Chapter 3

The Convention on the Regulation of Antarctic Mineral Resource Activities

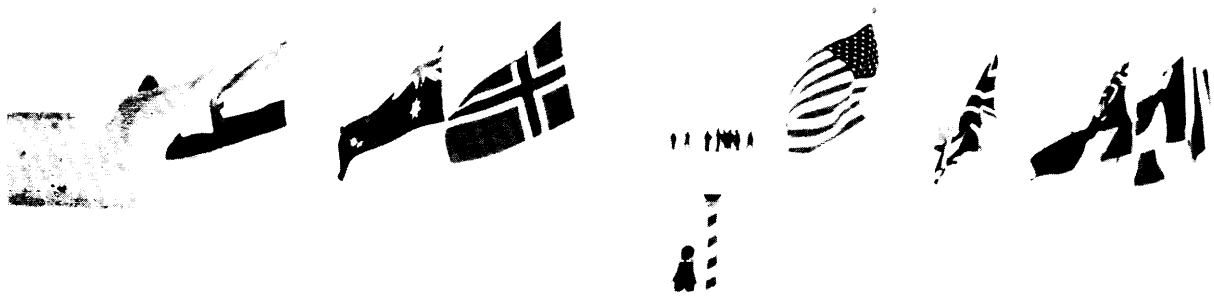


Photo credit: Ann Hawthorne

South Pole and Flags

CONTENTS

Figures

Tables

Chapter 3

The Convention on the Regulation of Antarctic Mineral Resource Activities

SUMMARY

The Convention on the Regulation of Antarctic Mineral Resource Activities creates the means for determining the acceptability of resource activities and for regulating any activities determined to be acceptable. It is a compromise agreement. Its final form is due in large part to the fact that seven claims have been made to parts of Antarctica, but that no other states accept the validity of those claims. It is also a result of the need to find a way to balance the interest of many countries in protecting Antarctica's environment, yet still allow for the possibility of minerals development in and around the continent. The attempt to balance competing interests is key to understanding the composition, voting procedures, decision-making authority, and other checks and balances established by the Minerals Convention. It is also key to understanding provisions for regulating resource activities and protecting the environment. The Convention is not intended to promote resource development: it seeks to be neutral, neither promoting nor prohibiting development.

The Minerals Convention is intended to be an integral part of the Antarctic Treaty System (ATS). It compensates for the fact that the Antarctic Treaty does not address mineral resource questions. If left unaddressed, the Treaty Parties believe this omission could lead to instability and possibly a breakdown of the ATS. Such a breakdown is not in the interest of the United States: on the contrary, the United States has long held the ATS as a model of effective international cooperation.

The Minerals Convention is a framework regime. It does not contain a detailed mining code but relies on general guidelines and some specific requirements and prohibitions, much as a general statute delegating authority to an administrative agency might do. The Parties avoided detail because of the difficulty of anticipating all regulatory requirements. The institutions created in the Minerals Convention, in particular the Commission and the Regulatory Committee(s), will be responsible for establishing details of the regime.

The Minerals Convention contains potentially strong environmental protection provisions. For instance, binding dispute settlement procedures will apply to all measures related to environmental protection. The principal uncertainties regarding environmental protection are how well the compliance and enforcement provisions of the Convention will work in practice and what terms such as ''adequate and ''significant" mean in relation to environmental measures.

The hurdles a potential minerals developer would have to clear before a proposed development could proceed are demanding. Initiating exploration and development under the terms of the Convention will be difficult. However, commercial enterprises recognize that they are better off with a minerals agreement than without one.

Minerals prospecting, exploration, and development must be sponsored by a Party to the Convention. Sponsoring states must evaluate Operators they sponsor and oversee their activities. Sponsors must also be prepared to support and defend the interests of their Operators in institution meetings.

One of the most difficult issues the Antarctic Treaty Consultative Parties (ATCPs) faced was the issue of liability for activities that result in damage to the Antarctic environment. The Minerals Convention contains general liability provisions, but the ATCPs must negotiate a separate Liability Protocol before any exploration and development can be considered in Antarctica. Prospecting may proceed, subject to the general liability provisions of the Convention.

Ratification of the Minerals Convention would advance important U.S. environmental, scientific, economic, and political and strategic interests in Antarctica. For different reasons, development-minded and environmental groups see the Convention's lack of detail as a shortcoming. In the long run, this concern may be less important than whether the Convention helps to maintain peace and stability in the region.

INTRODUCTION

The Antarctic Treaty Consultative Parties (ATCPs) recognized in the 1970s that an agreement about potential minerals activities in Antarctica eventually would be needed. They perceived that knowledge about Antarctica's geology was steadily increasing, that the technical feasibility of developing any mineral resources that might be found in Antarctica was improving, and that a major resource discovery in the absence of an agreed regime for managing minerals activities could lead to a weakening of the Antarctic Treaty System. A formal agreement to establish an Antarctic minerals regime was made at the ATCP's 1981 Buenos Aires meeting. It was not immediately apparent, however, that a mutually acceptable agreement could be reached. While the ATCPs were generally agreed that the ATS must be preserved and that the Antarctic environment must be protected, not all Treaty parties had the same view about how to accomplish these and other ends. How would the interests of claimant and nonclaimant states be balanced without compromising the juridical positions of either? Could Antarctica's environment be adequately protected (and if so, how) without banning all minerals development there? How were revenues derived from any permitted minerals activities to be divided? Who would pay (and how much) in the event of an accident such as an oil spill? The Convention on the Regulation of Antarctic Mineral Resource Activities addresses these and other issues. This chapter describes and evaluates this new treaty.

The Minerals Convention was adopted on June 2, 1988, after 6 years of negotiations. It applies to the same area as the Antarctic Treaty, or all land, ice shelves, islands, and continental shelves south of 60° s.[1] The Convention creates the means for determining the acceptability of mineral resource activities and for regulating any activities determined to be acceptable. The 67 main articles and 12 annex articles of the Minerals Convention establish the general principles, specify the legal obligations of the Parties, and create the institutions and procedures necessary for decisionmaking. **In effect, Parties to the Convention have said that in some circumstances Antarctica% resources may be developed, but only if significant environmental impacts are unlikely to result from development and only if established uses of Antarctica are not jeopardized.**

The Minerals Convention does not automatically open Antarctica to resource development activities. Although the Convention does not prohibit the possibility of developing any mineral resources discovered in Antarctica, neither is it intended to promote development. Indeed, certain standards and procedures established by the Convention impose stringent requirements on resource development considered acceptable. Second, the Minerals Convention does not automatically close all of Antarctica to resource development, While development of those parts of Antarctica designated as Specially Protected Areas (SPAs) or Sites of Special Scientific Interest (SSSIs) is automatically prohibited, all other areas may be considered for development activities. Many of the areas considered for resource development will be eliminated, however, if it is determined that development would have significant adverse effects on the environment or on scientific or historic values. Obviously, the Minerals Convention does not completely satisfy those intent on preserving all of Antarctica in a pristine state, nor does it completely satisfy potential developers, who would benefit from a less restrictive regime regulating access to the continent. Third, the Minerals Convention is not intended to be a detailed mining code, specifying how all possible situations are to be handled and eliminating all uncertainty. It is intended, rather, that more detailed rules and regulations will be developed when and if necessary by the institutions established by the Convention. Thus, it is a framework regime, to be considered as another step forward—not the final step-in the evolution of the Antarctic Treaty System.

The Minerals Convention is a carefully crafted compromise. Negotiators had the difficult task of dealing with the differing juridical positions of claimants and nonclaimants and of balancing the interests of developed and developing states, of states with free market and centrally planned economies, and of states with varying attitudes about the environment. The relative importance of competing ''uses' of Antarctica-minerals development, science, tourism, pristine wilderness, etc.—also had to

[1] An exception is continental shelves south of 60" S. which extend from islands north of 60° S.

be considered. As a result, the Minerals Convention is a complicated agreement, despite its framework nature. Like similar multilateral agreements, it was negotiated as a package deal. That is, the United States and other participants in the negotiations must now either accept the Convention as it is or reject all of it. Changes in the Convention will not be considered. Table 3-1 indicates what must occur before minerals development can commence in Antarctica.

An explicit hierarchy of actors with a stake in Antarctic minerals issues exists. At the top of this hierarchy are the Antarctic Treaty Consultative Parties or ATCPs. The ATCPs are the most influential set of Antarctic actors and the only group with rights to participate in decisionmaking under the terms of the Antarctic Treaty. ATCPs, as of November 25, 1988, are automatically accorded decisionmaking status under the Minerals Convention.[2] At present, there are 22 ATCPs.[3] They are the original 12 signatories of the 1959 Antarctic Treaty and the 10 additional states that have subsequently demonstrated a special interest in Antarctica through the conduct of substantial scientific research there. Seventeen other Parties to the Antarctic Treaty do not have Consultative Party status. However, any Party to the Antarctic Treaty, in addition to ATCPs, may become a Party to the Minerals Convention (and any member of the United Nations may become a Party to the Antarctic Treaty). On June 2, 1988, 13 of the then 16 non-ATCP Parties to the Antarctic Treaty adopted the Minerals Convention along with the ATCPs. All Parties to the Minerals Convention may participate in the Scientific, Technical, and Environmental Advisory Committee and in the Special Meeting of Parties, but these institutions do not have any decisionmaking authority. Any Party to the Minerals Convention, which undertakes substantial minerals-related research or which sponsors exploration or development, may participate in the decisionmaking organs of the Convention while it is carrying out these activities. Observer status to the Commission and Advisory Committee established by the Minerals Convention is open to any Party to the Antarctic Treaty not participating in the Minerals Convention and may be accorded, as appropriate, in the Commission, the Advisory Committee, and the Special Meeting of Parties to international organizations, including non-governmental organizations, with special interests in Antarctica. Only other Parties to the Minerals Convention may send observers to Regulatory Committee meetings,

Two other types of actors play significant roles in the Convention. A Sponsoring State—one sponsoring resource activities-may be any Party to the Minerals Convention, regardless of ATCP status. Operators—those undertaking resource activities—must be sponsored and may be a Party, an agency of a Party, a juridical person established under the law of a Party (e.g., a corporation), or a joint venture consisting of any combination of these entities.

GENERAL PRINCIPLES

Several important general principles are established in chapter 1 of the Convention. Among the most important is that the Convention is an integral part of the Antarctic Treaty System, in effect filling a gap in it. As part of the ATS, Parties strove to make the Convention consistent with other agreements of the system, including the Antarctic Treaty and the Convention on the Conservation of Antarctic Marine Living Resources (art. 10). Parties considered it especially important **that their positions on territorial claims continue to be protected,** and thus article 9 of the new treaty essentially repeats article *4* of the Antarctic Treaty, the modus vivendi employed to sidestep the claims issue. The Minerals Convention, thus, does not resolve conflicts over claims, but provides the means by which resources may be developed (or at least considered for development) despite differences. If the Convention is successfully implemented, it would be unnecessary to resolve the claims issue, which may be unsolvable in any case, and the unique jurisdictional arrangement in Antarctica would continue as before.

One important way in which the Minerals Convention is directly tied to the Antarctic Treaty is that those Parties to the Minerals Convention that were also Consultative Parties to the Antarctic Treaty on the date the Convention was opened for signature (20 of the current **22) are** automatically entitled to

[2]New ATCPs will be accorded decisionmaking status in the Commission unless one-third of commission members object. Art. 18(4).

[3]Argentina, Australia, Belgium, Brazil, Chile, China, Federal Republic of Germany, France, German Democratic Repulic, India, Italy, Japan, New Zealand, Norway, Poland, South Africa, Spain, Sweden, Union of Soviet Socialist Republics, United Kingdom, United States, and Uruguay.

Table 3-l-What Must Occur Before Exploration and Development Can Take Place In Antarctica

1. The Minerals Convention must be formally signed. Signature may take place during a l-year period beginning Nov. 25, 1988,[a] The 20 Antarctic Treaty Consultative Parties (ATCPs) and 13 Non-Consultative Parties (NCPs) that participated in the last session, where the Convention was adopted by consensus, are eligible to sign. The United States signed the Convention on Nov. 30, 1988.
2. The Minerals Convention must be ratified by 16 of the 20 ATCPs that adopted it. Among the 16 must be 11 developed and 5 developing ATCPs. Also among this group must be all 7 of the ATCP claimant countries; the United States and the Soviet Union (the 2 non-claimants that reserve the right to make a claim); and at least an additional 7 non-claimant ATCPs, 3 of which must be developing nations. This configuration assures participation by all of the states necessary to meet the membership requirements of ail of the Convention's institutions. The ratification process could take several years.[b]
3. A Protocol to the Minerals Convention elaborating additional rules and procedures regarding liability must be negotiated and ratified in the same manner as the Minerals Convention. Negotiations to complete the Protocol could begin in 1989 or 1990. They may take several years.[c]
4. The Commission must consider adopting additional measures related to, inter alia; a) protection of the Antarctic environment; b) safe and effective expiration and development techniques; c) prospecting; d) the availability and confidentiality of data; e) maximum block sizes; f) the circumstances under which Management Schemes may be suspended, modified, or canceled; g) financial regulations; h) fees payable for applications; and 1) levies payable by Operators engaged in exploration and development.[d]
5. Prospecting would likely take place. Some prospecting may occur before the Liability Protocol is completed. It can be done without prior authorization by the institutions established by the Convention and is subject to the same standards of acceptability as expiration and development."
6. On behalf of an Operator, a Party to the Convention must propose a specific geographic area of Antarctica to be opened for expiration and development. This would be expected to occur once some prospecting had been done by one or more Operators and areas of interest had been identified.[f]
7. Once an area is proposed, a consensus decision to open the area must be made by the Commission. Supporting information, including a detailed environmental impact assessment, must accompany a request to open an area. Information adequate to enable informed judgments must be available. The Commission must elaborate opportunities for joint ventures or other forms of participating.[g]
8. The environmental assessment must conclude that the activity will not result in any *significant* adverse environmental impacts; that technology and procedures are available for safe operations and for compliance with environmental regulations; that the capacity exists to monitor key environmental parameters and ecosystem components; and that the capacity exists to respond effectively to accidents.[h]
9. Following the Commission decision to open an area, and before any specific applications to conduct exploration/development may be considered, the Regulatory Committee for the particular geographic area must be established. The Committee must draft general requirements governing applications and terms and conditions, giving effect to the standards in Article 4.[i]
10. Inspection procedures must be provided for each area identified for possible expiration and possible development.]

[a]Art. 60.
[b]Art. 62 and the Final Act.
[c]Art. 8(7).
[d]Art. 21.
[e]Art. 37
[f]Art, 39,
[g]Art. 39 and 41.
[h]Art. 4.
[i]Art. 43(3).
[j]Art. 12(8).

