

THE NICETIES OF NICKEL—CANADA AND THE PRODUCTION CEILING ISSUE AT THE LAW OF THE SEA CONFERENCE

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I. BACKGROUND CONSIDERATIONS

Of the multitude of issues under current consideration at the Third United Nations Law of the Sea Conference (UNCLOS), the provisions on the legal regime to govern seabed mining are by far the most complex.¹ Not only are the seabed provisions complex in a technical and legal sense, but because of the issues with which they deal, they also raise political considerations that have tended to divide participating states into distinct interest groups which often pursue conflicting objectives. Among the seabed issues, the provision respecting the limitation or ceiling to be applied to the production of nickel from manganese nodules² perhaps best illustrates the legal and technical complexity of the seabed discussions, as well as the extent of "politicization" of the issues which has enveloped UNCLOS negotiations over the years.

The legal and technical complexity of the production ceiling problem will be discussed below. Its political aspects are more easily understood. The issue of the production ceiling formula on seabed

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1. The provisions on the international seabed area (i.e. "the seabed and ocean floor there of beyond the limits of national jurisdiction.") are found in Part XI of the Informal Composite Negotiating Text, 32 U.N. GAOR, Third Conference on the Law of the Sea, U.N. Doc. A/CONF.62/WP.10, reprinted in 16 INT'L LEGAL MAT'LS 1108 (1977) [hereinafter cited as ICNT], which remains the basic working document of UNCLOS. The central feature of Part XI is the establishment of an International Seabed Authority which under Article 151 is responsible for carrying out activities in the international seabed area, either (a) by the International Enterprise (the commercial arm of the Authority) or (b) by states or corporations in association with the Authority. This is the so-called "parallel system" of access to the seabed area, representing an important move toward consensus at the Conference between industrialized states and the developing countries.

2. The Authority is given the duty to limit production of minerals from the Area during a stated period of years in accordance with a complex formula, ICNT, *supra* note 1, art. 150(1)(g)(B).

nickel and other minerals has brought forth differing objectives of major mineral consumer and importer interests vis a vis producer and exporter interests at UNCLOS. The importer-exporter dichotomy has helped characterize this issue as a difference between perceived interests of the highly industrialized states and those of the developing countries, giving the seabed negotiations a "north-south" colouration.

In truth, this confrontation is exaggerated. As often happens during international negotiations, the ideology inherent in one or another cause acquires a force of its own, independent of the intrinsic merits of the issue under discussion. This often results in particular opposing camps becoming entrenched in their ideology. As arguments in support of respective positions become more sophisticated, opposition grows at the expense of reasonable solution. This, it is submitted, has occurred in the case of production ceilings. The issue has acquired an ideological colouration which extends beyond direct questions at hand. It is hoped that dispassionate analysis, calm deliberation and an avoidance of rhetoric at forthcoming UNCLOS negotiations will help pave the way toward reasonable legal, technical and political solutions which will resolve this thorny problem.

In reality, the production ceiling issue transcends ideological camps. While the tendency is to subsume this matter within the broad categorization of a "north-south" issue, in truth there are producers and exporters of minerals who have taken a position on this issue which may be at odds with the interests of consuming states and their corporations and who are not developing countries in the strict sense. These countries include: Canada, Greece, Australia, the U.S.S.R. and New Caledonia, a colony of France.³ The production ceiling issue then cannot be categorized as a "north-south" question: it is multi-faceted.

As a starting point for the consideration of the production ceiling issue, it is important to survey the matter in relation to the Law of the Sea (LOS) negotiations as a whole, keeping in mind that UNCLOS is a creature of the United Nations General Assembly,

3. In 1974, out of a total world mine production of 734,700 metric tons, Canada produced 271,800 metric tons; the U.S.S.R., 120,000 metric tons; Greece, 15,100 metric tons; Australia, 41,500 metric tons; and New Caledonia, 136,825 metric tons. Canadian Department of Energy, Mines and Resources, *Nickel: Mineral Policy Series*, MR/157 (1976) [hereinafter cited as *Nickel*].

pursuant to Resolution 2750 C (XXV) of December 17, 1970.⁴ By that Resolution, the General Assembly decided to convene a diplomatic conference on the Law of the Sea in 1973,

which would deal with the establishment of an *equitable* international regime—including an international machinery—for the area and the resources of the seabed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, a precise definition of the area, and a broad range of related issues.⁵

Resolution 2750 C (XXV) of December 17, 1970 sets the tone for UNCLOS negotiations. The broad focus was to be, and remains, the establishment of an *equitable* international regime for the international seabed area and for seabed resources.

The creation of an equitable international regime for seabed mining and concern over seabed resources are at the very core of the UNCLOS. Going back to the beginning, the first General Assembly resolution in the long history of LOS-related resolutions, Resolution 2340 (XXII) of December 18, 1967,⁶ established the Ad Hoc Committee on the Sea-Bed in 1967 to examine, inter alia, the practical means of promoting international cooperation use of seabed resources. It recognized both the need to ensure that exploration and use of the seabed "should be conducted . . . in the interest of maintaining international peace and security and for the benefit of all mankind," as well as the importance of preserving the seabed and subsoil from actions which might be detrimental to the common interests of mankind.⁷

The importance of international cooperation in the exploration and exploitation of the seabed resources and of economic implications of such activity for the world at large was further recognized

4. G.A. Res. 2750 C, 25 U.N. GAOR, Supp. (No. 28) 26, U.N.Doc. A/8028 (1970), reprinted in XIII DJONOVICH, UNITED NATIONS RESOLUTIONS 241 (1976).

5. *Id.* at 246.

6. G.A. Res. 2340, 22 U.N. GAOR, Supp. (No. 16) 14, U.N.Doc A/6716 (1967), reprinted in XI DJONOVICH, *supra* note 4, at 254.

7. The establishment of the Ad Hoc Committee on the Sea-Bed by General Assembly Resolution 2340 (XXII) originated as a result of a request made by the Government of Malta to include on the agenda of the 22nd General Assembly in 1967 an item on the peaceful use of the seabed and ocean floor beyond the limits of national jurisdiction and the resources thereof. Besides the concern of the Government of Malta over national appropriation and militarization of the seabed, the Maltese note verbale to the United Nations Secretary-General also referred to the need to declare the seabed "a common heritage of mankind" and to ensure that exploitation of the resources thereof be undertaken with the aim of safeguarding the interests of mankind. Permanent Mission of Malta to the U.N. Secretary-General: Note Verbale, 22 GENERAL ASSEMBLY PLENARY, U.N.Doc. A/6695 (1967).

the following year by General Assembly Resolution 2467 (XXIII) of December 21, 1968,⁸ which converted the Ad Hoc Committee into the permanent Seabed Committee of the General Assembly.⁹ Subsequent General Assembly resolutions continued to pay heed to the importance of ensuring that exploitation of the resources of the seabed was undertaken on the basis of international cooperation for the benefit of mankind as a whole. One particular resolution, Resolution 2574 D (XXIV) of December 15, 1969,¹⁰ even went so far as to declare that, pending the establishment of an international regime to govern seabed exploration and exploitation, "states and persons, physical or juridical, are bound to refrain from all activities of exploitation of the resources of the area of the seabed and ocean floor beyond the limits of national jurisdiction."¹¹ This was the so-called "moratorium resolution." It was voted against by most of the industrialized countries, including Canada,¹² on the ground that the General Assembly had no legal right to impose such moratorium.

The apogee of General Assembly involvement in the history of UNCLOS, and perhaps the most important set of propositions offering guidance to the work of its predecessor bodies, as well as the Conference itself, came the following year with the adoption by the 25th General Assembly, without recorded vote, of the so-called Declaration of Principles Governing the Sea-Bed and the Ocean Floor and the Subsoil thereof, Beyond the Limits of National Jurisdiction, Resolution 2749 (XXV) of December 17, 1970.¹³

Resolution 2749 (XXV) was adopted without a recorded vote by

8. G.A. Res. 2467, 23 U.N. GAOR, Supp. (No. 18) 15, U.N.Doc. A/7218 (1969), reprinted in *XII DJONOVICH*, supra note 4, at 129.

