

II - PRINCIPAL FINDINGS

Laws we take for granted on earth--e.g. , those which regulate commerce, property, and personal interactions--may not be available in space.

For the last several years, the U.S. Congress has been *trying to* determine whether the patent laws of the United States already apply in space or whether additional legislation is needed. In 1981, Congress faced this same question with respect to Federal criminal law and decided to amend the Criminal Code to remove any confusion on this point. These two examples illustrate the simple fact that terrestrial laws do not necessarily apply to space activities. This may be because the law in question has no "extraterritorial application"--an argument sometimes made with respect to the patent laws--or because the law, as written, makes no sense when applied to space activities. The Uniform Commercial Code (UCC) provides an example of this latter problem. The UCC is essential to U.S. commerce, but many of its provisions --such as the definitions of personal property and real estate, or its definitions of what is movable and immovable--cannot be applied to the space station without serious uncertainty.

Many informed observers believe that the success of space station operation and space commerce will both depend on the extension to space of many of the laws we currently have on earth. Ideally, whether a law is applied to space should depend on whether it is practical and useful to do so. For example, the Fair Labor Standards Act and its restrictions (e.g., the 8 hour work day) might seem inappropriate to space activities. On the other hand, legislation such as the Death on the High Seas Act might be desirable since it could be used to remove wrongful death actions from the jurisdiction of States, thereby solving in advance the problem of conflicting State laws.<sup>3</sup>

For existing and future laws, it will be important to determine: 1) *whether it is desirable to apply a specific law to space activities*; 2) *whether the law, as written, can be applied to space activities*; and 3) *what legislative or regulatory modifications will be necessary to ensure that the protections of the relevant law are available to, or denied, individuals living and working in space.*

Uncertainty with respect to the application of certain laws (e.g., intellectual property, product liability, and export law) could inhibit

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<sup>3</sup>The wrongful death statutes of States differ considerably. Many States use a strict liability standard for wrongful death, while others use a negligence standard. Potential conflicts would be avoided if the Federal law was held to control. The Death on the High Seas Act limits recovery to pecuniary losses. The wrongful death statutes of many States allow for loss of consortium or anguish of next of kin.

private, commercial space activities on the space station.

Whether a firm chooses to conduct space research or to market a space product will depend in part on the potential for damage claims under the relevant product liability laws, the ability to protect--either through patent or trade secret laws--the result of the firm's investment, and the administrative complexity and cost of getting the product to market. In order to assess these variables, a firm must know which nation's--and in the United States, which State's--laws would apply to a potential product and what the likely outcome of a controversy would be.

There must be some way to determine which of the hundreds of existing laws that might be applied to the space station will actually be so applied. For example, the Fair Labor Standards Act--and its 8 hour work day--does not now apply to NASA employees; whether it will apply to other people working in space has yet to be determined. The wisdom of applying to space activities the Federal Tort Claims Act, Buy-America Act, U.S. export laws, patent laws, tax laws, and many other pieces of legislation is equally unclear.

To encourage private, commercial space activities, the U.S. Government may wish to help firms determine which Federal and State laws will govern their activities. Congress could undertake a general assessment of the applicability of current Federal and State laws, or, alternatively, it could direct some independent group of legal experts to begin this task.

Determining jurisdiction is the most important issue to resolve during the planning stage for the space station.

Many of the issues discussed in this paper involve questions of "jurisdiction"; that is, questions concerning a State's right to prescribe and enforce rules of law. The nature and extent of U.S. jurisdiction over a space station will strongly influence when U.S. laws could be applied, what unilateral actions the United States might take, and the rights and obligations of foreign nationals. For all multinational space station endeavors, the question of whether the United States has jurisdiction in a particular instance will depend, in major part, on the terms of the relevant space station agreement.

The international partners could agree that the space station is to be: 1) a *national space station*, under the jurisdiction and control of one country; 2) a *multinational space station*, under the joint jurisdiction and control of several nations; 3) a *multinational space station*, the individual modules of which are under the jurisdiction and control of separate nations; or 4) an *international space station*, under the jurisdiction and control of an international governmental organization similar to INTELSAT. The rights and responsibilities of the U.S. Government and its citizens, the jurisdiction of U.S. courts, and the lawmaking powers of Congress could differ under each of these regimes.

U.S. law could be more easily applied and enforced if all space station

components were under U.S. jurisdiction; however, such a solution may be politically unacceptable to the other space station partners.

If the United States were to be the sole owner and operator of the space station, it would be a relatively simple matter to extend U.S. law to cover space station activities. However, should the United States choose to retain sole jurisdiction over the space station, it is not clear whether other countries would wish to continue their participation in this program. Nations considering investing a substantial portion of their financial, technical, and human resources in a space station will most likely wish to retain some type of control over their contributions. With respect to the European partners this assumption seems to have been confirmed by the Rome Resolution of 1985, and by the positions they have taken in the ongoing space station negotiations.

Most experts believe that the United States should not attempt to fashion a novel 'space code' to cover all space station activities; rather, legal problems should be addressed incrementally by the careful application of intergovernmental agreements, congressional action in the form of legislation, and, finally, court decisions,

Most legal experts consulted by OTA agreed that it was time to begin an examination of the problems presented by multinational space station operation, but that such an examination should proceed slowly, taking into consideration the technical demands of building large, permanently manned space structures, the political demands of multinational management, and the eventual need to establish a "backdrop" of laws and regulations necessary to protect those who live and work in space.