SOURCE: Office of Technology Assessment, 1989.

membership on the Commission established by the Convention. Membership is also granted non-ATCP Parties *currently* sponsoring exploration or development or *currently* engaged in research related to the Convention (art. 18(2)). Only these ATCPs have automatic voting privileges and the right to participate in many key decisions.

To further promote consistency with other elements of the Antarctic Treaty System the **Parties specified that all decisions should take into account the need to respect other established uses of Antarctica, including scientific research, long the most important activity there; the conservation-including rational use-of marine living resources; and tourism, an important and rapidly growing activity. The** Convention makes clear that the Parties must consider possibly conflicting established uses in determining whether to open an area to exploration and development (art. 41(lb)). The Convention grants inspectors designated according to rules established in the 1959 Antarctic Treaty rights to inspect all stations, installations, equipment, etc. related to minerals activity in the Antarctic Treaty area. It also provides for the designation of inspectors by each member of the Commission and by the Commission as a group. Thus, consistency with the inspection provisions of the Antarctic Treaty is also promoted.

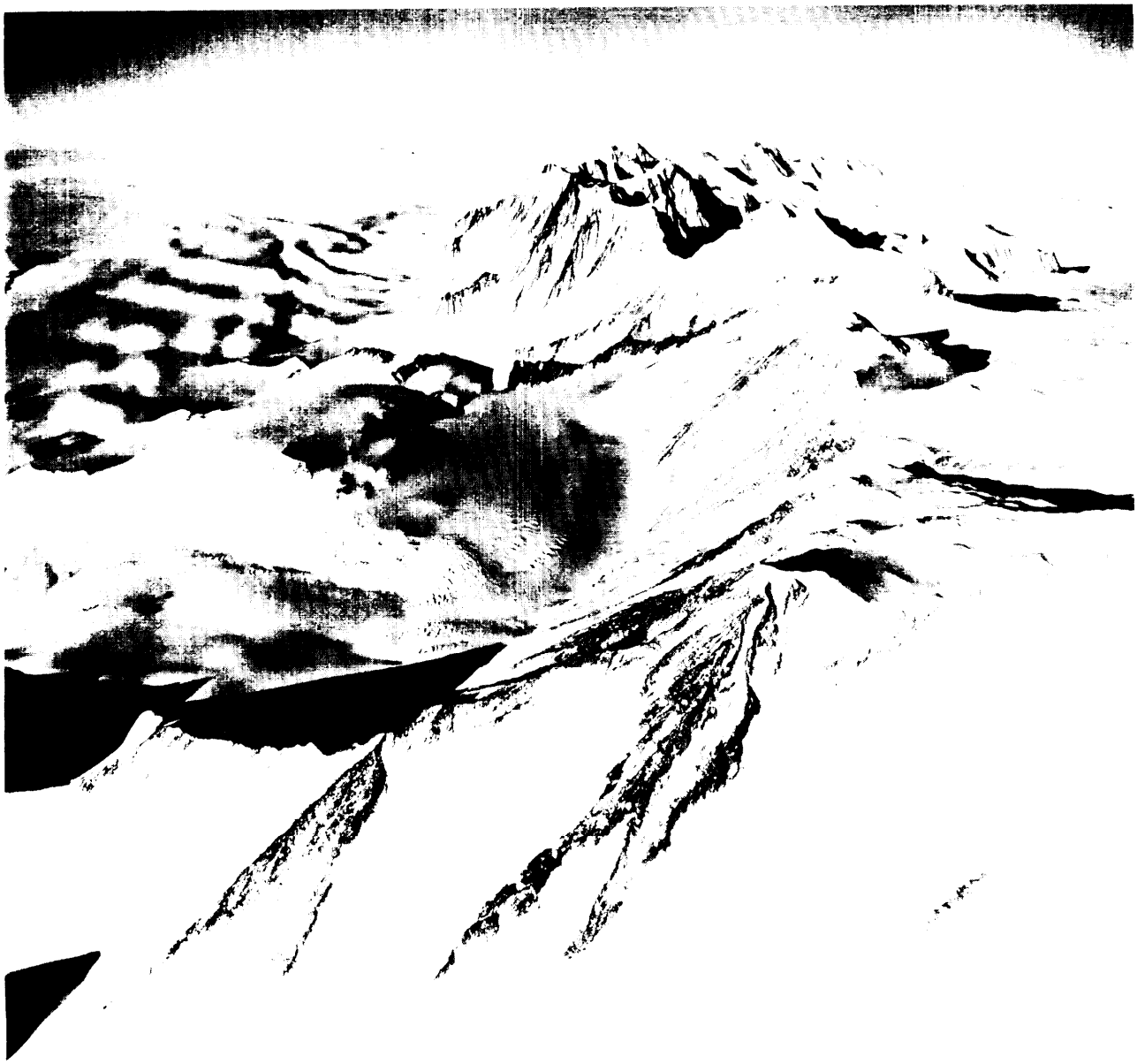


Photo credit US. **Geological** ***Survey***

Looking north along the western side of the Sentinel Range. Located near the base of the Antarctic Peninsula, the highest mountains in Antarctica are found here.

Another important general principle is that **no exploration or development may take place unless** specifically **authorized. The** standards and process for authorizing exploration and development take up much of the Convention. This principle is the opposite of the exploitation principle established for **the** marine living resources of Antarctica under the Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), wherein fishing activities are deemed acceptable unless specifically

prohibited. The prohibition of resource activities unless authorized would not affect activities by countries that are not party to the Minerals Convention. While in theory this could be a problem, in practice virtually all countries that have the capability to exploit resources in Antarctica were involved in negotiating the Convention. Moreover, as long as the Convention retains its legitimacy, any attempt to exploit resources outside the Minerals Convention would be looked on with disfavor by the Parties and would probably not succeed. Prospecting, unlike exploration and development, does not require specific authorization.

As a general rule, **authorization for a specific project depends on a finding that the project will not cause significant adverse effects on atmospheric, terrestrial, or marine environments,** including significant effects on:

- air and water quality;
- species of flora or fauna;
- endangered or threatened species; and
- biological, scientific, historic, aesthetic, or wilderness areas of special significance (art. 4).

Cumulative effects are also to be taken into account, as are activities that could cause significant adverse effects on global or regional climate or weather patterns. Interpretation of the term "significant impacts' is left up to the Commission or Regulatory Committee members, as the case may be, with advice from the Advisory Committee. **Authorization for an activity also depends on the existence of adequate technology, the ability to monitor key environmental parameters, and the ability to respond effectively to accidents.**

INSTITUTIONS

The Minerals Convention provides for the establishment of five institutions (i.e., a Commission, Regulatory Committee(s), an Advisory Committee, an Arbitral Tribunal, and a Secretariat) and a Special Meeting of Parties. Table 3-2 identifies membership, decisionmaking authority, voting procedures (if applicable), and key functions for each of these institutions.

The Commission

The Commission is one of the two decisionmaking institutions established by the Minerals Convention and the only one to which all of the Parties eligible to participate in making decisions belong. Unlike the Regulatory Committees, which wield authority only within designated areas of Antarctica, the authority of the Commission extends to all of the area covered by the Minerals Convention. The Commission has broad authority for establishing general rules and procedures applicable to all prospecting, exploration, and development, and to dispute settlement. Many of the details for these processes have not yet been elaborated, so the Commission will have much important work to do if the Minerals Convention is ratified. The Commission is also charged with determining the composition of Regulatory Committees and with reviewing some of their actions. One of the Commission's most important responsibilities is to determine, by a consensus vote, whether or not to identify an area for possible exploration and development for a particular resource. An affirmative decision would trigger the process that could ultimately result in developing a deposit.

Regulatory Committees

If the Commission decides to "identify" (open) apart of Antarctica for exploration and development, a Regulatory Committee will be appointed by the Commission for that area. Regulatory Committee members are chosen from the Commission and thus form a subset of Commission members. This subset is selected to include Parties with knowledge of the particular area and to achieve a political balance, particularly between claimants and nonclaimants and between developed and developing countries. Each Regulatory Committee is responsible for formulating detailed requirements for exploration and development within its area consistent with the general guidelines established by the Commission. The Regulatory Committees, therefore, and not the Commission, will be the primary managers of any exploration and development that may occur within the identified area.

As the primary managing bodies, Regulatory Committees will have the power, among other things, to set general requirements for the conduct of exploration and development within the designated area, to issue or deny exploration and development permits, to devise Management Schemes (contracts), and to suspend, modify, or cancel Manage-

Table 3-2—The Institutions of the Convention

The Commission

Membership: 1) All Antarctic Treaty Consultative Parties—there are 22-as of Nov. 25, 1988; 2) Any other Party that undertakes substantial research relevant to decisions about mineral activities; 3) Any Party that sponsors exploration or development *during* the *period that the relevant Management Scheme for the exploration or development is in force.* Art. 18.

Decsionmaking authority Yes.

Voting Procedures Consensus voting on the decision to identify an area for exploration and development, on budgetary matters, and on elaboration of the principle of non-discrimination; three-quarters majority of the members present and voting on matters of substance; a simple majority of members present and voting on procedural matters. Art. 22.

Key functions:

- To designate areas in which resource activities shall be prohibited or restricted. Arts. 13(2) and 21 (lb).
- To adopt measures for the protection of the Antarctic environment. Art. 21(c).
- To determine whether or not to identify (open) an area for possible exploration and development. Arts. 21 (Id), 41, and
- To adopt general measures relating to prospecting. Arts. 21 (1 e) and 37(13).
- To establish and determine the composition of Regulatory Committees. Arts. 21(1 k) and 29.
- To review the actions of Regulatory Committees, in particular, decisions to approve Management Schemes or to issue development permits. Arts. 21(1 1) and 49.
- To adopt measures related to international participation and joint ventures, especially with developing country Parties. Arts. 6, 21(1 m), and 41 (id).
- To adopt general measures relating to the circumstances under which Management Schemes may be suspended, modified, or canceled. Arts. 21(1 n) and 51(6).
- To make decisions on budgetary matters and to adopt financial regulations. Arts. 21(1 o) and 35.
- To adopt measures regarding fees and levies payable by Operators. Arts. 21 (1p) and 21 (1q).
- To draw attention to activities by Parties that affect compliance with Convention obligations. Arts. 7(7) and 21(1 s).
- To determine the disposition of revenues. Art. 21 (r).
- To establish additional procedures for third-party dispute settlement. Arts. 21(v) and 59.
- To adopt measures on availability and confidentiality of data and information. Arts. 16 and 21(1 h).

Regulatory Committees

Membership: 1) Each Committee to consist of 10 members selected from the group of Commision members, 4 of which must be claimants and 6 of which must be non-claimants. Included on all Committees formed must be: a) the member(s) that have made claims in the area being considered; and b) the United States and the Soviet Union, neither of which have made claims but both of which assert a basis of claim in Antarctica. Three of the ten members must be developing countries. In addition to the basic 10: 2) the Commission member that proposed opening the area If that member is not otherwise a member of the Committee, until such time as an application for an exploration permit is lodged; 3) Parties that lodge exploration permits during the period the application is being considered; and 4) Parties whose applications result in approved Management Schemes for as long as the Management Scheme is in force, Art. 29.

Decisionmaking authority Yes

Voting procedures: A two-thirds majority of those present and voting for key votes (i.e., approval of Management Schemes or of modifications to Management Schemes), the two-thirds majority to include both a simple majority of the claimants and a simple majority of non-claimants on the Committee; a similar "chambered" two-thirds majority, with "at least half" from each chamber for decisions concerning adoption or revisions of general guidelines for exploration and development; a simple two-thirds majority on other matters of substance; a simple majority of those present and voting on procedural matters. Art. 32.

Key functions:

- Subject to general measures adopted by the Commission, to prepare for managing the area for which it was formed, i.e., to divide the area into blocks, to establish fees and procedures for handling applications, and to determine a method of resolving competing applications. Arts. 31(a) and 43(2).
- To adopt general guidelines for exploration and development, Arts. 21 (la), 43(3), and 43(5).
- To consider applications for exploration and development. Art. 31 (lb).
- To issue exploration permits and approve Management Schemes, the specific terms and conditions for exploration and development. Arts. 31(1c) and 44-48.
- To issue development permits. Art. 54(5).
- To monitor exploration and development activities. Art. 31(d).
- To suspend, modify, or cancel Management Schemes if it is determined that unanticipated and/or unacceptable impacts have resulted or are about to result. Arts. 31(1 e), 51, and 54.

The Scientific, Technical, and Environmental Advisory Committee

Membership: All Parties to the Convention. Art. 23.

Decisionmaking authority No.

Key functions:

- To provide advice on scientific, technical, and environmental issues to the Commission and Regulatory Committees. Arts. 26(2), 26(3), 27, 40(1), 43(6), 45(3), 51(2), 52, and 54(6),
- To evaluate environmental and technical assessments to assist decisions by the Commission and Regulatory Committees. Art. 26(4).
- To provide advice to interested developing country Parties and other Parties on issues within its competence, including training programs related to scientific, technical, and environmental matters bearing on Antarctic mineral resource activities and opportunities for cooperation *among* Parties in these programs. Art. 26(6).

The Arbitral Tribunal

Membership: One arbitrator from the Party commencing the dispute proceedings; one arbitrator from the other Party to the dispute; a third arbitrator chosen jointly by the parties to the dispute (from a list of arbitrators composed of representatives from each Party to the Convention, as are the other two) and unconnected to either of the Parties. Where there are more than two parties to the dispute, the Parties having the same interest appoint one arbitrator. Annex Art. 3.

Decisionmaking authority: Yes--for those disputes referred to it.

Voting procedure: All decisions in areas within its competence by majority vote; all arbitrators must vote. Annex Art. 12.

Key functions: To resolve disputes between two or more parties. Annex Art. 10.

Continued on next page

Table 3-2-The Institutions of the Convention-Continued

The Secretariat Key ***function:*** To serve the Institutions of the Convention.	
Special ***Meeting*** of parties ***Membership:*** All Parties to the Convention, Art. 28(2). ***Decisionmaking authority No.*** *Key function:* . To consider whether identification of an area for exploration and possible development by the Commission is consistent with the Convention, Arts. 28 and *40(3).*	***Comment*** The Special Meeting of Parties gives an opportunity to all Parties-not just those who have qualified to participate in the decision-making institutions-to express their opinions about whether exploration and development in areas being considered for "identification" would be consistent with the principles of the Convention.

SOURCE: Office of Technology Assessment, 1989

ment Schemes. Some of the decisions of the Regulatory Committees are subject to review by the Commission, but the Commission is limited in its ability to require Regulatory Committees to alter decisions. Other Regulatory Committee decisions are subject to binding dispute settlement.