9. Its full title was to be Committee on the Peaceful Uses of the Seabed and Ocean Floor Beyond the Limits of National Jurisdiction.

10. G.A. Res. 2574D, 24 U.N. GAOR, Supp. (No. 30) 11, U.N.Doc. A/7630 (1970), reprinted in *XII DJONOVICH*, supra note 4, at 221.

11. *Id.* at 225.

12. Department of External Affairs: Report of the Canadian Delegation to the Twenty-fourth Session of the General Assembly. 33 (1969). The resolution was tabled by Mexico. Its supporters recognized that although it could have no legal binding effect, it would prevent national legislation prejudiced to the solution of issues currently pending before the Seabed Committee. Canada opposed the Resolution, inter alia, on the grounds that the General Assembly had no right to impose such a moratorium.

Together with Canada, Australia, Austria, Belgium, Bulgaria, Byelorussia S.S.R., Czechoslovakia, Denmark, France, Ghana, Hungary, Iceland, Italy, Japan, Luxembourg, Malta, Mongolia, Netherlands, New Zealand, Norway, Poland, Portugal, South Africa, Ukrainian S.S.R., the U.S.S.R., the United Kingdom and the United States voted against Resolution 2574 D (XXIV).

13. G.A. Res. 2749, 25 U.N. GAOR, Supp. (No. 28) 24, U.N.Doc. A/8028 (1970), reprinted in *XIII DJONOVICH*, supra note 4, at 240 [hereinafter cited as Res. 2749].

108 votes to none, with 14 absentions.¹⁴ Politically, it can be characterized as a consensus document—at least insofar as it was not specifically disapproved of by a large number of participating states voting against it. Of course, this does not mean that states bind themselves to its contents or guide their conduct thereby. As was the case with the “moratorium resolution,” all General Assembly resolutions lack legally binding force. Nothing in the United Nations Charter confers such capacity on the General Assembly, nor was it conceived of as a normative body. It remains a recommendatory body only.¹⁵

Nonetheless, it is important to bear in mind the various General Assembly resolutions pertaining to UNCLOS in order to arrive at a clear picture of the global context of the UNCLOS negotiations and the political factors which have influenced their origin and development. This in turn assists in understanding the whole production ceiling issue and its interrelationship with other issues of world trade and development, and of the particular concerns of the developing countries.

Regardless of its lack of legally binding force and effect, one of the paragraphs of the Declaration of Principles referred to above, is important as a political statement in the context of the present discussion. Paragraph 9 provides as follows:

On the basis of the principles of this Declaration, an international regime applying to the area and its resources and including appropriate international machinery to give effect to its provisions shall be established by an international treaty of a universal character, generally agreed upon. The regime shall, *inter alia*, provide for the orderly and safe development and rational management of the area and its resources and for expanding opportunities in the use thereof and ensure the equitable sharing by States in the benefits derived therefrom, taking into particular consideration the interests and needs of the developing countries, whether land-locked or coastal.¹⁶

The important point here is reference to “orderly and safe development and rational management of the [international seabed] area and its resources.”¹⁷ This element is of vital significance to land-

14. *Id.* at 242.

15. Articles 10 and 11 of the United Nations Charter refer only to the power of the General Assembly to make recommendations to member states or to the Security Council. The Security Council on the other hand, can decide on measures to be taken by member states when acting within the scope of its powers under chapter VII of the Charter.

16. Res. 2479, *supra* note 13.

17. *id.*

based producers of those minerals also found on the seabed, such as Canada. Paragraph 9 recognizes the need to also allow expanding opportunities in the use of seabed resources, but in the context of the entire paragraph, these interests are balanced against those of "orderly, safe and rational development of the resources of the area."¹⁸ This latter reference is of vital significance to land-based producers of minerals found on the seabed.

It has been suggested that the resources of the seabed beyond the limits of national jurisdiction are open to all states to exploit on the basis of the customary law principle of freedom of the high seas, enshrined in the 1958 Convention on the High Seas.¹⁹ This view seems questionable. While freedom of all states to navigate the high seas and to utilize the fisheries resources thereof has developed as part of customary international law based on concepts of *res communis*—the high seas constituting common property of all nations—it is difficult to extend this concept to the matter of the exploitation of seabed resources. The central fact in the historical development of the notion of freedom of the high seas in customary law was, and continues to be, the recognition of the rights of all states to navigate freely on the world's oceans. The ocean was viewed as the conduit for world trade.²⁰ Freedom of the high seas, therefore, as a legal doctrine, referred to freedom of unhampered use of the water column. Fish, found within the water column was an ancillary element in freedom of the high seas. The legal distinction then between the water column, the use of which was the central consideration in the development of customary law, and the seabed or the resources of the seabed, is essential. It may be that freedom of use of and access to the seabed and the resources thereof beyond national jurisdiction is permissible under other principles of inter-

18. *id.*

19. Convention on the High Seas, done April 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82 (effective Sept. 30, 1962). For example, H.R. 3350, 95 Cong., 2d Sess. 2 (1978) states: "deep seabed mining is a freedom of the high seas, subject to a duty of reasonable regard to the interests of other states in their exercise of that and other freedoms recognized by general principles of international law." Of course, nothing done or declared by municipal legislatures can of itself alter the law of nations.

20. GROTIUS, MARE LIBERUM 22-44 (Magoffin trans. 1916). The MARE LIBERUM was written to refute Portuguese claims to exclusive sovereignty over areas of the high seas, enunciating the view which has for centuries following been part of the law of nations: that navigation of the seas is free for all nations. The sea being common property, it cannot be reduced to the possession of any single person or any nation. Fishing, as well, remains open to all. While certain inlets along the shore may be fenced off to make a private fishery, Grotius rejects the notion that on the high seas any persons or any nation could attempt to appropriate an area of a fishery to himself for his use exclusively.

national law, but such use and access, founded upon the doctrine of freedom of navigation of the high seas, is not supportable in *opinio juris* or in precedent.

Moreover, there is a further distinction between acquisition of living, renewable resources, such as fish as a justified type of high seas activity, and the exploitation of a mineral resource, such as those in manganese nodules which, once taken, are virtually gone forever. Nodules are not a renewable resource, unlike fish. Finally, unlike fishing activities, nodule recovery presupposes some right to maintain a degree of *de facto* exclusivity with respect to a physical area of the seabed.²¹ This notion seems to be at odds with the very concept of the freedom of the high seas, based as it is on the principle of *res communis* rather than any type of exclusivity of use or conduct. Thus, it is clear that the historic development of the concept of freedom of the high seas did not include within its ambit such nonnavigational activities as seabed exploitation: the law can only be stretched to certain limits to embrace new issues and problems which were nonexistent during its period of development.

The lack of certainty over the law on this subject points to the need for an agreed set of international rules to regulate seabed activity and, more directly, to aid in avoiding conflicts that will inevitably arise in pursuit of this activity by corporations and by states with competing economic objectives. In reaching agreement on these rules, account must be taken of the essential interests of all states, producers and consumers, exporters and importers, industrialized and developing. LOS negotiations in this regard then become *ex necessitate*, both a rule-making exercise as well as a political balancing exercise.

21. Letter from the President of Deepsea Ventures, Inc. (a major seabed mining consortium), to the U.S. Secretary of State (November 14, 1974), purporting to claim a portion of the seabed and its resources for the consortium, said, in part, that the company had "discovered and taken possession of" a deposit of seabed manganese nodules. While disclaiming any "territorial claim," the letter stated that the company "asserts the *exclusive rights* to develop, evaluate and mine the deposit and to take, use and sell all of the Manganese nodules in, and the minerals derived, therefrom" (emphasis added.) By purporting to file the so-called claim, Deepsea requested the U.S. Government to recognize its "title" to the said deposit. Deepsea sent a similar letter. Letter from Deepsea Ventures, Inc. to Canadian Government (Oct. 15, 1974). Deepsea Venture was told in a reply, that the Canadian Government does not accept the assertion by Deepsea Ventures, Inc. that it has exclusive mining rights or some priority in time over that portion of the international seabed area as described in the notice to the Secretary of State, or that it has acquired any rights to that area or the resources thereof through its activities. Letter from Canadian Government to Deepsea Ventures, Inc. (Dec. 6, 1974).

