES) (Subdivided as follows).

Continuing baseline studies of benthic organisms (Paul—(Lamont-Doherty Geological Observatory)) (1975-1977).

¹ Ceased operation in 1973: functions of the Center were integrated into ERL's Pacific Marine Environmental Laboratory (PMEL).

Investigating geological and geochemical properties of seafloor sediments at selected sites (Bischoff—U.S. Geological Survey) (1975–1977).

Conducted study on environmental impact of manganese nodule mining (Roels—(Lamont-Doherty Geological Observatory) and City University of New York) (1972–1975).

Studying phytoplankton and primary productivity at selected sites (El-Sayed—(Texas A&M University)) (1975–1977).

Studying of zooplankton at selected sites (Hirota—University of Hawaii) (1975–1977).

Studying nutrient chemistry at selected sites (Richards, Anderson—University of Washington) (1975–1977).

Studying suspended particulate matter at selected sites (Baker, Feely—PMEL) (1975–1977).

Plume modeling (Ichiye—Texas A&M University) (1975–1977).

Literature search involving benthic smothering (Heezen—(Lamont-Doherty Geological Observatory)) (1975).

Reviewing existing information of fishes, including eggs and larvae in and adjacent to the sites being studied in DOMES (Blackburn—Scripps Institute of Oceanography) (1975–1976).

Providing statistically sound procedures for obtaining replicate benthic samples at selected sites (Jumars—University of Washington) (1976).

Describing bottom water physical oceanography (Hayes—PMEL) (1976).

Conducting literature search for all other aspects of DOMES (Documentation Associates, Inc.) (1976).

2. *Atlantic Oceanographic and Meteorological Laboratories (AOML)*

Research into metallogenesis at dynamic plate boundaries in order to determine origins of marine mineral resources and to develop criteria to predict their occurrences, (Rona—ERL Staff) (1976).

Provides consultation on seabed resources to the Secretariat of the United Nations.

Conducts marine geological and geophysical research between North America and Africa as part of the Trans-Atlantic Geotraverse Program.

Publication of over fifty scientific papers, representative titles include: Exploration Methods of the Continental Shelf: Geology, Geophysics, Geochemistry; Manganese Crusts of the Atlantic Fracture Zone; Plate Tectonics and Mineral Resources; Rapidly Accumulating Manganese Deposits from the Median Valley of the Mid-Atlantic Ridge; and the Trans-Atlantic Geotraverse Hydrothermal Field (1970–1975).

3. *New England Offshore Mining Environmental Study (NOMES) (joint ERL activity)*

Investigated geology of test site for NOMES (Setlow—Massachusetts Department of Natural Resources) (1972–1973).

Conducted physical and chemical oceanographic investigations in Massachusetts Bay for NOMES (Ippen, Mollo-Christensen—(Massachusetts Institute of Technology)) (1972–1974).

Conducting baseline study of benthic invertebrates at test site for NOMES (Harris—University of New Hampshire) (1972–1976).

Determined spatial and temporal variability of phytoplankton in Massachusetts Bay as part of NOMES (Hess, Nelson—ERL) (1973–1975).

Mineral and chemical analysis of bottom sediments recovered during sampling at and around test site (Grant—University of New Hampshire) (1972–1974).

Determining spatial and temporal variability of phytoplankton in Massachusetts Bay (Mulligan—University of New Hampshire) (1972–1976).

D. *National Ocean Survey.*—Collection and publication of seismic, bathymetric, magnetic, and gravimetric information for the deep ocean and continental shelf as part of the Marine Geophysics Program (1970–1973).

E. *Office of Sea Grant.*—The Office of Sea Grant is responsible for the performance of work in a number of areas. This work is carried out through the various colleges and universities which are part of the Sea Grant Program. The following is a listing of Office of Sea Grant projects.

Studied hydraulic dredge spoil fate (Oregon State University) (1972–1974).

Conducted an economic evaluation of ocean mineral resource development (Mead, Sorensen—University of California) (1969).

Developing a management program for offshore mining of sand and gravel, (SUNY at Stony Brook) (1975—continuing).