The Scientific Technical, and Environmental Advisory Committee

This committee, to be composed of representatives with relevant specialized expertise, was established to give expert advice to the Commission and Regulatory Committees on all scientific, technical, and environmental aspects of minerals resource activities. The Committee also provides a forum for consultation and cooperation for the collection, exchange, and evaluation of information. One of the most important functions of the Advisory Committee is to evaluate comprehensive environmental and technical assessments of proposals to open areas to exploration and development and of exploration and development plans (art, 26(4)). Membership is open to all Parties-that is, to Convention signatories without voting rights as well as to Commission members-to the Minerals Convention, but the Advisory Committee has no independent decisionmaking power. The reports of the Advisory Committee must reflect the conclusions reached at its meetings and all views expressed by members of the Committee. While lacking decisionmaking authority, the advice of the Advisory Committee is nevertheless likely to be taken seriously by the Commission and Regulatory Committees, for substantive and political reasons.

There has been some concern that Parties' designated representatives on the Advisory Committee may be subject to pressures to ignore their "technical" role and provide opinions that reflect political decisions taken within their countries. There appears to be no way to prevent this; it can only be guarded against by the ''sunshine' provisions in the regime (open meetings and reports) and by the international and public pressure likely to result from abuse of their technical function.[4]

The Arbitral Tribunal

Parties to disputes arising out of the interpretation or application of the Minerals Convention are encouraged to try to resolve them on their own. When this cannot be accomplished within 12 months, a three-person Arbitral Tribunal may be established or the dispute may be submitted to the International Court of Justice (art. 56(1)), Disputes related to the discretionary powers of the Commission or Regulatory Committees are not subject to the authority of the Arbitral Tribunal, and other limitations to the types of disputes that maybe decided by the Tribunal apply. However, for those disputes submitted to the Tribunal, decisions are intended to be final and binding. Tribunals will consist of one arbitrator from each of the two disputing parties (or group of parties with a similar interest) and a third arbitrator acceptable to both disputants,

The Secretariat

The Commission may establish a Secretariat staff, as necessary, to support the work of the other institutions of the Minerals Convention. Parties to the Convention on the Conservation on Antarctic Marine Living Resources (CCAMLR) found it

[4]L.A. Kimball, ''The Antarctic Minerals Convention, " Special Report, International Institute for Environment and Development-North America, July 1988, p. 29.

necessary to establish a Secretariat to support living resources activities; however, a secretariat has yet to be established to support Antarctic Treaty activities. At issue is whether the establishment of a permanent, central staff will prejudice the juridical positions of countries. Some claimant states, in particular, have been opposed to creating a permanent secretariat for the Antarctic Treaty meetings, preferring instead to continue the current practice of rotating secretariat functions.

Special Meeting of Parties

Like the Advisory Committee, the Special Meeting of Parties is composed of representatives of all Parties to the Convention but has no independent decisionmaking authority. The sole function of this body is to advise the Commission on whether identification of an area for exploration and development is consistent with provisions of the Convention. The Special Meeting of Parties is designed to afford some opportunity for all Parties to participate in the institutions of the Minerals Convention. Although the Special Meeting of Parties lacks any formal power, it maybe difficult for the Commission to ignore an opinion that development in a specific area would be inconsistent with the Convention.

DECISIONMAKING AND COMPROMISE

The decisionmaking systems of the Convention, like most voting systems in international organizations, proceed on the assumption that each state casts one vote.[5] They attempt to accommodate states with more substantial interests by using two basic techniques, often in combination. The first is to confine some or all decisions to organs with small membership, thereby maximizing the affirmative and negative voting power of the small group of members, some of whom may be guaranteed permanent membership. This is true of the Commission and especially of Regulatory Committees. The second is to maximize protection for negative interests by requiring more than a simple majority for some or all decisions, running the gamut from a two-thirds majority to consensus, and possibly including concurrent votes of certain states or groups of states. Under the Convention, the Commission requires three-quarters majority votes or consensus for decisions, while the Regulatory Committees utilize simple two-thirds majorities for less important matters of substance and concurrent two-thirds majorities of its constituent groups (claimants and nonclaimants) for the most important matters.

This system has an unavoidable trade-off. The more a state seeks to enhance its own blocking power, the more it is compelled to grant similar power to at least some other states, thereby making an affirmative decision more difficult. [b]It is possible to convert negative power into affirmative power by insisting on approval of one's affirmative agenda as a condition for allowing approval of someone else's affirmative agenda. The difficulty is that every state or group of states with negative power can do the same thing.

The question of U.S. influence concerns not only the direct voting power of the United States, but the voting power of states likely to share U.S. interests or otherwise inclined to accommodate those interests. Where underlying interests are complex, support can be difficult to predict. Some governments with which the United States has very good bilateral relations attach considerable importance to their relations with Third World leaders or other voting blocs in international organizations. Some major industrial states and U.S. political and military allies are territorial claimants in Antarctica. U.S. interests and theirs might diverge on matters affecting the claims. At least juridically, the Soviet Union's approach to Antarctica is similar to that of the United States, yet its behavior in decisionmaking for a could be influenced by the general state of U.S.-Soviet relations and divergent political, economic, or strategic interests.

The Parties had to balance the interests of claimants, nonclaimants, and other cross-cutting

[5]Weighted voting, in which each state is accorded a different number of votesin accordance with a formula designed to reflect relative interest Or contribution, is used in some commodity arrangements and funding institutions.

[6]The virtues and problems of negative voting power are amply demonstrated by the voting system in the U.N. Security Council. According a veto to each of the five permanent members tends 10 assure adequate support from the major powers for decisions with important international security implications, and seines to protect each of them and their allies from adverse decisions. At the same tune, the veto power can substantially limit the responsiveness of the Council to situations in which affirmative decisions are deemed useful by the United States or others.

interest groups in order to achieve an agreement. The checks and balances embodied in the responsibilities, decisionmaking authority, voting procedures, and composition of each institution try to achieve this political compromise. A certain amount of ''horse-trading' by the claimant and nonclaimant groups and by market and centrally planned counties was necessary in order to obtain a mutually acceptable result.

Some will see the compromises made in the Minerals Convention as going too far and prejudicing the legal positions of either claimant or nonclaimant groups or of surrendering too much to either environmental protection or of development. **The Minerals Convention is the first Antarctic agreement in which any special rights are accorded to the seven claimant States** as claimants. In no other ATS agreement has a claimant been given an express right to a special position by virtue of being a claimant, or been accorded any express right to a special role with respect to the particular area it claims. The Convention explicitly establishes a decisionmaking structure for Regulatory Committees that divides claimants and nonclaimants into separate groups. Moreover, a state with a territorial claim to a particular area has, by virtue of that claim to that particular area:

- a right to serve on a Regulatory Committee established for an area that includes the area it claims (art. 29);
- a right to influence which of the other territorial claimants will sit on that Regulatory Committee (art. 29);
- a right to demand that the Regulatory Committee ''have recourse' to it in considering an application for an exploration permit and the related Management Scheme (art. 46);
- a possible argument that its interests are entitled to special respect in any disposition of surplus revenues from the area it claims (art. 35); and
- a possible argument that it has a duty to take measures in the area it claims to ensure compliance with the Convention (art. 7).

On the other hand, if claimants ratify this Convention, they will forgo ever having exclusive rights to any resources found in their claimed territory (although in return they will gain access to all Antarctic resources and a role in all Commission decisions). While claimant States' expectation of exclusive rights to resources in ''their' areas may have been unrealistic, it might be argued that the Convention is the latest and most serious erosion of claimant ''rights' in Antarctica, beginning with the Antarctic Treaty, and despite treaty language stating that preexisting judicial positions will not be affected by it.

The special interest of the United States and the Soviet Union as states having a basis for a claim in Antarctica is also specifically recognized in the Convention. The United States and Soviet Union must be represented on all Regulatory Committees, and, hence, have been accorded many of the same special rights as claimant states. **Arguments about whether claimants or nonclaimants benefit more from the Convention will probably remain inconclusive.**

Even though some states will have a larger voice in the Regulatory Committees, the general interests of all Antarctic Treaty Consultative Parties are protected by the functions of the Commission. All Parties also may express their concerns in the Advisory Committee and Special Meeting of Parties.

Claimants wanted the Regulatory Committee to have more discretionary powers because they were wary of the nonclaimant majority on the Commission, But many nonclaimants wanted the Commission to be strong and to review Regulatory Committee actions.[7] In the end, the Commission was given power to set parameters for rulemaking by the Regulatory Committees and to review certain Regulatory Committee actions. Hence, neither the claimant nor the sponsoring state within the Regulatory Committee, nor the Committee itself, have blanket discretion. Each is limited by the functions assigned to the Commission and subject to the advice of the Advisory Committee on technical and environmental issues.[8] Although the United States had preferred all decisions to be made by less than unanimous votes, so that no single state would have a veto, U.S. negotiators went along with the consen-

[7]Kimball, op. cit., footnote 4, p. 24.

[8]Ibid., p. 24.

sus rule for the ''trigger' decision on whether to open an area-so long as less than unanimous votes were used in the Regulatory Committees after investments had begun.

Some environmental groups criticize this division of **authority,** which gives Regulatory Committees important independent power. They argue that the Commission should have the ultimate authority to approve or deny all key decisions.[9] Env ironmentalists fear the smaller Regulatory Committees are likely to be composed of states seeking to cut a deal to promote development, and thereby will sacrifice environmental safeguards. Although the Commission may review Regulatory Committee actions, they argue, it will not have the power to overturn decisions that could harm the environment. While a Commission with the authority to overturn Regulatory Committee decisions might be more responsive to environmental concerns, there is no guarantee that it would be. Also, a Regulatory Committee would have difficulty ignoring the Commission's guidelines when developing a Management Scheme, as well as later suggestions made by the Commission, the advice of the Advisory Committee, or the views of individual States with strong environmental concerns.

Finally, since the Commission has the responsibility **to** open areas to exploration and development and to designate members of the Regulatory Committee for each area, it can assure a balance of development and environmentally inclined states in each Regulatory Committee. Given the diversity of interests of the Parties, it is difficult to see how an agreement could have been reached that vested all important power in just one of the institutions.

A FRAMEWORK REGIME—AND UNCERTAINTY

The Minerals Resource Convention has been termed a framework regime. It does not contain a detailed mining code or regulations. Rather it relies on general guidelines and some specific requirements and prohibitions, much as a general statute delegating authority to an administrative agency might do. **The details of many of the elements of the new regime have not yet been specified and will not be specified until it is necessary to do so.** With respect to exploration and development, most of the regulatory system will be put into place for each area of Antarctica when that area is identified (opened) by the Commission for receipt of applications for exploration and development. Some of the conditions and guidelines will be specified by the Commission at the time it identifies the area. The remainder will be determined by the Regulatory Committee established for the particular area, either by general regulation or in the context of the Management Scheme applicable to a particular Operator in a particular block within the larger area for which the particular Regulatory Committee is competent. Even though many details remain to be worked out, the Convention is still elaborate and by far the lengthiest of the ATS agreements.

The flexibility of this system is an advantage to the Parties to the Minerals Convention. Too much detail is probably not desirable now since it is impossible to anticipate all requirements the Convention must meet. On the other hand, the gaps remaining in the regime may be seen by potential Operators as disadvantages.

Some of the regime's lack of detail (and in several cases ambiguity) is seen as a shortcoming by both development-minded and environmental groups.[10] *For example, investors* in resource development generally want to know the ''rules of the game" early so that, before making substantial investments, they can decide if the expected returns are worth the risks. The Convention does not specify what levies Operators will have to pay to support the Convention or the amount of '*payments in the nature of, and similar to taxes, royalties, and payments in kind. " Also unknown are the Operator's specific liabilities. However, much uncertainty should be resolved in a Management Scheme prior to the time an Operator must commit substantial capital to an operation, and uncertainty at the prospecting stage would not be costly.

Security and predictability are also important to investors, especially once a Regulatory Committee approves a Management Scheme and issues an

[9] Antarctic and Southern Ocean Coalition, ' 'Analysis of the ConventIon on the Regulation of Antarctic Mineral Resource Activities, ' ASOC Information Paper 19884 October 1988, p. 6.

[10] See Antarctic and Southern Ocean Coalition, ibid.; also, OTA Workshop on the Antarctic Minerals Coil}'clllon, Dec. 15, 1988.

exploration permit (see below). Can development be stopped even after significant investments in exploration have been made and performance criteria have been met? Article 54, discussed in more detail below, is ambiguous on how this decision would be made.

Similarly, environmental groups are concerned that some aspects of uncertainty and ambiguity in the Convention may work to the disadvantage of environmental protection. For instance, the Minerals Convention requires that information 'adequate' to enable informed judgments be available before major decisions (such as opening an area) can be made (art. 4(1)). Also, no minerals activity is to take place unless it would not cause "significant" adverse effects on air and water quality (art. 4(2a)). Although words such as "significant" and "adequate" are subjective, it would have been difficult to tie the Parties down to more specific terms and still reach agreement. These terms will be defined in more detail by the institutions as necessary.

THE RESOURCE MANAGEMENT PROCESS

The Convention divides resource activity into prospecting, exploration, and development (tables 3-3, 3-4, and 3-6).

Prospecting

Prospecting is the first phase in the resource exploitation process (figure 3-1 and table 3-3). It consists of those methods and techniques that help miners determine targets for more intensive exploration. Successful prospecting may lead to exploration and development if economic conditions warrant and if the environment would not be 'significantly harmed.

The methods used in prospecting are not easily distinguishable from those methods scientists employ in acquiring basic geophysical, geochemical, and geologic knowledge, nor are the results. Also, the geophysical research of some countries in Antarctica is carried out by the same organizations that would conduct prospecting activities. The difference between scientific research and prospecting is largely a matter of intent. The distinction is relevant because the Minerals Convention allows prospecting data to be held as proprietary whereas, under terms of the Antarctic Treaty, the results of scientific research must be made freely available to all.

Exploration and development, as defined in the Minerals Convention, have not yet commenced in Antarctica. This is due in large part to the fact that there is little current interest in such activities. In 1977 the Antarctic Treaty Parties formally agreed to refrain from exploration and exploitation in Antarctica pending progress toward a regime governing these activities.11 But geophysical and other surveys have been conducted as scientific research-though they may produce information of potential commercial value-and thus, have not been subject to the voluntary restraint agreement on exploration. Unfortunately, the data from some past "research' surveys have not been released yet, thus raising speculation about whether these data were collected for research or for commercial purposes. Moreover, there have been varying interpretations of when data should be released.