II. CANADIAN INTERESTS AND OBJECTIVES

It is in this context that an examination of Canada's approach to the issue of ceilings on the production of seabed resources can be made. Canada is the world's largest producer and exporter of nickel.²² Together with other participating states at UNCLOS, Canada is cognizant of the tremendous benefits that could accrue to mankind from the development of a hitherto unknown source of mineral wealth, but Canada also appreciates the dangers which seabed production can pose to established commercial patterns of land-based production.

It must be emphasized that Canada does not fear and never has feared direct, open-market competition of seabed nickel with land-based production. At present, the Canadian nickel industry is the most efficient in the world and all expectations are that it will continue to be so.²³ What concerns Canada and other existing and potential land-based producers of nickel—and other minerals also found on the seabed—is the real possibility of non-competitive factors disrupting the open market in international trade in nickel.²⁴

22. Address by Mr. J.P. Drolet, presented to the Canadian Institute of Mining and Metallurgy (October 19, 1978), entitled *Deep Seabed Mining: A Canadian Perspective in relation to the Nickel Industry* [hereinafter cited as *Deep Seabed Mining*]. In 1977, Canadian nickel production was 235,362 metric tons (compared with 271,800 metric tons in 1974, see Nickel *supra* note 3), accounting for approximately 32% of world production.

23. See Nickel *supra* note 3, at 1-2, 14-19. Canada's nickel comes exclusively from sulphide deposits. While laterite deposits, such as those currently being developed in Indonesia and Guatemala, occur at or near the surface and can be mined more cheaply than sulphide deposits, the nickeliferous minerals in laterite areas cannot be concentrated as they can in sulphide areas. Therefore, the whole laterite ore must be treated, resulting in high costs for extractive metallurgy. In 1975 dollar terms, the capital costs of new major nickel projects translated into costs per pound of annual nickel capacity is approaching \$9.00, compared to \$1.40 for Inco's Copper Cliff operation in Sudburg. Inco Limited, a Canadian Company, is the world's largest nickel producer, holding a dominance in the world market and setting world nickel prices.

24. The following was part of a statement by Alfred P. Stratham, Vice President, Inco United States Inc., before the U.S. House of Representatives International Relations Committee, Subcommittee on International Organizations and the Subcommittee on International Economic Policy and Trade, on January 24, 1978:

[T]he cost of producing nickel in these existing [Canadian] operations will be lower than the cost of producing nickel in the foreseeable future from sea nodules. Although we will not know this with certainty until we have actual experience in ocean mining, our first estimates and projections suggest this will be the case. Under such conditions, sea nodules do not present a competitive threat to the existing production capacity of Inco. Only if ocean mining is subsidized by nations seeking independent sources of metals contained in nodules, or given some other form of artificial advantage over land-based production, will Inco's existing investments be jeopardized.

In view of Canada and other land-based producers of minerals, it is impossible to forecast with a necessary degree of assurance that countries presently importing large quantities of nickel will not at some future point take steps to promote, by non-competitive means, seabed production of nickel by their nationals. Given that seabed production will be deemed domestic production, national policies could easily be directed to measures aimed at promoting additional—or what is perceived as safer—sources of supply of nickel or other major seabed minerals—copper, cobalt and manganese—at the expense of traditional suppliers. Such measures which would make foreign access to the domestic market more difficult, could include direct or indirect subsidies, or tariff or non-tariff protection, such as quotas and other import restrictions. These measures, while enhancing the investment prospects of national seabed mining corporations, would seriously interfere with market forces, to the prejudice of the export markets of land-based producers. In order to limit or at least reduce the possibilities of such an eventuality, Canada, after considerable analysis, decided to support the concept of production limitations on seabed nickel.

An examination of the General Agreement on Tariffs and Trade (GATT)²⁵ discloses no effective prevention or remedy against direct or indirect subsidization of seabed nickel by other importing states. The GATT provides a multilateral framework to ensure against undue protection being accorded domestic production and to reduce trade barriers affecting imports. With respect to tariffs, however, the GATT fails to impose any limitation of the level of imposition of tariffs on particular products, provided it is done on a most favored nation basis.²⁶ Canada would be able to have recourse to the remedial provisions of Article XXIII of the GATT because tariffs on nickel and nickel products of the kind exported by Canada are bound under GATT with most of Canada's major trading partners.

More importantly, even with duties on nickel universally bound, the real problem of non-tariff barriers or other forms of pro-

Hearings to Consider H.R. 3350, The Deep Seabed Hard Minerals Resources Act, Before the Subcomm. on International Organizations and the Subcomm. on International Economic Policy and Trade, 95th Cong., 2d Sess. 67 (1978) (statement by Alfred P. Statham).

25. General Agreement on Trade and Tariffs, done Oct. 30, 1947, 61 Stat.A3 (1948), T.I.A.S. No. 1700, 55 U.N.T.S. 187 (effective Jan. 1, 1948). See also *The Contracting Parties to the General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents* (1969), [hereinafter cited as Contracting Parties] reprinted in K. W. DAM, *THE GATT: LAW AND INTERNATIONAL ECONOMIC ORGANIZATION*, 391-468 (1970).

26. *Id.* at art. I, reprinted at 392.

tection continue to exist. In the case of production subsidies by a contracting party accorded to its national seabed mining corporations, the effect of which is to reduce imports of nickel into the territory of that contracting party causing serious prejudice to the interests of the other party, Article XVI of the GATT does little more than provide for a notification and consultative process aimed at limiting the subsidization. It does not prohibit such subsidies. Ultimately, Canada could take steps under GATT Article XXIII if it were of the view that it was facing nullification or impairment of a benefit accruing under the GATT. This would involve bilateral consultations leading to consultations among GATT contracting parties which may result ultimately in authorization by the contracting parties to withdraw concessions, a rare and rather extreme remedy, and one which may result in little satisfaction to the injured state.²⁷

Moreover, while imports are suppose to be accorded treatment no less favorable than that accorded to "like products of national origin," under Article III (4), this treatment is limited to sales taxes and similar measures.²⁸ Article III (4) is also qualified by Article III(8)(b) which sanctions the payment of subsidies exclusively to domestic producers.²⁹ Furthermore, because of the nature of the trade in nickel,³⁰ countervailing duties in the event of foreign subsidies would be of little use in Canada's case. As to the possibility of quantitative restrictions and quotas, the basic GATT rule appears to impose a straight prohibition against employment of this technique, but the general rule is subject to considerable exceptions,

27. In case of nullification or impairment of any benefit accruing under the GATT, where differences cannot be resolved by informal means between the parties, the matter may be referred to the Contracting Parties who, ultimately, may authorize a contracting party or parties to suspend the application to any other contracting party or parties of such concessions or obligations under (the) Agreement as they determine appropriate in the circumstances. However, while the retaliatory withdrawal of a tariff concession imposes a deterrent on the guilty party, such a withdrawal does not necessarily accord the injured party a comparable benefit since the consumers of that country have to pay more for the items on which the retaliation occurs. *Id.* at art. XXIII, reprinted at 429-30.

28. Contracting Parties, *supra* note 25 at art. III, reprinted at 396.

29. Contracting Parties, *supra* note 25, at art. III(8)(b) reprinted at 397, reads: "The provisions of the Article [respecting internal taxes and other internal changes, etc. affecting internal sale, etc. not affording protection to domestic production] shall not prevent the payment of subsidies exclusively to domestic producers. . . ."