Conducting an evaluation of coastal sand and gravel deposits as construction or speciality materials (Bardsdale—University of Georgia) (1975-1977).

Conducting an evaluation and economic analysis of Southern California's phosphorite and sand-gravel deposits (Fisher, Mead—California State University) (1975-1976).

Conducting marine resources legal research (Wurfel—University of North Carolina) (1970-1977).

Continuing research of the legal aspects of ocean resources exploitation (Knight—Louisiana State University) (1971-1976).

Studying Green Bay manganese (Moore—University of Wisconsin) (1968-1972).

Studying marine mineral placers (Moore—University of Wisconsin) (1969-1976).

Analyzed the geology of Delaware Bay (Kraft—University of Delaware) (1970-1971).

Conducted seismic reflection surveys of sedimentary structures of Delaware Bay (Sheridan—University of Delaware) (1970-1973).

Studied recent sediments of northeastern North Carolina estuaries determining their relation to plio-pleistocene mineral deposits and their implication upon coastal zone management (Riggs—East Carolina University) (1970-1974).

Studying manganese resources (Andrews—University of Hawaii) (1970-continuing).

Studied size analysis and heavy mineral distribution in Delaware Bay sediments (Glass—University of Delaware) (1972).

Conducted inventory of mineral resources off Chesapeake Bay (Nichols—Virginia Institute of Marine Science) (1972-1973).

Conducted assay of the marine resources of Massachusetts Bay (Lassiter—Massachusetts Institute of Technology) (1973-1974).

Studying offshore sand and gravel resources in California (Heney, Osborne—University of Southern California) (1974-1976).

Conducting an oceanographic inventory of Southern California shelf sand and gravel deposits (Fisher—University of California) (1974 continuing).

Evaluating confirming strata associated with the principle coastal Georgia aquifer (Woolsey—University of Georgia) (1975-continuing).

Assessing Western Lake Michigan sand and gravel (Meyer—University of Wisconsin) (1975-1979).

Conducted an evaluation and recovery of offshore sand resources (Moberly, Casciano, and Palmer—University of Hawaii) (1969-1975).

Analyzed the science and technology of utilizing the bottom resources of the Continental Shelf (Corell—University of New Hampshire) (1969-1975).

Conducted an undersea mineral survey of the Georgia Continental Shelf (Noakes—University of Georgia) (1970-1975).

Studied sediment and water characteristics in the Marine District Eastern Long Island (Brennan—State University College, Cortland, New York) (1971-1973).

Conducted copper survey of Lake Superior (Meyer—University of Wisconsin) (1971-1975).

Conducted geophysical investigation of potential aggregate resources in the Georgia coastal area (Harding—University of Georgia) (1972-1974).

Conducted pre-mining survey (Moore—University of Wisconsin) (1972-1975).

Studied relationship of nucleus to ore grade of marine manganese nodules (Moore—University of Wisconsin) (1972-1975).

Conducting research on metal extraction from manganese nodules (Moore—University of Wisconsin) (1975-1978).

Conducting marine lode minerals exploration (Moore—University of Wisconsin) (1975-continuing).

Conducting marine noble metal exploration (Moore—University of Wisconsin) (1975-continuing).

Developed Vibratory Marine Sediment Sampler (Harbor—University of Wisconsin) (1969-1972).

Investigated the geotechnical properties in two seafloor development demonstration areas, a fundamental research and development precursor to applied technologies (Richards, Parks—Lehigh University) (1970-1974).

Studied clean undersea mineral processing (Tiemann—University of Wisconsin) (1971-1974).

Conducting high resolution subbottom profiling (Vine—Woods Hole Oceanographic Institute) (1974-1976).

Developed an acoustic probe for ocean bottom and subbottom surveys (Dow—Woods Hole Oceanographic Institute) (1974–1975).

Studying metal extraction from manganese nodules (Chapman—University of Wisconsin) (1975—continuing).