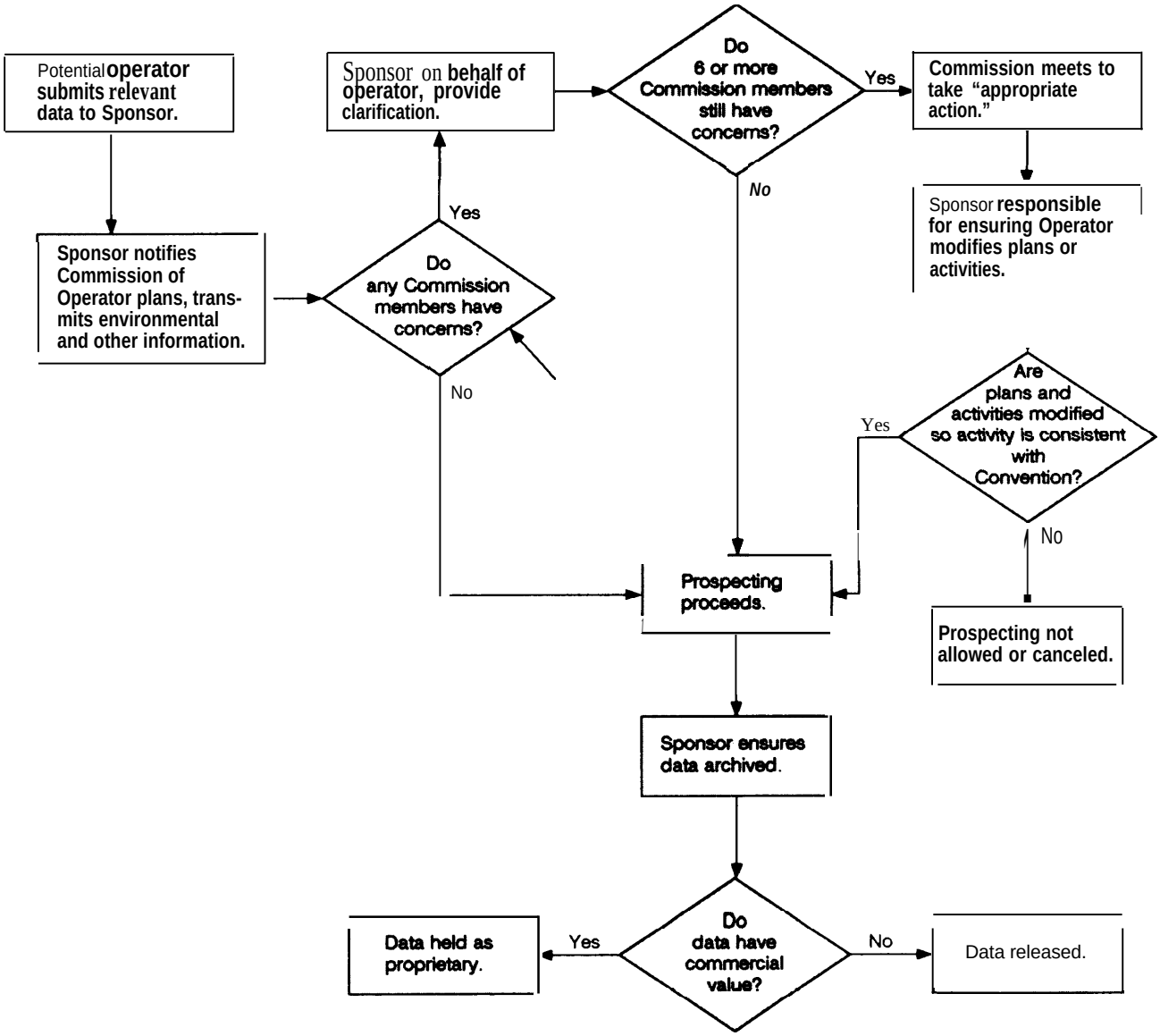
The Minerals Convention clearly distinguishes between prospecting and exploration. The Final Act of the Convention extends the policy of voluntary restraint the Parties adopted in 1977 pending entry into force of the Minerals Convention. The policy now specifically applies to prospecting as well as to exploration and development. Geophysical and other surveys may still be carried out as scientific research, but as research, the results must be made freely available. One result may be that fewer geophysical surveys will be undertaken until the Convention enters into force. Potential prospectors are unlikely to run the risk of engaging in any ''questionable' scientific research that may be viewed as prospecting prior to entry into force of the Minerals Convention, for they could lose their proprietary rights to this data.[12]

Prospecting under the Minerals Convention is subject to much less oversight by the Convention's institutions than exploration and development. It may be undertaken prior to the opening of an area to these activities, Explicit authorization is not re-

[11] Recommendation IX- 1, 9th ATCM, London, 1977.

[12] Kimball, op. cit., footnoted, p. 4.

Figure 3-l—Prospecting: Articles 37 and 38



SOURCE: Office of Technology Assessment, 1989.

quired because prospecting activities are expected to have no greater impact than similar scientific research. Thus, for 'the most part, prospecting activities are expected to be of short duration and to leave little trace behind. Prospectors are subject to the same general requirements and obligations set forth in the Convention, however, including those meant to safeguard the Antarctic environment. And prospecting may be prohibited or canceled or plans may be altered if Commission members have sufficient concerns about planned or ongoing activities.

Prospectors may hold data they obtain as proprietary for at least 10 years if it has commercial value, but significantly, prospecting confers no special

Table 33-Prospecting

Definition: Activities, including logistic support, aimed at identifying areas of mineral resource potential for possible exploration and development, including geological, geochemical, and geophysical investigations and field observations, the use of remote sensing techniques, and collection of surface, seafloor, and subice samples. Such activities do not include dredging or excavations, except to obtain small-scale samples, or drilling, except shallow drilling not to exceed 25 meters. Art. 1(8).

General provisions:

- Does *not* confer upon any Operator any right to Antarctic mineral resources. Art. 37(1).
- Does *not* require authorization by the institutions of the Convention. Art. 37(2).
- Data of commercial value may be retained, as long as the Sponsoring State certifies that they continue to have commercial value. Art. 37(10).
- Notification of prospecting by Sponsoring State must be accompanied by fees (yet to be established) and by: a) identification of the general area for prospecting, b) identification of the mineral resource(s) under investigation, c) a description of the methods to be used and the general work program, d) an assessment of the possible environmental impacts of the prospecting, e) measures to be used to avoid and/or to mitigate any harmful impacts, and f) proof that the Operator has a substantial and genuine link with the Sponsoring State and is financially and technically qualified to carry out the prospecting. Art. 37(7a-f).

Institutional oversight

- Minimal, but if a Commission member is *concerned* that prospecting is not being conducted in a manner consistent with the Convention or that planned prospecting would not be consistent with it, the member may ask for a clarification. If it is still concerned, in concert with at least five other Commission members, it may call a meeting to take appropriate action. Art. ***38.***
- The Commission may adopt additional general measures concerning prospecting applicable to all operators. Arts. 37 and 38.
- As appropriate, the Advisory Committee provides advice to the Commission. Art. 26(2a).

Key sponsor ***obligations:***

- To notify the Commission on behalf of its Operator at least 9 months before planned prospecting, the notification to include the information listed above. (Presumably, in cases where Operators and Sponsors are independent of each other, the Operator will supply this information to the Sponsor, who will in turn certify it and **forward** it to the Commission.) Art. 37.
- To ensure that Operators are qualified to undertake prospecting in conformance with the Convention, and especially that they have the appropriate financial and technical means to respond to threats to the environment. Art. 37.
- To ensure that Operators have the financial capacity to meet liability standards, Art. 37.
- To ensure that Operators conduct themselves with due regard to the rights of other Operators in the area. Art. 37.
- Where modifications to a proposed prospecting plan or to ongoing prospecting are deemed necessary, to ensure that the plan or activity of the Operator is modified. Art. 38.
- To ensure that response action is taken in the event that the Operator fails to do so. Art. (37(3a)).

Operator obligations

- Maintain the financial and technical means to conduct all activities in compliance with the Convention. Art. 37.
- Maintain a substantial and genuine link with the Sponsoring State. Art. 37.
- Conduct all activities with due regard to other Operators' rights. Art. 37.
- Unless waived, *remove all* installations and equipment after prospecting ceases and rehabilitate the site. Art. 37.

SOURCE: Office of Technology Assessment, 1989.

rights to an area. Exclusive rights to explore and develop an area may be obtained only after the relevant area has been opened, competing applications to explore the same parts of the area have been resolved, and an exploration permit has been issued. It does not appear that this uncertainty will operate as a significant deterrent to the oil and gas industry in prospecting. This industry is generally used to a system under which investments in prospecting will not necessarily entitle them to exclusive rights to explore or exploit in the area in which they conducted prospecting. The mining industry, on the other hand, neither has the financial resources that the oil and gas industry has for prospecting and exploration nor is as used to spending large sums without the certainty that it will acquire rights to its discoveries.

Some prospecting is likely to occur at a relatively early date if the Minerals Convention is ratified and enters into force--even if near-term interest in developing Antarctica's resources remains slight. Companies and nations that take a "long view" about exploiting Antarctica's resources may wish to be in a position to evaluate the economic and technical feasibility of resource exploitation, anticipating that prices will eventually be higher.[13] Prospecting may not lead immediately to exploration and development, however, in part because the economics of development may not warrant proceeding beyond the prospecting phase. For this reason, when the United States considers implementing legislation for the Minerals Convention, it may wish to devote somewhat more effort to developing regulations applicable to domestic pros-

[13] Ibid., p. 4.

pectors. There is likely to be additional time in which to formulate domestic implementing legislation for exploration and development of Antarctica's resources,

Identification of an Area for Exploration and Development

One of the most important decisions specified by the Convention is how an area of Antarctica is opened for exploration and development. If a prospector determined that there was sufficient incentive to proceed with intensive exploration of a particular site, the prospector would request that its Sponsor ask the Commission to identify (open) the area in question (figure 3-2). The Commission's **decision to open an area must be made by consensus.** This is the decision that triggers the formation of a Regulatory Committee, consideration of exploration and development permits, development of a Management Scheme, and, in general, greatly increased activity. The Commission must decide whether identifying all or part of the area is consistent with Convention standards, and, in theory, Commission members will base their vote on all relevant information submitted by the requesting Party, other interested Parties, the Advisory Committee, and the Special Meeting of [All] Parties.

To the extent that the United States is reluctant for any reason, such as environmental concerns, to allow an area of Antarctica to be opened to exploration, the consensus voting requirement ensures that opening the area can be blocked. However, if the United States wants an area opened, any other member of the Commission could block its request. Since some state member might oppose opening an area on environmental or other grounds or seek to impose conditions which effectively do the same thing, the U.S. interest might be thwarted. An environmental group's opposition, if based on plausible evidence, might serve as the pretext for a state's negative vote.

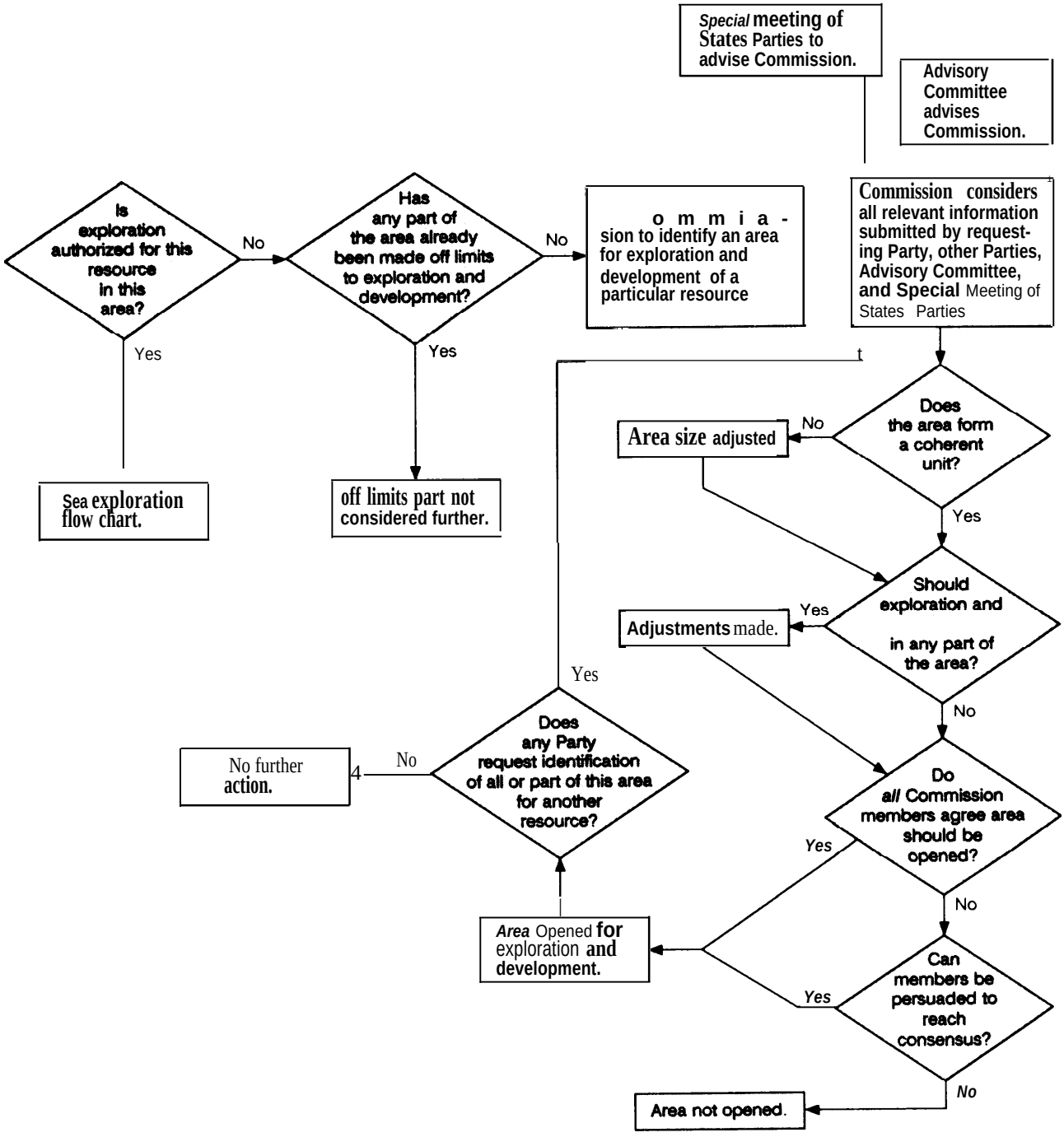
It is not clear what financial, temporal, or other disincentives to proceeding with exploration might deter a state or company from seeking to have an area opened to exploration applications relatively early. While OTA predicts that actual development is unlikely absent a very valuable find and extremely favorable projected market conditions, it is less clear how far in advance a serious effort would be made to ''trigger' the system by seeking to open an area. One of the biggest deterrents to opening an area is likely to be the need for adequate information, One incentive for early application to open areas to exploration and development is the provision that prospecting data must be made public after 10 years, although there are also provisions to extend the 10-year protection of such data (art. 37).