30. Nickel *supra* note 3 app. at 1. In Canada's case, trade in nickel is almost entirely one way. Virtually all of Canadian production is exported. In 1977, out of a total of production of \$1.2 billion, exports were valued at \$975 million and imports at \$115 million.

particularly under the guise of balance of payments justification.³¹

The new subsidies code which has been concluded in the soon-to-be-completed multilateral trade negotiations in Geneva, strengthens the notification process in respect to subsidies under Article XVI and accords any GATT party the right to request information on "the nature and extent of any subsidy practice of another signatory."³² Whenever a signatory has reason to believe that *any subsidy* is being granted or maintained by another signatory which causes injury to its domestic industry, nullification or impairment of GATT benefits, or "serious prejudice to its interests," such party may request consultations with the other party. If a dispute related to the maintenance of domestic production subsidies is not resolved by consultations, the aggrieved party may invoke a procedure for conciliation.

Thus, there may be some comfort for land-based mineral producing states, such as Canada, in the new GATT subsidies code, as it provides limited recourse for injury brought about through seabed mining subsidization policies by consuming states. However, it must be stressed that while the new code expressly prevents export subsidies, with respect to subsidies other than export subsidies, the code provides that signatories, "do not intend to restrict the right of signatories to use such subsidies to achieve (social and economic) and other important policy objectives which they consider desirable."³³ Furthermore, the new code recognizes that none of the stated objectives with respect to non-export subsidies creates any basis for action to limit such subsidization as a result of serious prejudice under Article XVI, nor any basis for action on the grounds of nullification or impairment of a GATT benefit under Article XXIII. This provides little security to states whose production and markets can be threatened or disrupted by seabed production subsidies.

During the course of internal consideration and analysis by Canada of what was soon to emerge as one of the most difficult and complex problems at UNCTAD, a public proposal was made on behalf of the United States by former Secretary of State, Henry Kissinger. In a speech in New York on April 8, 1976, Mr. Kissinger said:

31. Contracting Parties, *supra* note 25, art. XII, at 408-11. Article XII generally gives any contracting party the right to restrict the quantity or value of merchandise permitted to be imported "in order to safeguard its external financial position and its balance of payments." *Id.*, art. XII, para 1.

32. U.N.Doc MTN/NTM/W/210.

33. *Id.*

The United States is prepared to accept a temporary limitation, for a 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.³⁴

This statement of policy appeared, on its face, to coincide broadly with Canadian objectives. However, realities of UNCLOS machinations were soon to prove otherwise.

III. PRODUCTION CONTROLS IN REVISED SINGLE NEGOTIATING TEXT (MAY 6, 1976)

As stated above, the production ceiling issue is legally and technically complex. As an aid in comprehension and analysis, it is useful to consider the mechanisms of each of the following proposals for a formula for production ceilings in terms of: (1) the starting point of the interim or ceiling period; (2) the termination point for the period; (3) the proportion of the growth segment for which seabed mineral production can compete; (4) the nature and effect of any initial "build-up" period in the formula; and (5) the means of calculating the projections for growth of the world nickel market, upon which the growth segment, and hence the formula, is based.

The first textual reflection of a production ceiling or control formula was found in the Revised Single Negotiating Text (RSNT)³⁵ which resulted from the 4th UNCLOS session in May, 1976. This provision was the product of informal consultations among the number of delegations, not including the Canadian delegation or, as it generally conceded, many of the important land-based mineral producers which have a major economic interest at stake in this issue. In short, the RSNT formula arose out of the fluidity of corridor discussions and was slipped into the text. The chairman of the First Committee, in his report to the Conference, fully admitted the need to further consider certain important aspects of this matter, in particular, the method used in the formula for computation of the cumulative growth segment as well as the projected rate of increase

34. Address by Henry Kissinger, entitled *The Law of the Sea: A Test of International Cooperation* presented in New York City (April 8, 1976).

35. Revised Single Negotiating Text, 31 U.N. GAOR, Third Conference on the Law of the Sea (4th Sess.), U.N. Doc. A/Conf.62/WP.8/Rev. 1/Part I (1976) [hereinafter cited as RSNT].

for annual consumption of nickel.³⁶

The striking feature of the RSNT production "limitation" formula was its hidden complexity. Indeed, because of the complex nature of this matter it was the view of many participating states at UNCLOS that inclusion of such a formula in the RSNT, at least without full and adequate discussion in the appropriate committee of the Conference, was inadvisable. This factor, in combination with a number of technical inaccuracies in the formula itself, compelled Canada along with a number of other important land-based mineral producers, to insist that this matter be discussed in full and in the open during future sessions of the Conference. Canada eventually produced its own formula, discussed below.

The RSNT formula, which is found in Article 9, paragraph 4, of the RSNT, provides for the following:

1. The International Seabed Authority is to limit total production of nickel in the international seabed area during an interim period of *twenty years beginning on January 1, 1980* so as not to exceed a target described as "the projected cumulative growth segment" of the nickel market during that twenty year period;
2. The cumulative growth segment shall be computed (in accordance with paragraph 21, Annex I, Part I of the RSNT) on the basis of an annual rate of increase from a base amount, the base being the *highest annual world demand level during the three year period immediately preceding January 1, 1980*;
3. The rate of increase in world nickel demand projected for the interim period beginning January 1, 1980, shall be fixed at an "average annual rate of increase in world demand during the twenty year period immediately prior to the entry into force" of the Treaty but, most importantly,
4. *The computed rate of increase shall be at least—or no less than—6% per annum.*³⁷

It is fair to say that what concerned Canada the most about the proposed formula was the latter provision which computed rate of increase in world demand during the twenty year control period to be *at least—or no less than—six percent per annum*. While it had been argued that six percent represented a reasonable prediction of annual rates of increase of world nickel demand, Canadian and

36. *Id.* at 6-7.

37. See, Economic Implication of Sea-Bed Mineral Development in the International Area, 30 U.N. GAOR, Third Conference on the Law of the Sea 5, U.N. Doc. A/Conf.62/25 (1975) [hereinafter cited as Economic Implications], wherein a minimum six percent per annum long-term growth rate is assumed, although not expressly mentioned.

other experts predicted a much lower average annual rate of increase in the medium term.³⁸ If these lower predictions were born out, the effect of the RSNT formula would be that no production ceilings would be operative. The Authority was bound by the provision requiring that production not exceed the projected cumulative growth segment during the interim period, and the projected cumulative growth segment, the basis for the ceiling on nickel, could not be less than six percent increase per annum. Therefore, the so-called ceiling would have no operative effect where actual nickel production fell below six percent in a given year. In effect, the RSNT formula was a *floor* and not a ceiling, guaranteeing seabed nickel production a potential per annum growth rate of six percent, regardless of actual world nickel production. It cast in stone Mr. Kissinger's apparent use of the six percent figure as a guideline.

Events have shown recently that Canada was correct in its projection. Indeed, today Canada and the rest of the world are witnessing annual rates of increase in world nickel demand which are considerably less than six percent.³⁹

It is obvious that a production ceiling formula which geared the application of the ceiling by the Authority to an arbitrary annual rate of increase in world demand fixed for the duration of the interim period at six percent was, in effect, an illusory formula. The net operational effect amounted to no production ceiling at all. World growth was by all reasonable accounts considerably less than six percent over the twenty year period during which the ceiling was applied, and, to return to the point made above, if national governments chose to influence open market forces as a matter of policy, the fact that actual demand might increase less than six percent per annum would be irrelevant.

IV. THE CANADIAN PROPOSAL

In view of this defect in the RSNT formula, Canadian experts derived their own informal counterproposal and it floated privately

38. *Id.*, app. at 2. Since 1974, world nickel production has exceeded consumption. Over-supply has caused a build-up of producer inventories that have climbed to a record high of over 800 million pounds. In the past three years (1975-1978) world nickel production has averaged about 560,000 tons a year while demand has averaged about 13% below the supply level.