2. *Domestic and International Business Administration/Office of Energy and Strategic Resource Policy*²

Economic Review of Law of the Sea Treaty (1973). Bureau of Resources and Trade Assistance, in collaboration with NOAA, prepared Commerce Department study on economic implication for U.S. and world markets of future production plans of U.S. companies regarding deep seabed metals.

Law of the Sea Negotiating Conferences, Caracas, Geneva, New York (1974–1975–1976). Bureau of Resources and Trade Assistance provides advice to DOC representatives on Interagency Law of the Sea Task Force, both during Washington preparations and as member of Commerce group on U.S. Delegation, on economic implications of treaty articles relating to deep seabed mining, with particular attention to their relationship to and consistency with U.S. international resource and commodity policy.

Deep Ocean Mining Environmental Study (DOMES) (1974). Bureau of Resources and Trade Assistance, in collaboration with NOAA, developed the economic justification, for the Departmental decision making and subsequent presentation to OMB, to proceed with funding of NOAA's DOMES program.

Consideration and analysis of domestic legislation to regulate deep ocean mining by persons subject to U.S. jurisdiction (1976), Office of Energy and Strategic Resource Policy, Bureau of International Economic Policy and Research, and Bureau of Domestic Commerce.

Bureau of Resources and Trade Assistance participates as part of Commerce supporting staff for the Marine Petroleum and Minerals Advisory Committee (1975–1976). Bureau of Resources and Trade Assistance and Bureau of International Economic Policy and Research prepared special study for subcommittee on existing insurance programs available for deep ocean mining ventures.

Law of the Sea Position Papers (1970–1976). Bureau of Resources and Trade Assistance regularly collaborates with NOAA in reviewing position papers prepared by other agencies.

Congressional Testimony (1970–1976). Bureau of Resources and Trade Assistance regularly collaborates with NOAA in reviewing Executive Branch testimony on proposed legislation concerning marine minerals.

Bureau of Domestic Commerce and Bureau of Resources and Trade Assistance participated in a technical study of manganese with the National Material Advisory Board's Committee on Technical Aspects of Critical and Strategic Materials.

"The Impact of Proposed New Source Performance Standards on the Nonferrous Smelting Industry, An Interagency Assessment" (U.S. Department of the Interior, U.S. Department of Commerce, and Federal Energy Administration) (July 1975).

Project Independence Availabilities, Requirements, and Constraints on Materials, Equipment, and Construction. Task Force Report under Direction of U.S. Department of Commerce (November 1974) (sections on copper and nickel).

An analysis of the Impact of Alternative Approaches to Significant Deterioration in the Nonferrous Metals Industry (Staff Study A-03-76) (Bureau of Domestic Commerce of the U.S. Department of Commerce) (May 1976).

Nonferrous Resources—"A Five-Year View" (Owens, Romagnoli—U.S. Department of Commerce) (presented to Society of Automotive Engineers, Automotive Engineering Congress and Exposition, Detroit, Michigan (February 24–28, 1975)).

An Analysis of Selected Commodities and Identification of Casual Factors Contributing to Supply Shortfalls (Arthur D. Little, Inc.) (Report to Domestic Business Policy Analysis Staff, Department of Commerce (December 20, 1974)).

Study of the Energy and Fuel Use Patterns in the Nonferrous Metals Industries (Battelle Columbus Laboratories) (report to Federal Energy Administration and Department of Commerce (December 31, 1974)).

3. *Maritime Administration*

Technology Assessment of Offshore Industry (including Ocean Mining) (BDM Corporation) (1975–1976).

² The functions and projects of the Bureau of Resources and Trade Assistance in the area of marine minerals are now within the Office of Energy and Strategic Resource Policy.

National Planning Conference on the Commercial Development of the Oceans (BDM Corporation) (1976). Hard Minerals Panel coordinated by the Office of Marine Minerals—NOAA.

4. *National Bureau of Standards*

Contingency Planning for Anticipated Technological Crises (Charles River Associates) (1975-1976).



National Institute of Standards and Technology
 (NIST) Special Publication 800-115, Hamming Error
 Detection and Correction—NOVA
 and National Institute of Standards and Technology
 Special Publication 800-115, Hamming Error
 Detection and Correction—NOVA