It is likely that the more important an area is likely to be to consumers, the greater will be the pressure on the Commission members to approve a request to open it. The ''nightmare' scenario of a Western country, in desperate need of oil, being frustrated by Commission vetoes is improbable. If the situation were that critical to the West, a threat to denounce the Convention would presumably be real. In that case the possible collapse of the Convention (and likely the entire Antarctic Treaty System along with it) would be viewed by all Parties with alarm.

The Commission includes some oil exporting states (e.g., the United Kingdom and Norway). None has thus far associated itself with a cartel, However, it is possible the consensus requirement could inspire a member of OPEC (the Organization of Petroleum Exporting Countries) to invest in the Antarctic research necessary to join the Commission, so as to gain a veto over the decision to open Antarctica to oil exploration and development. However, an economically motivated move by an oil exporter to restrain Antarctic production would likely unite the existing group of states active in Antarctica, in part because most are consumers and in part because they perceived that their system was being manipulated for outside ends. In such an atmosphere, it is not likely that the attempt to block consensus would long survive. The same argument is likely to be true for hard minerals exporters.

Would the presence of the Soviet Union on the Commission likely be a problem for the United States? The Soviet Union is certainly capable of using its veto for purely political ends. Whether, in particular circumstances, it would do so is another matter. If the question arose at a time when the Soviet Union was seeking better relations with the West or more Western capital and investment, the chances of a veto are reduced. If the question arose at a time of high tension, the Soviet Union would

Figure 3-2-Opening an Area: Articlea 3941



SOURCE: Office of Technology Assessment, 1989.

nevertheless have to consider its interests in maintaining the stability of the Antarctic system and its interests as a consumer of the commodity concerned. The Soviets would also have to consider whether they have an interest in developing Antarctic mineral resources themselves. If that country considers undertaking mineral development, it might be deterred from vetoing a U.S. request so as not to trigger a U.S. veto of its own request.

While these scenarios are unsettling, they are not very likely. Two other scenarios are likely to be of more concern: 1) when there is genuine disagreement about the environmental hazards of opening an area, and 2) when other states demand to participate in a proposed minerals activity, whether the United States or some other state sponsors the activity.

Genuine Disagreement Over Environmental Hazards—This situation may be less unsettling for the United States because U.S. interests include an interest in protecting the environment, because the United States is already among the more environmentally concerned Commission members, and because U.S. companies have substantial experience in working with environmental constraints and bearing their added costs. Any proposed development that is likely to survive our domestic political process is unlikely to attract strong and genuine foreign opposition on environmental grounds. This is particularly true since U.S. environmental procedures and standards are likely to apply to any decision by the U.S. Government to propose the opening of an area or to sponsor an applicant. At the same time, any environmental organizations that actively oppose opening an area can be expected to focus lobbying efforts on those countries most likely to cast a dissenting vote,

Demands for Participate---Intemational participation, especially by developing country Parties, is encouraged by the Convention (art. 6). Demands for participation could come from a variety of sources and for political or economic reasons. A territorial claimant, for instance, might demand to participate in a venture in order to establish the principle that exploitation in ''its' area requires its participation, thereby guaranteeing *de facto* accommodation of its claims. Alternatively, developing countries might demand to participate for ideological reasons (one could find the economic interests of a state or of private companies in one or more proto-industrial states behind the ideological rhetoric),

A foreign state's demand to participate may increase the cost of the venture to the Operator. On the other hand, development of Antarctic resources is likely to be so expensive that investors will most likely spread the risk by forming joint ventures (app. A presents a scenario of how a joint venture might work).

The Convention limits the role of the Commission ''to 'elaborating opportunities' for joint ventures or different forms of participation' (art.41 (Id)). There is also helpful interpretive language in the Final Act concerning the ''freedom of choice' of an investor regarding partners in a joint venture, including terms of their partnership. Nevertheless, there will be ample opportunity for bargaining. Potential investors will have to consider that even if a veto in the Commission can be avoided, both the Soviet Union and a territorial claimant over the area in question will wind up on the relevant Regulatory Committee, and would thus be in a position to influence future decisions if their interests are not accommodated.

It is also possible that one or more Commission members will demand a price for their cooperation in supporting a decision to open an area. Such price may be unrelated to the Antarctic minerals regime, in which firm diplomacy may contain Antarctic bargaining to Antarctic issues. However, if the price of support is relevant to the Antarctic minerals regime or other Antarctic diplomacy, then ''log-rolling, a time-honored characteristic of collective decisionmaking bodies, is likely.

The Convention's provisions for opening an area for exploration and development:

- guarantees that no area will be opened over the objections of the United States;
- comes close to guaranteeing that no area will be opened for development over well-founded environmental objections;
- does not assure that any area of Antarctica will be opened; and
- subjects states that seek to open an area to a variety of demands that may have to be accommodated to open the area.

The consensus requirement supplies a great deal of protection for U.S. environmental and scientific interests, but little protection for potential U.S. economic interests. It protects U.S. interests in stability in Antarctica by guaranteeing the consent of all substantially interested states before exploration and development is undertaken. If, however, significant concessions to territorial claimants are made as the price of a decision to open an area, the consensus requirement may prejudice the long-term stability of the current Antarctic system, and long-term U.S. political, legal, economic, and environmental interests.

From the point of view of the petroleum and mining industries, the number of sovereign states involved in the decisionmaking process, as exemplified by the requirement for a consensus decision to open an area, is worrisome. United States international oil companies are accustomed to, and adept at, negotiating with all sorts of governments on an individual basis. But to have to satisfy a large group of countries, each with somewhat different interests, is daunting, even if the Sponsor is the more directly involved party in the process.[14] Private companies, whether domestic or foreign, might indeed prefer dealing with a single sovereign power in Antarctica if such an option were possible.

Exploration

Once an area has been opened for exploration and development, Operators may seek approval for exploration (figure 3-3 and table 3-4).

Application Procedures

The Regulatory Committee must initially establish procedures for receipt of applications for exploration or development permits. Subject to any decisions by the Commission regarding maximum block size and application fees, the Regulatory Committee will then divide the area into blocks and set the relevant application fees.

The Regulatory Committee will also establish procedures for resolving competing applications for the same block where the applicants have not resolved the matter themselves. Those procedures must include priority for the application with the broadest participation among interested Parties, including developing countries in particular.

These decisions require a two-thirds majority of the states present and voting, that is 7 out of the normal 10 votes. (States that abstain are normally not considered to be 'voting.' Four negative votes would be necessary to block a decision if there were no abstentions or only one abstention. If there were two to four abstentions, three votes would be sufficient to block (table 3-5).

To the extent that an issue arises that relates to a difference in principle with the territorial claimants, four claimants, if united, will be able to block any decision favored by six nonclaimants.

To the extent that an issue arises that relates to the general interests of Western consumer nations, the United States should not normally find it too difficult to find three additional negative votes (or two additional negative votes and two abstentions) to block adverse decisions. The four territorial claimants on the Committee will come from among the following group of seven: Argentina, Australia, Chile, France, Norway, New Zealand, and the United Kingdom. At least two of the four might normally be expected to share many of the same interests as the United States, or at least favor accommodation of substantial United States concerns. In that case, the United States would need to persuade only one of the five other nonclaimants of its point of view. It is probable that the nonclaimant group will include at least one additional Western state, for example an European Economic Communit y member or Japan, particularly if the four claimants include only two Western states.

The Regulatory Committee can, if it wishes, establish a limit on the number of blocks that may be accorded to any given Party (art. 43(2)). A block size limitation could pose a problem for Operators, who desire as much assurance as possible that the area in which they are granted exclusive rights will be large enough to contain the size deposits necessary for economic development. If individual blocks are large enough in the first place, the potential problem can be avoided. Moreover, given the multinational nature of the oil and mining industries, and their

[14] J.N. Garrett, "The Antarctic Minerals Regime: A Petroleum Industry perspective," OTA contractor report, November 1988.

capacity to establish subsidiaries with substantial and genuine links to foreign states, the extent to which the risk of an adverse decision on this point should give rise to serious underlying economic concerns is unclear.

Guidelines

The Regulatory Committee is required to adopt guidelines identifying the general requirements for exploration and development in the area of its competence. These will cover the detailed items normally associated with mining regulations.

The adoption of such guidelines requires, in addition to a two-thirds majority, the votes of half the claimants and half the nonclaimants present and voting. Blocking power is thereby increased. A territorial claimant, including the state with a territorial claim in the area in question, would need to persuade only two other claimants of its point of view in order to block a decision, even if there are no abstentions. Under this formula, the United States or another nonclaimant would need to persuade at least three other states to vote ''no' in order to block a decision in the absence of abstentions.

An impact of this formula is to increase the power of the claimants in general, and of the claimants making claims within the area in question in particular. It could therefore strengthen their ability to extract practical or legal concessions to the territorial claims. An extreme but unlikely example would be a demand that the guidelines conform in significant respects to the mining laws of the state that claims sovereignty in the area.

The Application for an Exploration Permit

Subsequent to the preparatory work undertaken by the Regulatory Committee, the Sponsoring State, on behalf of the Operator, may submit an application for an exploration permit. The application must be accompanied by the fees established by the Regulatory Committee and, according to article 44, contain:

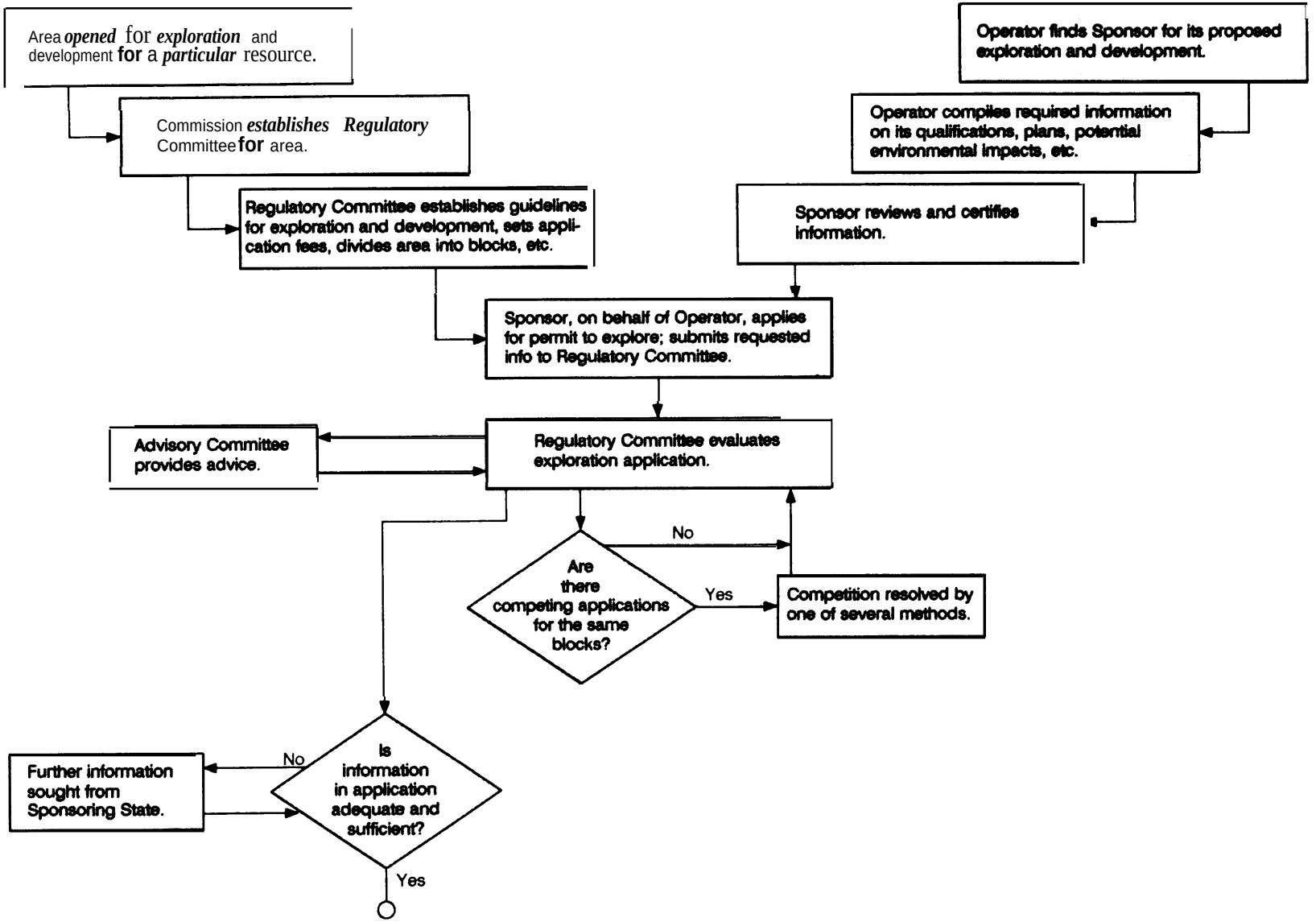
. A detailed description of the Operator, its structure, financial composition, and resources and technical expertise. If the Operator consists of a group of countries, i.e., a joint venture, the application must include a detailed description of the degree (including equity composition) to which the parties are involved in the venture.
- A detailed description of the proposed exploration activities and, to the extent possible, a detailed description of the proposed development plan.
- A detailed assessment of environmental and other impacts of the proposed activities, and a description of the Operator's capacity to respond to accidents, especially those with potential environmental effects.
- Certification by the Sponsor of the capacity of the Operator to comply with the guidelines established by the Regulatory Committee; of the technical competence and financial capacity of the Operator; and that the relationship of the Operator to the Sponsor is substantial and genuine.
- A description of any proposed joint venture or other participation terms.