39. Some sources estimate that world nickel consumption growth should average at best between three and four percent a year through 1985. Ontario Ministry of Natural Resources, Towards a Nickel Policy for the Province of Ontario, Mineral Policy Background Paper No. 4 (Dec. 1977).

immediately after the RSNT became public during the latter days of the 4th UNCLOS session in May, 1976. They continued to do so during the 5th UNCLOS session in the summer of 1976. The Canadian proposal attempted to cure two important and elemental defects in the RSNT. First it tied the application of the ceiling to a portion of the *actual* annual increase in world nickel demand over a given prior period, rather than utilizing an arbitrary fixed figure with provisions for periodic updating. Secondly, it tied the interim, or control period, to the actual commencement of commercial production from the area. These two new conceptual elements are now enshrined in the new Canadian-U.S. proposal which was subsequently tabled at the 7th UNCLOS session, and which is discussed below. The Canadian counter-proposal reads in simple terms as follows:

During each of the first five years of commercial production in the Area, the Authority shall not allow the increase in production of nickel in the Area to exceed the actual average annual increase in world demand for that metal during the ten year period immediately prior to commencement of commercial production in the Area.

During each of the twenty years following the first five years of commercial production in the Area, the Authority shall not allow the increase in production in the Area, the Authority shall not allow the increase in production of nickel in the Area to exceed one-half of the actual increase in world demand for that metal taken as the average annual increase in world demand during the immediately preceding ten year period, to be computed at five year intervals.⁴⁰

The Canadian counter-proposal was considered acceptable to a large number of other land-based producers of minerals also found on the seabed, including non-nickel producing countries, because of its logic and simplicity. Many of the elements therein were subsequently adopted by the Group of 77 in their own formulation which was tabled later during the 5th session.⁴¹ However, the Group of 77

40. Informal Proposed by Canada, The Proposed Canadian Formulation, circulated by Canada during the 5th UNCLOS Session, August-September 1976.

41. Report of Group of 77 Task Force on First Committee Matters, (Sept. 10, 1976). The production ceiling formula in Article 9 as drafted by the Group of 77 reads as follows:

[t]he Authority shall, in order to regulate total production of each mineral from the Area, ensure that the annual production from the Area of those minerals in a single year shall not exceed one half of the average annual increase in world consumption of the mineral concerned during the preceding 10 years for which the most recent date on consumption are available; provided, however, that in order to regulate total production of minerals from nodules in the Area, the Authority shall limit the rate of recovery of nodules so as to ensure that annual production of nickel metal from the Area in a single year shall not exceed one half of the average annual increase in consumption of nickel during the preceding 10 years. . . .

proposal was at variance with the Canadian proposal in two respects: it eliminated the five year "build-up" period of the Canadian formula, and it placed a ceiling not on nickel as the key element in nodule recovery, but rather attempted to limited production of *all* minerals from seabed nodules. This latter element would be extremely difficult to implement on a practical basis, unless the International Seabed Authority was given a considerable degree of jurisdiction over downstream operations taking place within national jurisdiction.

V. NEW DEVELOPMENTS: THE ICNT FORMULA (JULY 1977)

At informal consultations held under the chairmanship of Norwegian Law of the Sea Minister, Jens Evensen, in Geneva in February 1977, Canada stated its dissatisfaction with the RSNT production ceiling formula and was joined in this regard by a number of other land-based producers.⁴² Similar concerns were expressed by Canada and other delegations during the course of the Sixth UNCLOS session later that year.⁴³ Stimulated by these concerns, informal consultations and formal conference debate led to the development of a revised production ceiling formula which was drafted by the chairman of Committee I at UNCLOS (the committee which deals with seabed issues) and included in Article 150 of the Informal Composite Negotiating Text⁴⁴ which emerged from the 6th session of UNCLOS. The ICNT production ceiling formula adopts a number of important concepts which had been proposed both by Canada and by the developing countries in their respective counter-proposals. Most importantly, the ICNT formula sets aside the fixed and arbitrary rate of annual increase in world nickel demand which was contained in the RSNT formula. Instead, the ICNT provides for the calculation of the cumulative growth segment of world nickel demand during the interim period on the basis of projected annual increases in world nickel demand calculated according to data based upon actual experience and adjusted periodically. To be more precise, the ICNT formula does the following:

1. It provides for limitations of production from seabed sources during an "interim period" beginning on January 1, 1980, the same point in time used in the RSNT formula. However, unlike the RSNT

42. Based on author's personal experience.

43. Based on author's personal experience.

44. ICNT, *supra* note 1.

and Canadian formula, the ICNT formula does not provide for termination of the interim period after twenty years. Rather it provides for termination of the interim period "on the day when new commodity arrangements or agreements covering seabed minerals . . . in which all affected parties participate, enter into force."⁴⁵

2. For a seven year period beginning January 1, 1980, the ceiling imposed by the Authority on the production of minerals from nodules is not to exceed the *total* projected cumulative growth segment of world nickel demand; after first seven years of the interim period, total production from the area would be set so as not to exceed 60% of the cumulative growth segment of world demand.⁴⁶

3. The cumulative growth segment of the world nickel demand is to be projected by applying a rate of increase calculated on the basis of a twenty year regression prior to January 1, 1980 to a base figure. The base figure is to be calculated by projecting world nickel demand for the year immediately preceding January 1, 1980 by applying the above-calculated rate of increase to the average world nickel demand during the latest five year period for which data is available.

4. The formula also provides for the base amount to be adjusted every five years, as well as for the rate of increase on which projections of world nickel demand were to be made to be adjusted every five years.

The ICNT formula was more accurate and hence more acceptable in a technical sense than the RSNT formula. The net effect of the ICNT formula was to ensure the calculation of the growth segment of world nickel demand on the basis of known data. Both the

45. *Id.* at art. 150(1)(g)(B)(i).

46. *Id.* The full formula reads as follows:

[T]he Authority shall limit in an interim period specified below, total production of minerals from nodules in the Area so as not to exceed for the first seven years of that period the projected cumulative growth segment of the world nickel demand. After the first seven years of the interim period total production of minerals from nodules in the Area shall on a yearly basis not exceed 60 percent of the cumulative growth segment of the world nickel demand, as projected from the beginning of the interim period, provided however that this shall not affect such production under the production limit referred to above for the first seven years of the interim period. The cumulative growth segment for the purpose of this Part of the present Convention shall be computed in accordance with subparagraph (iii) below. The interim period referred to above shall begin on January 1980 and shall terminate on the day when such new arrangements or agreements as referred to in subparagraph (A) above, in which all affected parties participate, enter into force. The Authority shall resume the power to limit the production of minerals from nodules in the Area if the said arrangements or agreements should lapse or become ineffective for any reason whatsoever.

id.

rate of increase in world nickel demand, as well as the base amount from which projections were to be made, were to be based on actual data and adjusted every five years on the basis of the most recent definitive facts available. The formula had the additional advantage, at least from the perspective of consuming countries, of providing for a seven year "build-up period" beginning on January 1, 1980, during which the allowable growth of seabed production was equal to 100% of the projected cumulative growth segment of total world nickel demand. It was only after the first seven years that the total allowable production of seabed minerals was to be held at sixty percent of the growth segment.

VI. THE CANADIAN-U.S. APPROACH

While the ICNT formula represented significant technical improvements over the RSNT formula, it did contain some inherent defects which were appreciated both by Canada as a land-based producer and by a number of investing and consuming states. The first area of deficiency in the formula was the adjustment to the rate of increase every five years. The effect of five year adjustments in the rate of increase could be the allowance for over-projections or under-projections of the growth segment. This could have consequent effects on seabed production allowed under the formula by the International Seabed Authority. The same effect would result from the adjustment to the base amount from which the cumulative growth segment was calculated by applying the aforementioned rate of increase. The effect of this aspect of the formula would be the adjustment of cumulative growth segment on the basis of "five-year steps." Together with certain other states, Canada attempted to find a method whereby the projections could be smoothed out to provide for an essentially continuous curve.