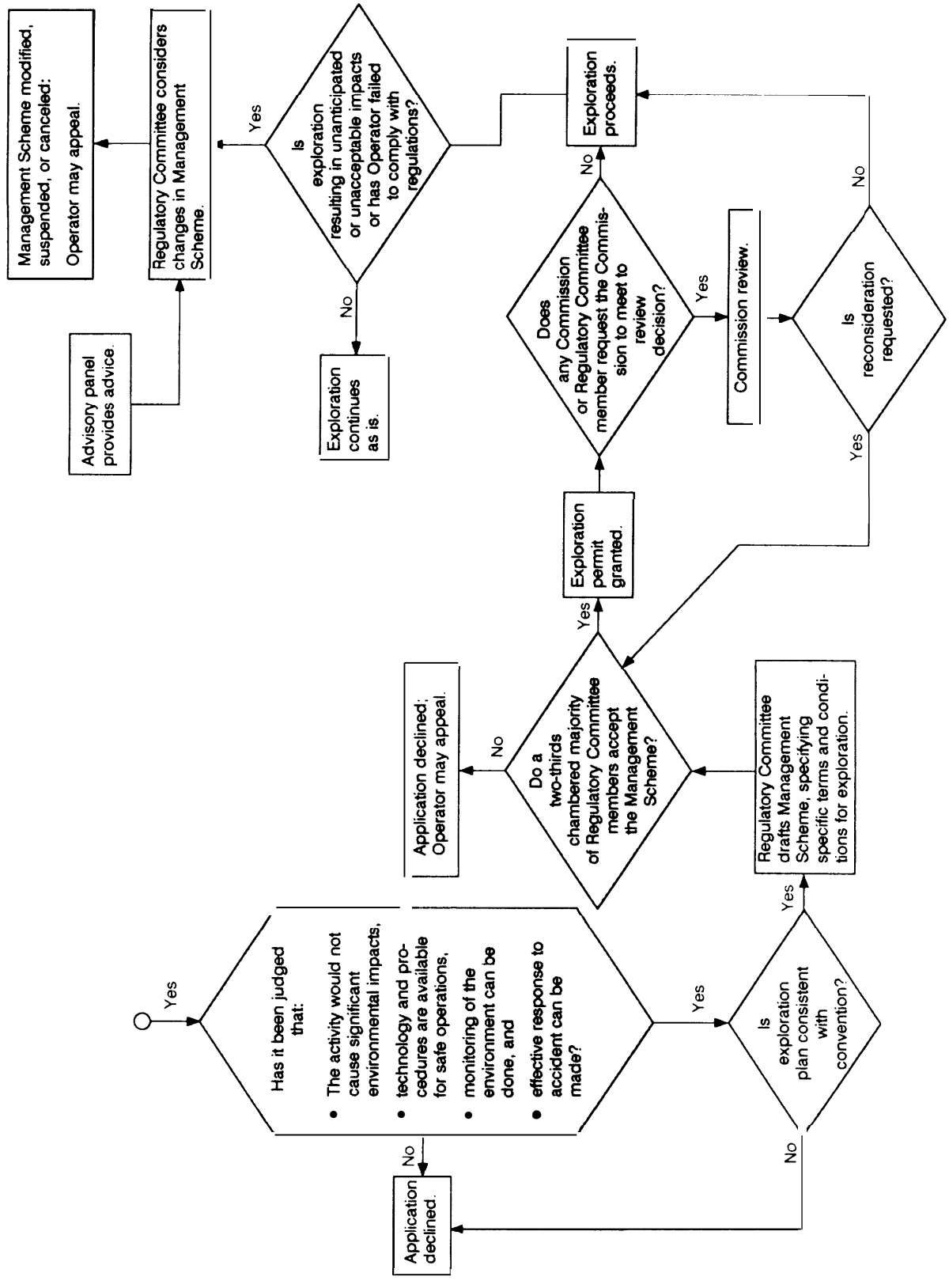
Approval of Exploration Permit and Management Scheme

The Regulatory Committee has the authority to approve an exploration permit and Management Scheme (contract). The approval of an exploration permit and Management Scheme for a specific block accords an Operator exclusive rights to explore for the resources identified and the exclusive right to develop those resources, subject to subsequent issuance of a development permit. The Management Scheme sets out the specific terms and conditions for both exploration and development. Those governing development will only be as detailed as the information available at this stage and are subject to review at the development stage. Terms and conditions must be consistent with the Convention and applicable regulations and guidelines adopted either by the Commission or the Regulatory Committee, and would include procedures for settlement of disputes between the Operator and the Regulatory Committee.

When considering the application and Management Scheme, the Regulatory Committee is required to "have recourse' to certain of its members: the Sponsoring State, any state making claims in the area with respect to which the Regulatory Committee is competent, and, as may be required, *one or* two additional members of the Committee (art. 46). The meaning of this requirement is not specified. A procedural right to be deeply involved in the process,

Figure 34-Exploration: Articles 4 and 43-51





SOURCE: Office of Tec og Assessment, 989

Table 3-4-Exploration

Definition: Activities, including logistic support, aimed at evaluating specific mineral occurrences or deposits, including exploratory drilling, dredging, and other surface or subsurface excavations required to determine the nature and size of mineral resource deposits and the feasibility of their development, but excluding pilot projects or commercial production. Art. 1(9).

General provisions:

- Exploration prohibited unless specifically authorized. Art. 4.
- The decision to authorize exploration and possible development in a particular area must be based on information adequate to enable informed judgments, including a description of the physical and environmental characteristics of the area, an environmental impact assessment, and likely scale of development, methods used, and types of resources sought. Arts. 4 and 47.
- Any authorized activities subject to the specific terms and conditions prescribed by Regulatory Committees in Management Schemes. Art. 47.
- An exploration permit accords exclusive rights to the Operator—***subject*** *to consideration of needs for modifications to the Management Scheme prior to development-to* explore *and to develop* mineral resources in accordance with the Management Scheme. Arts. 48, 53, and 54.
- Management Schemes subject to modification if new information suggests greater than anticipated impacts or if an Operator has failed to comply with the Convention. Art. 51.

Institutional oversight

- A consensus decision must be made by the Commission members to allow exploration and development in a particular area. Art. 41.
- The Special Meeting of Parties advises the Commission on whether allowing exploration in an area is consistent with the principles of the Convention. Art. 41.
- The Advisory Committee reviews information submitted to the Commission and Regulatory Committee and gives advice. Arts. 40,45, ***51,*** and ***52.***
- If exploration and development are considered to be consistent with the Convention, a Regulatory Committee is constituted for the area. The Committee is responsible for subdividing the area into blocks, adopting procedures for handling applications, and adopting general guidelines for exploration and development in the area. Arts. 29 and 43.
- The Regulatory Committee examines each application, issues an exploration permit or denies exploration, and devises Management Schemes which prescribe specific terms and conditions under which exploration and development may proceed. Arts. 45-48.
- The Regulatory Committee may suspend, cancel, or modify a Management Scheme if unanticipated unacceptable impacts could result or if the Operator has failed to comply with the Convention. Art. 51.
- Any member of the Regulatory Committee or any six members of the Commission may request a review by the Commission of the Regulatory Committee's decision to approve a Management Scheme or issue a development permit, and the Commission may request that the Regulatory Committee *reconsider its* decision. Art. 49,

Key sponsor obligations:

- On behalf of an Operator, to submit an application for an exploration permit. The application must be accompanied by appropriate fees and by detailed information about the Operator and about proposed exploration activities, including a detailed assessment of environmental and other impacts of the proposed development. (Most likely, the Operator will supply much of this information to the Sponsor. Sponsors will need to establish domestic procedures for accepting and reviewing this information.) Art. 44.
- To certify the capacity of the Operator to conform to the standards of the Convention and to certify the Operator's technical competence and financial capacity, Art. 44(c-d).

Operator obligations:

- 'In concert with the Sponsor, to provide the data and information required for the Commission to consider identifying an area for exploration and development and for the Regulatory Committee to consider issuing an exploration permit. Arts. 39 and 44.
- Exercise its rights with due regard to the rights of other Operators. Art. 50.
- To live up to the specific terms and conditions of the Management Scheme, which relate, inter alia, to duration of exploration, measures and procedures for protection of the environment, response action to environmental mishaps, performance requirements, technical and safety specifications, monitoring and inspection, liability, resource conservation, financial obligations, provision of data and information, and removal of installations and equipment at the end of exploration and/or development. Art. 47. Suspension, modification, or cancellation of a Management Scheme may occur if an Operator fails to comply with the Management Scheme. Art. 51.
- Subject to procedures to be established by the Commission, Operators may request the Arbitral Tribunal andl/or other body to review a denial of an exploration or development permit, cancellation of a Management Scheme, etc. Art. 59.

SOURCE: Office of Technology Assessment, 1989.

rather than any decisionmaking power as such, is suggested. The provision may imply a core negotiating or drafting group, or some less structured form of consultation. The reference to ''one or two' additional members may imply that the United States and the Soviet Union are to be included in all cases, although there appears to be no formal decision in the Convention or Final Act to this effect.

The approval of a Management Scheme by the Regulatory Committee constitutes authorization for the issuance without delay of an exploration permit. The decision to approve the Management Scheme requires a two-thirds vote of the Regulatory Committee, including a majority of the votes of claimants and a majority of the votes of nonclaimants. Absent abstentions, this means that either two claimants or three nonclaimants could block the decision (table 3-5).

This formula increases the ability of the United States to block an adverse decision. Absent ab-

Table 3-&Blocking Power on a Regulatory Committee

A. Votes Requiring a 2/3 Majority

Present and voting	Absent or abstention	Negative votes to block
10	0	4
9	1	4
8	2	3
7	3	3
6	4	3
5	5	2
4	6	2
3	7	2
2	8	1

B. Additional Blocking Options Where 2/3 Vote Must Include Half the Claimants and Half the Non-Claimants

Claimants present and voting	Claimants absent or abstention	Claimants negative votes to block
4	0	3
3	1	2
2	2	2
1	3	1
Non-Claimants present and voting	**Non-Claimants absent or abstention**	**Non-Claimants negative votes to block**
5	1	3
3	3	2
2	4	2
1	5	1

C. Additional Blocking Options Where 2/3 Vote Must Include Majority of Claimants and Majority of Non-Claimants

Claimants present and voting	Claimants absent or abstention	Claimants negative votes to block
4	0	2
3	1	2
2	2	1
1	3	1
Non-Claimants present and voting	**Non-Claimants absent or abstention**	**Non-Claimants negative votes to block**
6	0	3
5	1	3
4	2	2
3	3	2
2	4	1
1	5	1

SOURCE: B.H. Oxman, "Evaluating the Antarctic Minerals Convention: The Decision-Making System," OTA contractor report, Jan. 9, 19S9.

stentions, the United States would need to persuade either two other nonclaimants, or two claimants, to vote ''no. It also increases the difficulty of achieving affirmative decisions because only two claimants would be needed to block the decision. On the other hand, since the Management Scheme fashioned by the Regulatory Committee or a subset thereof must be consistent with guidelines adopted by the Regulatory Committee, many if not most potential objections may already have been re-Solved.

Development

The holder of an exploration permit pursuant to an approved Management Scheme may apply to the Regulatory Committee at any time through its Sponsor for a development permit for the block and resources covered. The application must be accompanied by the established fees, and, among the several requirements, must contain an updated description of planned development activities, a detailed assessment of the environmental impacts of

Photo credit: Ann Hawthorne

Victoria Valley, Dry Valley area near McMurdo.

the planned development, and a recertification by the Sponsor of the technical competence and financial capacity of the Operator to undertake the planned development (table 3-6).

In considering an application for a development permit, the Regulatory Committee must determine whether modifications are necessary in the Management Scheme. The Convention sets forth only two reasons for such modifications:

1. if the application reveals modifications by the Operator to the development planned in the original Management Scheme, and
2. if as a result either of changes in the planned development or in light of increased knowledge, the development would cause impacts on the environment that were previously unforeseen.

The process for obtaining a development permit (figure 3-4) is described in article 54. Paragraph 5 of article 54 has drawn special attention from potential investors and environmentalists alike due to its ambiguity. At issue is whether a specific vote is required to block development if there has been no agreement on modifications to the Management Scheme.

The paragraph provides that ''if the Regulatory Committee in accordance with Article 32 approves modifications [to the Management Scheme], or if it does not consider that such modifications are necessary, the Regulatory Committee shall issue without delay a development permit. Article 32, paragraph 1, of the Convention provides that deci-

Table 3-6-Developrnent

Definition: Activities, including logistic support, which take place following exploration and are aimed at or associated with exploitation of specific mineral resource deposits, including pilot projects, processing, storage, and transport activities. Art. 1(1 O).

General provisions:

. A development permit is required. Art. 53.

. Additional data-updating that required for exploration—must accompany the permit, including an updated description of planned development, any modifications requested to the approved Management Scheme, and a detailed assessment of environmental and other impacts of the planned development. Art. 53.

• If exploration is authorized and a Management Scheme is in force, an Operator may develop deposits it finds, subject to modifications which may be required to the Management Scheme in light of changes to the planned development or previously unforeseen impacts on the environment. Art. 54.

Institutional oversight

• Regulatory Committee must approve the development plan. Art. 54.

. Under certain circumstances, the Commission may review the Regulatory Committees' decision to approve an application for development and may request that the Committee reconsider its decision. Art. 49.

. The views of the Advisory Committee to be considered. Art. 54.

Key Sponsor obligations:

. At any time during the period in which an approved Management Scheme and exploration permit are in force, the Sponsor may submit an application for a development permit to the Regulatory Committee on behalf of the Operator it sponsors. Art. 53(1).

. Sponsor must recertify the Operator it sponsors regarding technical competence, financial capacity, ability to comply with general requirements related to exploration and development, and maintenance of the link with the Sponsor. Art. 53.

Operator obligations:

• To provide its Sponsor with: a) an updated description of planned development, specifically noting any proposed changes, b) the information required to assess the environmental and other impacts of planned development, and c) the information required for recertification of technical competence, financial capacity, and capacity to comply with the general guidelines for exploration and development in the area.

. To live up to the specific terms and conditions of the Management Scheme, including changes made in the Management Scheme by the Regulatory Committee.

. To maintain a substantial and genuine link with its Sponsoring State.

SOURCE: Office of Technology Assessment, 19S9.

sions by a Regulatory Committee "pursuant to' article 54(5) shall be taken by a two-thirds majority vote, including a majority of the votes of claimants and a majority of the votes of nonclaimants This is the same majority required for original approval of the Management Scheme, Absent abstentions, either two claimants or three nonclaimants could block the decision.

The approval of modifications to the Management Scheme would be a decision "pursuant to" article 54(5) requiring the concurrent majorities specified in article 32, paragraph 1. It would be relatively easy to block such a decision (table 3-5). It is clear that once modifications are approved, the development permit must be issued. However, states might seek to block modifications either because they opposed them or because they favored a package of more extensive modifications.

What happens if the requisite majority does not vote in favor of any modifications to the Management Scheme? If there is not enough support for modifications (i.e., if the concurrent majorities necessary for modifications cannot be obtained), does this mean that the development permit is automatically issued without delay? Is an additional affirmative vote required that modifications are not necessary? Is there a point when the negotiating process over modifications is deemed completed and no further negotiation permitted?