Secondly, the interim or "control" period in Article 150 is to begin on January 1, 1980. This date is entirely arbitrary and has no relationship to the real prospects for the commencement of actual commercial seabed operations. In fact, writing in 1979, it is a virtual certainty that commercial recovery of minerals from the seabed will not begin as of that date, or indeed for many years afterward.⁴⁷

47. In testimony on behalf of Inco Ltd. before the Subcommittee on Public Lands and Resources of the U.S. Senate Committee on Energy and Natural Resources and before the U.S. Senate Committee on Commerce, Science and Transportation on October 4, 1977, a company spokesman said:

We believe that today's mining resources will be supplemented and in some cases replaced by resources of the sea. With respect to nickel specifically, our judgment is

Thirdly, the ICNT formula contains a "build-up" period, during which for seven years following 1980, total production of minerals from nodules found in the International Seabed Area will be allowed to reach a level equal to the *total* projected cumulative growth segment in world nickel demand. In effect, during this seven year period, seabed nickel production is not to be limited to less than demand growth. The inclusion of the seven year "build-up" period in Article 150 of the ICNT was for essentially political and partially commercial reasons: to meet the concerns of states whose companies were actively involved in the operations of seabed mining consortia. The theory was that a seven year period would provide a sufficient level of seabed nickel production to reasonably assure all major aspirants of seabed contracts that a sufficient number of mine sites would be permitted in the early years of the operation of the LOS treaty. Even though mineral production from the seabed would be held at a constant level after the first seven years until sixty percent of the increase of the growth segment thereafter allowed room for more production, early entrants would have guarantees of security of contractual tenure under the treaty and would therefore be guaranteed maintenance of their initial production levels. From the perspective of land-based mineral producers, however, the ICNT formula, by providing for a very significant amount of seabed mineral production in the first seven years of the interim period, could result in a serious disruption to established nickel markets.⁴⁸ A more orderly phasing in of seabed production, while simultaneously allowing for a sufficient level of production to meet the concerns of the major states whose corporations are engaged in seabed mining development would be preferable.

Fourthly, the ICNT formula provides that the interim period will terminate only upon the coming into force of commodity agreements or arrangements covering those minerals found on the

that market forces will permit seabed production to begin on a modest scale in the 1985 time frame and increase moderately into the twenty-first century.

Hearing to Consider S. 2053, The Deep Seabed Resources Mining Act, before the Subcomm. on Public Lands and Resources and the Comm. on Energy and Natural Resources, 95th Cong., 1st Sess. 445 (1977) (statement by Alfred P. Statham).

48. Nickel, *supra* note 3. Calculations by Canadian experts in the Department of Energy, Mines and Resources revealed that the seven year "build-up" would result in allowable seabed production of approximately 314,000 metric tons of nickel from the seabed by 1987 under the ICNT formula, or roughly a little less than one-half of the total allowable seabed production by the year 2,000 under the formula. The figure of 314,000 metric tons is significant when compared against total world nickel production in 1975-1978 which has averaged about 560,000 tons.

seabed. Failing such agreements, the interim period potentially could continue during the life of the LOS treaty.

Finally, the ICNT formula contains additional technical shortcomings with respect to (a) the method by which the base amount is determined; (b) the method used to determine the rate of increase in world nickel demand, which is the rate that is applied to the foregoing base amount in order to give the cumulative growth segment in world nickel demand upon which the production ceiling is calculated; (c) the means of periodically adjusting both the base amount and the rate of increase in world nickel demand over the course of the interim period; and (d) the use of *demand* data, rather than more easily obtained *consumption* data in determining the cumulative growth segment. These latter technical deficiencies in the formula were analyzed by a Group of Technical Experts appointed by the First Committee at the first part of the 7th UNCLOS session in the spring of 1978. The Technical Experts agreed that any production ceiling formula should use consumption data, should use a fifteen rather than a twenty year regression period, should provide for annual revision of data, and should fit the data into an exponential growth curve.⁴⁹

Taking into account each of the foregoing factors, the Canadian delegation attempted to find a solution to the production ceiling issue which would meet the needs of Canada and other land-based producing states as well as the concerns of mineral consuming and importing states while simultaneously resolving, the various technical shortcomings inherent in the ICNT formula. Canada entered into negotiations with the U.S. delegation during the course of the first part of the 7th UNCLOS session held in Geneva in March-May 1978. Following considerable effort, a formula, *ad referendum* because of the necessity of referring the matter for governmental approval, was agreed to by the Canadian and U.S. LOS delegations and was jointly tabled at the Conference on May 9, 1978. The joint proposal is incorporated in one of the official working documents which emerged from the 7th UNCLOS session as a suggested compromise formula of the chairman of the relevant working group.

The Canadian-U.S. proposed production ceiling formulation in layman's language provides as follows:

1. For each of the first twenty years of commercial production from the Area, the production ceiling for the Area shall be the sum of:

49. See, Reports of the Sub-Group of Technical Experts of Negotiating Groups on negotiations at the Seventh Session. U.N. Doc. GE 78-85880 (1978).

(a) the increase in world nickel consumption for the five year period immediately prior to the first commercial production from the Area, and (b) sixty percent of the increase in world nickel consumption thereafter through the specific year for which the ceiling is determined.

2. The production ceiling is determined for each year by utilizing an annually updated projection of the trend of the growth of world nickel consumption, based upon the most recent fifteen year period for which annual world nickel consumption data are available.

3. Approval of an application for a contract or plan of work allowing commercial production in the Area will reserve for that contract or plan of work the amount of production or recoverable nickel specified. Approval therefore will be contingent upon this amount not causing the production ceiling to be exceeded in the years of expected production under the contract or plan of work. Once approved, the terms of a contract or plan of work respecting the amount of allowable production shall not be altered without the mutual consent of the Authority and the other party.

In the view of Canadian experts, this formula will meet a broad, two-fold objective of (a) reducing possible adverse effects of seabed mining upon land-based nickel producing states in the early years of development and (b) providing a sufficient incentive and prospect for growth to seabed mining companies. In short, the Canadian-U.S. proposal attempts to achieve an equitable balance between the competing interests referred to at the outset of this paper. In addition, the formula corrects a number of the technical shortcomings of the ICNT formula, described above. The proposed formula does the following:

1. Instead of pegging the start of the interim period to a fixed and arbitrary date as in the ICNT formula, the interim period is to begin five years prior to the year when *actual* commercial production is first planned to begin under a work plan approved by the International Seabed Authority.

2. In lieu of the seven year "build-up" period under the ICNT formula, the proposed formula smooths out the effect of the build-up by taking into account the growth in nickel consumption during the five period *preceding* first commercial production and by placing the ceiling figure at a percentage (60%) of projected consumption which takes into account that five year growth period.

3. The interim period is fixed at the lesser period of *either* twenty five years (including the five year, pre-commercial production period) or the day when international commodity agreements covering minerals also produced from the area come into force.

4. Finally, the proposed formula corrects a number of the technical deficiencies referred to above and pinpointed at UNCLOS by the Sub-Group of Technical Experts: it uses consumption rather than demand data, it provides for annual updates of projections for *consumption* growth and it uses fifteen year regression in determining the rate of growth in consumption projected from the year in which a plan of work is approved.

It is important to add that along with the nickel production ceiling are additional elements to be drafted for inclusion in the contract-granting system, the details of which are at present spelled out in Annex II of the ICNT. Thus, it is envisaged that the provisions of Annex II could provide for the granting of contracts and that subsequent plans of work, once approved, would reserve for the contract-holder the amount of production specified. Once approval is given to a plan of work, the terms of the contract respecting the amount of allowable production would not be altered by the Authority without the mutual consent of the Authority and the contract-holder.

The approved plan of work will be an important commercial document from the seabed miner's point of view. It will provide additional security for further debt or equity financing for the project that may be needed. Guarantees of permissible production at the stated levels also assures against the possibility of subsequent arbitrary interference by the Authority in the contractor's operations.

Two important points follow. First, planned production from the area provided for in a plan of work must be based upon the ability of the applicant to realize the forecast level of production. Secondly, if the production ceiling on the basis of annual calculations dips below the actual permitted level of production under a contract already granted, no new contracts can be awarded—or rather no new plans of work can be approved by the Authority—until the level of production proposed in the plan of work is at or below the production ceiling figure for the year of approval and any year of planned production.

It is useful to examine the anticipated effect of the Canadian-U.S. proposed formula. In 1976, actual global consumption of nickel was approximately 665,700 metric tonnes.⁵⁰ Assuming an annual growth rate in world consumption of 4.5%, by the year 2000 the total

50. See Nickel, *supra* note 3.

world consumption of nickel will be approximately 1,914,600 metric tonnes. Applying this formula on the assumption that first commercial production begins in 1985, by the year 2000 the cumulative amount of allowable seabed nickel production will be approximately 767,700 metric tonnes, or 40% of total world consumption. It is somewhat misleading to speak in terms of the number of permissible mine sites, due in part to variations in the sizes of mining operations. Nevertheless, assuming for purposes of illustration that one mine site will product 37,800 metric tonnes of nickel, under the above example the Canadian-U.S. formula will allow room for slightly more than twenty mine site operations. When compared with existing land-based production levels, these twenty operations would each be new nickel-producing facilities of considerable size, surpassed by only a few giant integrated land-based operations. Surely this fact alone proves the success of the formula in balancing competing interests.

VII. *WHERE DO WE GO FROM HERE?*

Work remains on important technical matters necessary to make the system of contract-granting in Annex II of the ICNT compatible with the application production ceiling formula. Obviously, levels imposed by the Authority under the production ceiling formula will limit the total amount of nickel that can be extracted from the seabed during the interim period. Absent production ceilings, of course, and all other things being equal, all applicants for a contract of exploration or exploitation theoretically could be granted contracts by the Authority. With a system of production ceilings, however, all applicants for contracts of exploitation or commercial production will not necessarily be entitled to commence production at the precise date as forecast in their contract application or plan of work. For example, if a contract has already been concluded between the Authority and a company, under paragraph 5 of Annex II, in which the level of production of nickel by that company in the year of commencement of commercial production will take up the total tonnage permitted under the ceiling for that year, then it follows that a subsequent applicant will not be able to have his plans approved for production commencing in that same year. The question then is: what happens to such applicants? The most direct solution would simply be that having met all the requirements, that applicant would have his application approved for the earliest year in which there is a sufficient level of projected consumption under the ceiling to allow him to go into operation. There are of course

other approaches, such as requiring the applicant to re-submit his application *ab initio* at such later date when the consumption projections under the formula would seemingly allow an opening for planned commencement of production at levels stated in the application. However, equity would seem to favor a solution which does not prejudice the interests of an applicant who, but for the production ceiling, would have been successful in his contract bid.

The foregoing scenario is based upon fairly straightforward factual cases. Complications exist when, under paragraph 5 of Annex II, competing applications are received simultaneously or during the same application period for contracts; that is, in the case of two or more applications which, if taken together, would cause the production ceiling to be exceeded in the year for which initial production is forecast. There the problem is both to resolve the method of contract selection (for example, should the Authority have discretionary powers to assess the applications?), as well as the disposition of the unsuccessful application. As to the latter issue, the author's suggestion would be to treat the unsuccessful competing applicant in the same manner as the single applicant who has failed to obtain a contract because of the effect of the production ceiling formula on his application and to approve such application pending the increase in projected consumption under the ceiling to a sufficient level which would allow the applicant to get his planned commercial production underway.

VIII. SOME FURTHER THOUGHTS ON PROCESS

These and other technical matters, such as the quota system which is insisted upon by some delegations, remain to be worked out at future UNCLOS sessions. Whether time and circumstances will permit delegates to continue these efforts is not certain.

The various elements of the production ceiling formula and its attendant problems is of course only one of a number of complex, yet unresolved UNCLOS issues. Other matters, such as financial arrangements between the Authority and seabed operators,⁵¹ the

51. See INCT, *supra* note 1, at annex II, para. 7. Annex II, paragraph 7 of the ICNT sets out the financial obligations of the contractors to the Authority. Considerable work in refining paragraph 7 was accomplished during the negotiations at the first and second parts of the 7th UNCLOS session, the results of which the Chairman of Negotiating Group 2 has attempted to reflect in his Report to the First Committee. U.N. Doc. NG 2/10/Rev. 1 (1978) [hereinafter cited as the NG2 Report]. In essence, these so-called "financial arrangements" establish, optionally, a system of payments based on (a) a single system of production charge (royalty) or (b) a "mixed system," consisting of a deductible production charge and a pay-

financing of the International Enterprise,⁵² the operation of the reserved-area system,⁵³ the composition and voting procedures of the Council,⁵⁴ involve issues which if they are not equal in complexity, are at least as contentious in a political and ideological sense.

In the writer's view, two powerful forces, the inherent complexity of the subject matter and the ideology which permeates discussion at UNCLOS, militate inevitably against the early, successful conclusion of a seabed treaty along the lines of part XI of the ICNT. The possibility of resolving the multitude of inter-related matters to allow the Conference to adopt by consensus a document in treaty form along the lines of the ICNT is therefore highly doubtful. Some alternative solution is needed, lest UNCLOS end in failure. What is necessary is a new approach to the negotiations which will satisfy the diverging ideological positions of the participating states and which will maintain intact the work which has already been accomplished in the negotiations, including the production ceiling formula contained in the May 19, 1978 Conference Report, while allowing work to continue on unresolved matters.

What is evident from the foregoing description of the produc-

ment to the Authority of a percentage of the attributable net proceeds of the seabed mining operation.

52. The Enterprise, the organ of the Authority which is given the capacity to carry out activities in the International Seabed Area under Article 169 of the ICNT is guaranteed certain funds under paragraph 10 of Annex III. In his NG2 Report, *supra* note 37, the Chairman of Negotiating Group 2 has proposed that the Enterprise shall have its borrowing for first mine site development guaranteed by States Parties in accordance with a scale set by the Assembly and based upon the scale used for the regular budget of the United Nations, under Article 158(2)(VI). Under this proposal, contained in paragraph 10 (bis) of Annex III of the ICNT, States Parties undertake to advance as refundable paid-in capital up to one-third of their total liability.

53. The reserved-area system is set out in paragraph 5(j) of Annex II of the ICNT, *see supra* note 1, and provides that at the time of awarding a contract, one half of the contract area of equivalent commercial value to the other half shall be reserved for the conduct of activities by the Enterprise or in association with developing countries. Numerous aspects of the reserved ore system have not yet been resolved, particularly the point in time when the division of the contract area occurs. For obvious reasons, the industrialized countries want the division to take place prior to the commencement of exploration activities in order to avoid undue costs to the contractor.

54. The Council is the "executive organ" of the Authority under Article 160 of the ICNT. As the key body in the whole decision-making structure of the Authority (it approves plans of work on behalf of the Authority under Article 160(2)(x)), the composition and voting of the Council under Article 159 are of central importance to participating states. In general, the developing countries oppose voting which is weighed in favor of interest groups. The industrialized states, on the other hand, whose corporations will make the major financial commitments to seabed exploration and exploitation, wish to be assured that voting mechanisms on the Council reflect commercial realities and the real economic interests at stake.

tion ceiling issue is the enormity of detail in many of the ICNT seabed provisions. This detail, has been the result of bona fide attempts to balance numerous ideological positions and economic expectations in order to ensure against the operation of a seabed treaty which runs directly counter to those interests. Whether it is possible to eliminate all potential areas of concern of both the developing and the industrialized states through carefully drawn compromise provisions on the entire range of seabed operations under the current negotiating atmosphere at UNCLOS is another matter.

In the author's view, assuming that the danger exists of the negotiations breaking down or continuing indefinitely without early possibilities of success, LOS negotiations and the conference negotiating process would be salvaged by common agreement among conference participants to approach the negotiations afresh and to pursue the following broad objectives. The first objective would be to solidify or "freeze" in a treaty the agreed elements of the seabed mining system, many of which are now found within part XI of the ICNT. This would include, the basic institutional structure of the Authority and the parallel system of exploitation. It is reasonable to conclude that there is a wide measure of agreement on these two matters. Included within this "freezing" of the elements would be the executive body, the Council, and its decision-making procedures. Of course, the question of the composition and voting procedures of the Council has not yet been formally agreed to at the Conference, but it is submitted that some solution is not far removed. Thus, the basic structure of the seabed institutions which would form the new LOS treaty already exists. Its conclusion, even if it contained a system for seabed mining that for the present was less than complete, would in itself represent a tremendous substantive and symbolic achievement for international diplomacy and for the United Nations system. Its conclusion, with the basic skeletal structure, would have a positive effect on the political atmosphere within which the work will be allowed to continue. In fact, achieving this objective alone would help to "depoliticize" the LOS exercise to a great degree.