Potential investors are concerned about the ambiguity of this article because they are opposed to the separation of the exploration and development stages.[15] They would prefer an interpretation of article 54(5) that does not require reapproval. Investors argue that exploration in Antarctica will be too costly to undertake unless they are certain that they will be able to proceed from exploration to development. Another vote could derail planned development activities after substantial investments have been made. They also note that the initial exploration permit must discuss proposed development activities in as much detail as possible, the Regulatory Committee will already have a fairly good idea of what impacts to expect from development.

Some environmental groups, on the other hand, argue that there must be the possibility of a negative decision at the development stage.[16] These groups point out that development could have a much greater impact on the environment than exploration, Therefore, the Regulatory Committee and the Commission should have the authority to deny a full-scale commercial development permit, They therefore prefer that article 54(5) is interpreted to mean that an affirmative decision to issue or to decline to issue a development permit is intended and also that if an affirmative decision to approve modifications cannot be reached, this does not mean that the development permit is automatically approved or that modifications are not necessary.

Supporters of the argument that article 54(5) is intended as a modification procedure rather than a reapproval procedure can argue that while it is true that investors run the risk that a two-thirds majority might alter the Management Scheme for stated environmental reasons under article 5 l—which refers to general circumstances under which a Management Scheme may be suspended, modified, or canceled-that is far less onerous than running the risk that two or three states, by blocking the issuance of a development permit, could render the investment in exploration useless. Their position would be that the stringent requirements for consensus in the Commission to open an area, and for concurrent majorities in the Regulatory Committee to approve the Management Scheme, represent the appropriate time for according a minority the power to block economic activity, namely before substantial investments have been made.

In this connection they might also note that even where a two-thirds majority modifies a Management Scheme under article 51, the text contemplates the possibility of compensation to the investor (art. 51(6)). No such provision appears in article 54. It would be anomalous to argue that a small minority is empowered to impair investments without compensation, while a two-thirds majority is not.

The potential disagreements posed by the ambiguity in article 54 may not be as great as they appear. It is reasonably clear that the only relevant issue under article 54 relates to previ-

[15] Ibid., p. 31.

[16] Antarctic and Southern Ocean Coalition, op.cit., footnote 9, p. 5

Figure -Development: Articles 53 and 54

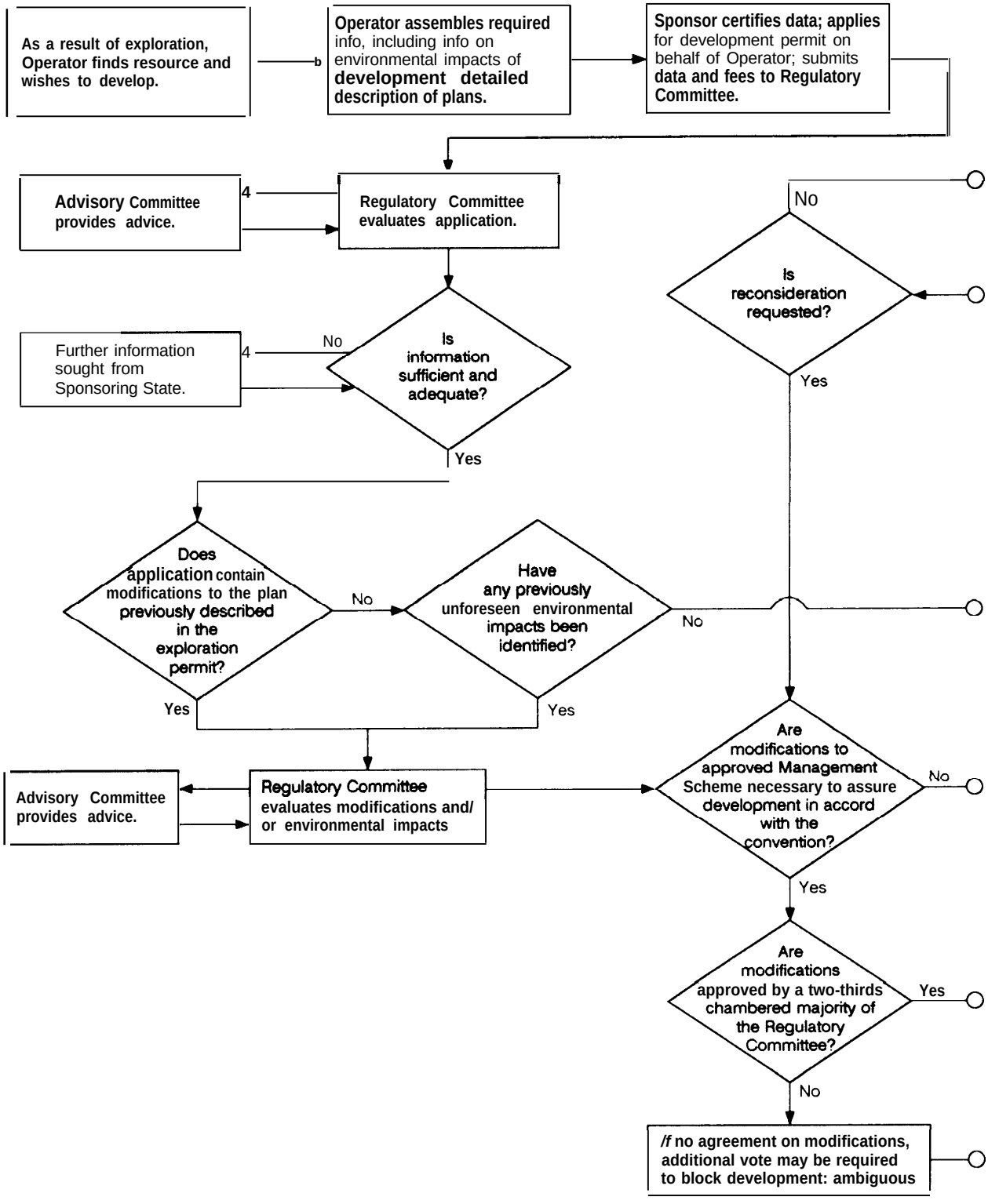
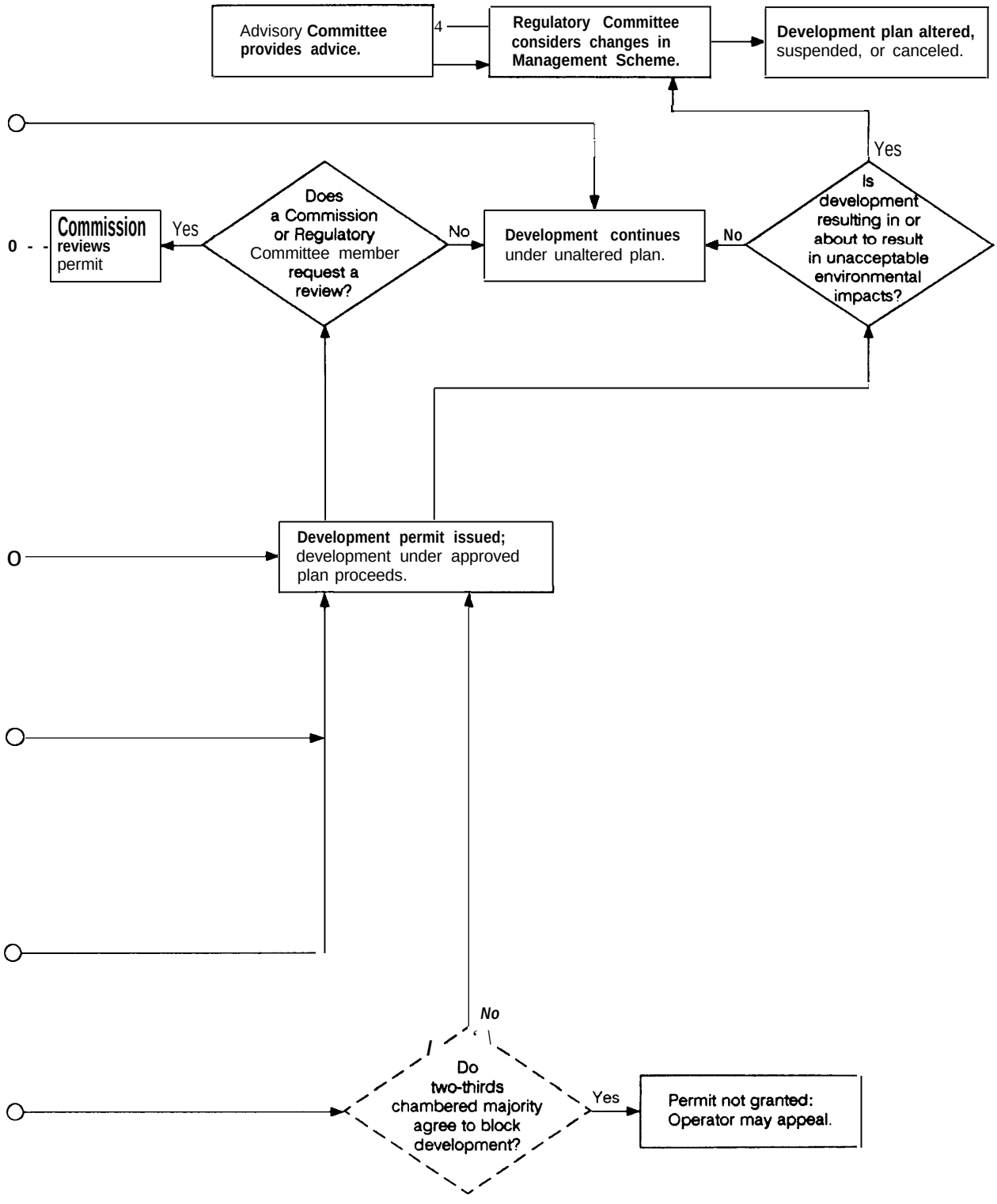


Figure 34-Development: Articles 53 and 54-Continued



SOURCE Office of Technology Assessment 1989

ously unforeseen impacts on the environment, either as a result of modifications to the planned development previously envisioned or in light of increased knowledge. Politically difficult issues, such as participation, will already have been settled at the time the Management Scheme was originally approved. Thus, it does not seem very likely that potential problems will involve more than an accommodation of new environmental concerns. From this perspective, the investor may be better off resolving new environmental problems before proceeding with additional significant investments associated with actual development. The alternative, should the environmental critics turn out to be correct in predicting new environmental risks, could be a far more costly suspension of operations or modification of a management scheme under article **51** at a later stage.

Given the fact that article 54 is not a model of clarity, and that differing interpretations may be proffered not only by different states but by different groups in the United States, it might be prudent to attach a specific statement of interpretation on this point, approved by the Senate, to any instrument of ratification. Such a statement is, however, no guarantee that other states or, if the matter is brought to arbitration, a tribunal, will agree.

SUSPENSION, MODIFICATION, CANCELLATION, AND PENALTIES

Regulatory Committees have the power to suspend, modify, or cancel a Management Scheme as a result of impacts on the environment beyond those judged acceptable at the time relevant decisions regarding the opening of the area and the Management Scheme were taken. Committees can also take such action, or to impose a monetary penalty, in the event an Operator (miner) violates the Convention, measures adopted under the Convention, or the Management Scheme. The response must be proportional to the seriousness of the violation.

The power of the Regulatory Committees is subject to general measures previously adopted by the Commission. Those measures could include provision for compensation to the miner, presumably for certain losses incurred as a result of action taken by a Regulatory Committee. The power of the Regulatory Committees in these respects will also be subject to arbitration. If the Arbitral Tribunal finds that a Regulatory Committee acted unlawfully, it would presumably have the authority to award damages to the Operator, determine that the Committee may not take the action contemplated, or both (art. 59).

Decisions of the Regulatory Committee on these matters require a two-thirds vote. There is no requirement of concurrent majorities. Thus, without abstentions, the United States or any other Party would have to obtain three other negative votes to block a decision. Given the availability of arbitration, the size and likely composition of the Regulatory Committees, and the possibility that the Commission's general measures will add protections for the investor, it is unlikely that Regulatory Committees will arbitrarily y or unreasonably exercise their power.

BUDGET AND REVENUE CONSIDERATIONS

The Parties established several mechanisms for generating revenues from resource development activities to support the Convention's institutions. However, in the period before revenues are sufficient to cover all or part of the regime's operating costs each Commission member will contribute to its operation. Initially, each of the 22 members will contribute equal shares to the budget, but as soon as possible a more equitable formula will be established, by consensus, that will take into account each member's ability to pay (art. 35). **It is unlikely that revenues will significantly offset expenses for the foreseeable future.**

In the event that resource activities do commence, revenues will begin to offset some of the regime's expenses. At some point revenues may be able to cover all of the Minerals Convention's operating costs, and surpluses may be generated. What to do with possible revenue surpluses was one of the more difficult problems in the negotiations. Claimant states hoped that a portion of excess revenues automatically would be allocated to the relevant claimant in recognition of its 'special interest. The final text specified that excess revenues would be used in three ways:

1. to reimburse operational expenses paid by Commission members in years before revenues begin to offset some or all of the regime's expenses (art. 35(lb));
2. to promote scientific research in Antarctica by all Parties (especially by developing country Parties), particularly research related to the environment and resources of Antarctica (art. 35(la); and
3. to ensure that ''the interests of the members of Regulatory Committees having the most direct interest in the matter in relation to the areas in question are respected in any disposition of that surplus" (art. 35(7b)).

This last vague statement could be interpreted to apply primarily to claimant states. Given the other claims on excess revenues and the fact that all budgetary decisions—including allocation of excess revenues—require a consensus vote, it is far short of the guaranteed share of revenues that claimant states hoped to acquire.

The Convention specifies three methods for generating revenue:

1. Operators will be required to pay fees to cover the handling costs of notifications for prospecting and identification of an area and for applications for exploration and development;
2. Operators will be responsible for levies on exploration and development activities, where the principal purpose is to offset the operating expenses of the Convention; and
3. Operators will be obligated to make payments ''in the nature of and similar to taxes ,royalties, or payments in kind (art. 47(k)).

The amount Operators would be required to pay is not specified in the Convention. The Commission is to adopt general rules governing revenue at a later date. The relevant Regulatory Committee will specify the specific financial obligations of each Operator as part of each Operator's Management Scheme. Fees covering the administrative costs of notifications and applications are unlikely to be a burden to Operators. However, levies to finance the costs of the institutions and taxes, royalties, and other financial payments could be significant. These might be important factors for an Operator in determining whether to proceed with a project. Regulatory Committees may have difficulty specifying the amounts or percentages of Operator obligations. An Operator is unlikely to proceed unless there is a financial incentive to do so, that is, unless it can be assured of an adequate rate of return after these obligations are met. (Apps. A and B contain more information about development costs.)