Secondly, along with such an exercise must be the assurance that the final provision, which would come into force subsequently in order to complete the system, would not affect the balance of interests, most of which, it is submitted, are at present embodied in the ICNT. Nor should this new approach affect the long-term workability of the seabed provisions themselves.

Thirdly, within the basic institutional structure, the present

three negotiating groups, which have been functioning under the aegis of the chairman of Committee I and the plenary of the Conference, would be maintained. Those would be transformed, however, into expert commissions which would report the Council in accordance with the present framework enshrined in the ICNT. The Council would in turn report not to the Assembly *per se*, but to the states' parties who would meet to review progress in the work of the expert commissions. Thus, the basic seabed treaty would come into force, while details of precise matters would be left to be worked out subsequently in, it is hoped, less political and more objective circumstances.

Finally, in order to preserve the balance embodied in the ICNT and in the various compromise proposals contained in the reports of the negotiating group chairman made during the course of the 7th session, the Conference would adopt three resolutions on the following which would complete the "freezing" process: (1) binding guidelines (to be included as an Annex to the Treaty) for the ongoing work of the three commissions within the basis institutional framework; (2) a declaration of principles and objectives on seabed mining; and (3) a review conference mechanism. These resolutions would provide that the basis for the work of the commissions would be the ICNT and the existing suggested compromise proposals produced by the negotiating group chairman. Thus, the negotiations under the new treaty would continue precisely where UNCLOS negotiations left off. The difference would be that work would proceed *under the treaty* and would be undertaken by experts in an atmosphere which is less electric than at UNCLOS.

The foregoing is a highly simplified model for a new approach to the seabed negotiations at UNCLOS. The overall goal of this proposal is to harness the very broad areas of agreement on the framework for the International Seabed Authority that now exist at the Conference and to embody those areas in treaty provisions. The second goal is to remove remaining detailed issues from the highly political atmosphere at the Conference and to allow work to continue, as at the Conference, but within a structure that is more conducive to dispassionate debate and reflection.

PANEL DISCUSSION

MR. HULL: Thank you very much Larry. Just to clarify one point. I take it what you are referring to is the same short form of treaty Ambassador Aldrich referred to earlier this afternoon.

MR. HERMAN: Roger, I didn't have a chance to discuss all of George's details with him but I think to a large extent we share the same view. I think it should be recognized George has made many very positive contributions to the Law of the Sea Conference. I think his ideas have merit. I do not know whether we have the same proposals in every respect but the objectives are certainly similar.

DR. MCKELVEY: Larry you mentioned the basis for the production ceiling as being essentially a political one, a concession, one of a number made to the special interest, the special realities, that exist. I certainly agree that that is the basis of it, even if there are only 20 countries with any chance of having their exports interfered with by growth in seabed production where as there the rest of the countries in the world, 130, that are primarily consumers of those elements. Nevertheless it is a fact that there is that special concern on the part of a number of countries and the approach to production limitation was in recognition of that. But you said that Canada's initial concern was with possible national subsidy of seabed operations that would, and I think this was your exact words, interfere with normal market forces. I think it should be understood that in spite of the political realities of the situation production controls do have the potential of doing that very thing. And so, it would have to be accepted. But I think that potential is there even though it may not be very great. And I should indicate the growth that would be permitted under the present formula is substantial.

MR. HERMAN: Vince, the only comment I would make in reply to what you've said is that traditionally it has been new forms of production in any given commodity that have had the most potential for national policies to protect it one way or another. So that in this case while I agree that you could look at seabed production ceilings as a safeguard to protect landbased production or to allow subsidization of land based production, historically its been the new forms of production where the requests for national protection have been directed.

MR. LOSCH: If I just might point out the industry's views on production control although I am hardly ever an advocate of the industry's position. When production controls were initially proposed they were talking about a growth rate of 6%, more recently

the calculations have indicated the nickel market is going about 4 ½%. At this rate of growth we would indicate maybe twenty sites by the year 2000. Under the present system being negotiated, the parallel system, allowing one site to go to the international community to be mined by the Enterprise and another one going to private contractors that would mean ten of the sites would go to the Enterprise and ten of those sites would go to the private industrial side. Now, given that there are four U.S. based consortia that have already proposed mining operations or are doing development work, that would indicate that if each one only asked for one site there would be six sites left for the private industry of the rest of the world. If U.S. industry sought two sites apiece, which is not unreasonable, we would be talking that perhaps two sites would be left for the industry of the rest of the world between now and the year 2000. To compound this problem, if we see a continued diminishment in the growth of the nickel market to say perhaps 3%, we are talking about a further limitation on the total number of sites available, perhaps down to one site per American corporation of the U.S. based consortia. And maybe one site left over for the rest of the world. I think the industry is justifiably apprehensive about the possible effect of a production control. Furthermore we have seen that compromises negotiated bilaterally often do not hold up when they are presented to the entire conference for adoption or ratification. The other land based producers, although not actively vocal at this time on this particularly ad referendum agreement, may seek even stricter controls. U.S. and Canada are only two countries of over 150. So that production control could be even more severe than what we are negotiating with the Canadians and that could be very mischievous in terms of allowing any development of the seabed. The problem is compounded by other factors within the text itself, including a Russian proposal to prevent any one country from having a significant number of mine sites on the ocean floor. So at least we are seen going back to the 4 ½% growth rate which seems to be perhaps optimistic at this point. Under the present agreement with Canada or the proposed agreement with the Canadians U.S. corporations may not even be allowed one site apiece. I think that the Murphy and Breaux letter pointed out some of the problems of productions control and I just thought I would present them here.

MR. HERMAN: I could perhaps make a couple of comments. First of all if we assume that one mine site produces 37,800 tons of nickel per year. That's a pretty large mine site. It compares pretty favorably to land based production. In fact, Vince will probably have the

figures at his finger tips, 37,800 tons of nickel per year is pretty good sized operation when you compare it to existing land based operations. The second point I would make is if the nickel market increases at only 3 % per year, naturally the amount of allowable sites or allowable tonnage totally under the production ceiling will drop back. But I cannot see how that would make any significant difference because companies would not go into seabed production if they were looking at a bear situation in the market. If the market were bad it would mean that the investment opportunities would be decreased and so you are not looking at a situation where investment is good and the market is strong. Where there are limitations, you would be looking at a production formulation which dropped down the allowable level of production from the seabed in times when the market was bad and when the market is bad the companies are not going to invest anyway. The other point I would make is that if you did not have production ceilings and presumably anybody could get a contract, and a company could get a contract regardless of what the market would bear or regardless of the increase in consumption or the demand of nickel, you could have a situation which very quickly would lead to cartilization. For example, if three or four companies had contracts to produce from the seabed and the total production of those operations were approaching capacity, which would be well in excess of market demand, I can see a situation where those companies would get together and among themselves allocate production. Now I think the seabed production ceiling formula to some extent solves the dangers of cartilization in the seabed nickel market.

There were a couple of other points I wanted to make but I think I will leave it at that.

MR. LOSCH: One quick question. If we went to the simplified text, would Canada want a production control to be part of that simplified text?

MR. HERMAN: Well, I cannot speak on behalf of Canada. I was expressing personal views on this point. But what I would say that if we have some assurance that within the ongoing work in the three commissions I referred to, the basis for any ongoing work would be the Canada-U.S.A. ad referendum agreement and together with the texts in the ICNT, we may be prepared or Canada might be prepared to accept that. As I say, I cannot speak on behalf of Canada on this point, I am expressing my personal views.