OPERATORS AND SPONSOR STATES

The relationship between an Operator and its Sponsor in the Convention is important. On the one hand, Sponsors are to evaluate Operators and oversee their activities. For instance. they must ensure at each stage in the process that their Operators are qualified to undertake resource development activities without violating provisions of the Minerals Convention. In particular, they must ensure that Operators have the financial capacity and technical competence to respond to threats or harm to the environment. Sponsors must also ensure that Operators maintain a substantial and genuine link with them; that data and information supplied by Operators is acceptable; and that activities of their Operators do not infringe on the rights of other Operators.

On the other hand, Sponsors will need to support and defend the interests of their Operators. On behalf of Operators, Sponsors must notify the Commission in advance of prospecting, promote Operator interests in identifying areas for exploration and development, and submit applications for exploration and development permits to the Regulatory Committees. In helping to develop Management Schemes to guide Operator activities, the oversight and support roles of Sponsors intermingle and could potentially conflict.

Significantly, an Operator-at least one based in a free market economy like the United States—is free to choose its own Sponsor. The presumption that a multinational company with headquarters in the United States will want or need to select the United States as its Sponsor may not be correct, The selection of a Sponsor will depend in part on how willing the Sponsor is to defend Operator interests. One important factor in establishing industry confidence in the Minerals Convention is the degree to which the Sponsoring State will expedite procedural matters for the applicant and defend his position in

the controversial situations that may arise from time to time.[17] If an Operator does not perceive that the United States can provide this help and support, it may seek a Sponsor elsewhere. Without a supportive Sponsor, Operators may find it too difficult to participate in Antarctic minerals activities.

Operators are also likely to consider a prospective Sponsor's procedural requirements. Sponsors with complicated or time-consuming procedures would be less appealing than Sponsors with easier ones, all other things being equal. Operators also might see some advantage in choosing as Sponsor the country claiming the area of interest. A claimant state, for instance, might be more inclined to cast its vote in favor of opening an area if an Operator selected that claimant to sponsor its activities and/or perhaps made other concessions that facilitated development.

The United States could establish elaborate regulations for potential Operators only to find no Operators interested in being sponsored by it. This will occur if standards in other countries are less stringent and if the United States does not offer offsetting advantages, However, if the United States stands behind its Operators, its support, given its longstanding leadership role in Antarctica, could be valuable. Conversely, its lack of support could hurt: the United States can always veto development at an early stage, and it has substantial influence at all stages to affect the outcome of decisions. Operators could find the United States to be a valuable ally.

LIABILITY AND RESPONSE ACTION

One of the most difficult issues the Parties faced was the issue of liability and response action for activities that result or threaten to result in damage to the Antarctic environment. The underlying difficulty involved ensuring that damages and injuries would be adequately compensated without making activities prohibitively difficult or expensive to undertake. Article 8 of the Convention establishes general provisions for liability and response action, but negotiators were unable to reach agreement on several important liability concerns. They decided that once negotiations on the Minerals Convention were complete, they would begin negotiating a separate Liability Protocol to the Convention. The Protocol is to be adopted by consensus and ratified by the same procedure as the Convention. Pending its entry into force, no exploration or development will be allowed.

The framework established in article 8 requires **that** Operators take "necessary and timely" response action for all activities that damage or threaten Antarctica's environment. Operators are ''strictly liable' for all environmental damage arising from mineral resource activities, including but not limited to clean-up and restoration costs. Strictly liable is defined as meaning an Operator is liable for damages whether it is later found at fault or not. Thus, for example, the Operator must pay if there is no restoration to the status quo ante following damage to the environment. How much is not specified. It is unclear who is entitled to payment when there is no personal injury or damage to private property. Presumably, damage payments would be collected and expended by the Commission. It is also presumed that claims by territorial claimants for environmental damage to claimed areas as such would not be permitted.

A contentious subject of the negotiations concerned the defenses or limits on liability that would be available to Operators. Two defenses are specified in the Convention (art. 8(4)):

- the Operator is not liable to the extent damage was caused directly by a natural disaster of exceptional character that could not reasonably have been foreseen, and
- by armed conflict, or by an act of terrorism against which no reasonable precautionary measures could have been taken.

The Operator's right to seek contribution or indemnity from another party that caused or contributed to the damage is unaffected, but this does not limit the Operator's liability to a plaintiff. Even a negligent plaintiff may collect damages from the Operator, Only if the plaintiff caused the damage by an intentional or grossly negligent act is the Operator relieved in whole or in part of the duty to pay for damages (art. 8(6)). Pursuant to this system, an

[17] Garrett, op. cit., footnote 14

Operator might well be liable for environmental damage if, for example, a ship crashes into the Operator's offshore drilling rig.

In addition, to the extent the Operator or some other source does not satisfy all claims, the Sponsoring State is liable for damage caused by the Operator that would not have occurred had the Sponsoring State adequately supervised the Operator (art. 8(3)). The Sponsoring State is also responsible for ensuring that its Operators maintain the necessary financial and technical capacity to undertake any required response and to meet any potential liability. Any Sponsor that was lax in this regard could be liable for a large proportion of damages in the event of an accident. However, Parties could not agree that the Sponsoring State would be required to satisfy unmet claims on its Operator if the Sponsoring State carried out its duties in a responsible manner.

Permits for exploration and development may not be issued until the Liability Protocol enters into force. Prospecting, on the other hand, may go forward after the Minerals Convention is ratified. Pending the entry into force of the Protocol, claims against prospectors may be brought in national courts pursuant to provisions of the Convention and national law implementing those provisions (art. 8(10)).

The Minerals Convention specifically states that the Protocol include rules and procedures on liability to protect the Antarctic environment, including appropriate limits on liability, where such limits can be justified; ensuring that means are available for immediate response action where the Operator is incapable of doing so; and ensuring that all liability is satisfied (e.g., in those cases where the Operator is not financially able to meet its obligations in full or where damages exceed limits on liability) (art. 8(7)). A fund or funds for covering outstanding claims may be established, to be financed by Operators or on an industry-wide basis. Presumably, the Protocol will also have to interpret the defenses to liability noted above.

The Minerals Convention and accompanying Protocol aim to establish a very stringent liability regime that reflects underlying environmental values. However, mining companies and their Sponsors and insurers may be reluctant to accept such potential liability if it is open-ended. Thus, the economic acceptability of these provisions depends on the Protocol that remains to be negotiated and, in particular, on any liability limits fixed in the Protocol and associated fund arrangements. The Convention also leaves open the possibility of establishing an international claims tribunal in the Protocol by which claims against Operators may be assessed and adjudicated.

The liability provisions of the Convention deal almost exclusively with environmental considerations. All that is said about liability for personal injury to or death of a human being or injury to property not involving environmental or related damage is that it is regulated by ' 'applicable law and procedures" (art. 8(5)). The Protocol may be an appropriate place in which to define these issues more fully.

ENVIRONMENTAL PROTECTION AND THE MINERALS CONVENTION

The environmental requirements and sanctions of the Minerals Convention establish a potentially strong environmental regime. At this stage, it would appear that the main uncertainty with the framework established by the Convention is how compliance and enforcement would work and how strong the regime would be in practice. No mineral resource activities are to take place unless information adequate to enable informed judgments is available; unless it is judged, based on assessment of possible impacts, that the activity would not cause significant effects on air and water quality or significant changes in atmospheric, terrestrial, or marine environments or significant changes in the distribution, abundance, or productivity of populations of species of fauna or flora; unless technology and procedures are available for safe operations; or unless there exists the capacity to respond effectively to accidents (art. 4). Moreover, Regulatory Committees may suspend, modify, or cancel Management Schemes and exploration and development permits, and they may impose monetary penalties for failure to comply with the provisions of the Convention (art. 51).

The environmental provisions of the Minerals Convention appear to be as strong as+or stronger than-similar provisions in other interna-

tional agreements. However, although the text forms the basis for a strong environmental regime, many points are not defined, such as what constitutes a ''significant' environmental impact and how much information about a prospective area is "adequate" or "sufficient." The definitions of these terms vary and may in the end be determined on the basis of political considerations. Even apparently clear parts of the text may be subject to different interpretations, so a strong environmental regime is hardly ''writ in stone. "[18]

Also, environmental concerns, mostly abstract by necessity at this stage, may be brushed aside if and when resource development becomes a reality. Thus, when environmental regulation becomes a practical rather than anticipatory necessity, a growing number of states may regard strict environmental requirements as an impediment to their investors—both directly and because the state that sponsors mining may itself become liable for inadequate supervision of its Operators. [19] Some states may argue that a strict environmental regime favors the most advanced companies from the wealthiest states. On this basis, less developed countries may be inclined to pass less strict rules to attract Operators. However, the unusually strong environmental requirements of the Convention itself, coupled with compulsory dispute settlement and a strong Liability Protocol, may be sufficient insurance against the possibility that some states may be significantly less concerned about the environment than others.

Even where environmental regulations are strict, ensuring compliance with them is difficult and requires political will. The Convention has general provisions concerning compliance in article 7 and also provides for inspection, monitoring, reporting on Operator activities, and for observers in Commission and Advisory Committee meetings. However, ''enforcement issues are difficult to agree on in the Antarctic context, because they relate so directly to the rights of a sovereign state in its territory. Both claimants and nonclaimants wish to avoid **any** provisions in the Convention that prejudice their position on sovereignty in Antarctica. ' '[20] Each Party is asked to take appropriate measures ''within its competence' (this term is used to avoid prejudicing positions on sovereignty) to ensure compliance with the Convention. Specific rights are not assigned, also to avoid implications of sovereignty.

The Convention thus presumes a system of "flag state enforcement' for environmental protection, which may be less effective than other systems. But other systems of enforcement are impractical because of the sovereignty issue. At present, Parties are largely responsible for policing themselves with respect to scientific and other activities carried out under the auspices of the Antarctic Treaty. The Treaty System has no centralized review mechanism or regulatory authority to oversee national activities in Antarctica, and at present the ATCPs are reluctant to criticize each other's activities. Criticism might easily lead to uneasy discussions about who is entitled to what rights and who may enforce obligations. For example, environmental groups have criticized French construction of an airstrip in an environmentally sensitive area near the Dumont D'Urville research base. But other Treaty states do not have the authority to review the French plans. The Convention improves on this situation by more clearly defining binding legal rights and obligations and subjecting Parties to binding dispute settlement in most cases.

Some have suggested that an international environmental protection agency be established for Antarctica. The difficulty with this proposal, again, is that an agency with sufficient independent authority would be virtually impossible to establish in the multilateral context of Antarctica and given the reality of the dispute over sovereignty. Given these constraints, an Antarctic EPA would not necessarily have any advantages over the system established in the Minerals Convention.

The power of Regulatory Committees to suspend, modify, or cancel Management Schemes is important. Support for outright cancellation of projects perceived to be causing unforeseen damage to the environment may be difficult to achieve once activities have started; however, support for modifications to Management Schemes if problems arise

[18] B. H, Oxman, ''Ev~uating the Antarctic Minerals Convention: The Decision-Making System, ' OTA contractor report, November 1988, p. 7.

[19] Ibid., p. 13.

[20] Kimball, op. cit., footnote 4, p. 18.

ought to be much easier. Ultimately, the effectiveness of environmental protection under the Minerals Convention rests largely with the political will of the Parties.

DISPUTE SETTLEMENT

The Convention specifies that the Parties shall submit to compulsory arbitration or adjudication of certain disputes (table 3-7). This system could prove useful when a state is accused of violating the Convention (e.g., by failure to fulfill its duty to supervise compliance by its Operators with environmental requirements). In addition, the Convention contemplates the establishment of an arbitral mechanism pursuant to which Operators can challenge certain decisions by a Regulatory Committee regarding their Management Schemes and permits.

However, the Convention text places significant constraints on the jurisdiction of any tribunal to review ''the exercise by an institution of its discretionary powers in accordance with this Convention' (art. 57(5)). It is unclear how broadly these constraints will be construed by a tribunal, They could be construed in a manner that is consistent with the traditions of many countries regarding judicial review of administrative agencies, namely that it is up to the reviewing tribunal to decide whether the agency had the discretion to act as it did under the Convention, but that it is not the function of the tribunal to substitute its judgments for those of the agency. It is also possible for the constraints to be construed to require almost complete deference to any decision by the Commission or a Regulatory Committee that can be characterized as ''discretionary. ''

The United States may wish to include an interpretive statement on this topic in connection with any instrument of ratification. Such a statement could note that the constraints on the jurisdiction of a tribunal to review the exercise of discretion by an institution established by the Convention do not preclude it from determining whether that institution had the power to decide as it did under the Convention, whether the decision violated a substantive or procedural provision of the Convention, or whether that organ otherwise exceeded or abused its powers.

Table 3-7-Dispute Settlement

General provisions:
- Either' the International Court of Justice (ICJ) or the Arbitral Tribunal established by the Convention may be used to settle disputes arising from the interpretation or application of the Convention, Art. 56.
- Parties to the dispute are requested, first, to try to settle disputes among themselves by any agreed means, Art, 57(1).
- Disputes are automatically referred to one of t he above dispute settlement bodies if agreement cannot be reached. Art. 56 and 57.
- Neither the ICJ nor the Arbitral Tribunal shall have authority to settle disputes related to claims. Art, 57(4).
- Neither the ICJ nor the Arbitral Tribunal shall have authority to settle disputes between Parties with regard to the exercise by an institution of its discretionary powers. Art. 57(5).
- Any Party may exclude some types of disputes from being referred to a dispute settlement body without its consent, but may not do so regarding disputes about provisions of the Convention: a) on protection of the environment, b) on compliance with the Convention, c) on response action and liability, d) on inspection, e) on non-discrimination, f) on other uses of Antarctica, and g) on prospecting. Art. 58 (1a-g).
- Additional dispute settlement procedures for Operators will be established by the Commission, for example, providing a means by which an Operator may dispute a decision to decline a Management Scheme. Art. 59.

Institutional oversight
- The Arbitral Panel is responsible for settling all disputes submitted to it. Annex Art. 10.
- A dispute may be referred for discussion to the Institution which adopted the instrument in question if the dispute is still unresolved after 6 months of consultation by the disputing parties. Art. 57(3a).

Obligations of disputing parties:
- To consult among themselves as soon as possible, using any agreed means to resolve the dispute, Art. 57(1),
- If unable to resolve the dispute among themselves, to comply with the decision of the Arbritral Tribunal (Annex Art, 11) or ICJ,
- To provide the Arbitral Tribunal, where relevant, with all applicable documents and information, and enable it, when necessary, to call witnesses or experts and receive their evidence. Annex Art. 8.

SOURCE" Office of Technology Assessment, 1989

* * *

The Minerals Convention establishes the framework for deciding what, if any, resource activities will be allowed to take place in Antarctica and for regulating any activities that are allowed. What do we currently know about what mineral resources may at some time be worthwhile to develop and what effect development could have on the environment? These are the subjects of the next two chapters.