Legal experts were almost uniformly skeptical of the need for new international treaties or national 'space codes.' However, many thought that a systematic investigation of space station legal issues would reveal that creative multinational agreements or selective domestic legislation would be in order. Areas that were identified as needing prompt attention include: jurisdiction, conflicts of law, power sharing between the U.S. Congress and the 50 States, and power sharing between Federal and State courts.

Experts agree that as people begin to live and work in space, Congress will be called on to resolve many complex legal issues; however, they disagree on whether such issues must be resolved now or after they result in a mature case or controversy,

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4 The Rome Resolution, for example, declares that a "fundamental objective" of European participation would be European "responsibility for the design, development, exploitation and evolution of, . . . identifiable elements of the space station together with the responsibility for their management. . . ." "Resolution on Participation in the Space Station Programmed," The ESA Council, meeting at Ministerial level (Jan. 31, 1985; ESA/C-M/LXVII/Res. 2).

Most legal experts agree that, over the next several decades, a body of law for space will develop that will serve the function that maritime law now serves for the seas. Experts are divided, however, on the question of whether domestic and international law should respond to immediate problems, or attempt to prevent problems from occurring. Proponents of responsive legislation maintain that laws affecting space should be developed incrementally, in response to the increased use of space by the private sector, advances in technology, judicial interpretations, and international political and legal pressures. They argue that domestic and international laws developed from "best guesses" about the future may unnecessarily restrict our technical and commercial options. Proponents of preventive legislation point out that the current legal uncertainty decreases the private sector's interest in investing in space and offers no guidance to courts that may eventually be asked to resolve space station-related cases. In particular, they point out the need to resolve questions of product liability, personal injury, intellectual property, and export law. Inherent in this position is the belief that current NASA regulations would not adequately protect the interests of space workers who are not government employees.

Since U.S. laws could conflict with the laws of other nations, special conflict rules may need to be developed for the space station.

Current international space agreements do not attempt to instruct courts as to which body (or bodies) of law should be applied to cases and controversies arising from space activities. Between sovereign nations, 'choice of law' and 'conflict of law' questions may not be particularly important since the resolution of an issue is likely to be accomplished by diplomatic negotiation. These questions will be much more important to private firms whose business decisions may be predicated on an understanding of the liability and financial risk of a given space venture.

'Choice of law' rules vary from country to country. Many countries designate the law of the place where the activity or injury occurred as the substantive law for tort and contract cases. Other countries rely on the law where the case is brought, and still others (the predominant view in the United States) look to the country with the most substantial contacts. The application of any of these rules to a space station under the jurisdiction and control of several nations would be difficult.

To the extent that 'conflict of law' problems could adversely affect the success of the space station, every effort must be made to achieve some type of international coordination. In the short run, such coordination will probably take the form of prelaunch contracts that either establish applicable rules of law or provide for arbitration.

Some experts believe that international conventions addressing the question of 'conflict of law' in space and, perhaps, additional international treaties may eventually be necessary. Others maintain that, instead of trying to solve 'conflict of law' problems in advance, nations should handle them on a case-by-case basis and encourage the development of a customary law of space

conflicts. They acknowledge that such a course might be chaotic at first, but believe that it could encourage creative solutions to traditional problems.

Prelaunch agreements similar to NATO'S "Status of Forces Agreements" might help resolve complex jurisdictional and choice of law issues on the space station.

The nations of the North Atlantic Treaty Organization (NATO) have developed a complex set of agreements (Status of Forces Agreements) to resolve questions of jurisdiction and control with respect to troops stationed in the various NATO countries. These "Status of Forces Agreements" could provide a useful model for resolving similar issues on a space station. The NATO Agreements divide jurisdiction among different countries depending on the type of offense committed (e.g., civil or criminal), where it was committed (on or off the military base) , whether it was committed while on "official duty," and other criteria. Sometimes these agreements grant the host countries exclusive jurisdiction over specific issues and, with respect to other issues, jurisdiction is concurrent. Where concurrent jurisdiction exists, one nation may be given primary jurisdiction--which may be waived at its discretion--in favor of some other nation. Such negotiated agreements would be useful whether jurisdiction and control of the space station were held by one nation or shared between several nations.

Nations must exercise caution when applying their domestic laws to the space station.

'Conflict of law' rules will not resolve all the problems that could result from the application of domestic laws to space station activities. For example, with respect to inventions made in the United States, the U.S. Inventions Secrecy Act requires patent applicants either to file first in the United States or to request an exemption from the Act. At the present time, a foreign astronaut who reduces an idea to practice on a space station over which the United States claims jurisdiction must file first for a U.S. patent or an exemption, or risk having a subsequent U.S. patent declared invalid.

There is no easy way to discover all the inconsistencies in all the laws of the space station partners prior to the signing of the first round of space station agreements. However, a modest effort, if started now, could, when combined with the practical experience gained in the construction and early operation of the space station, help to identify most significant conflicts. Once discovered, such conflicts could be resolved on a case-by-case basis through international agreements and domestic legislation.

The United States must determine how the right to make laws and adjudicate cases and controversies will be shared between the Federal Government and the various State Governments with respect to space station activities.

In the United States, most laws affecting the rights of individuals (e.g., personal injury, contracts, *property, wills and estates*, employees compensation, etc.) are State laws, not Federal laws. In addition, under the doctrine of *Erie v. Tompkins*,<sup>5</sup> Federal courts must apply State law in any cases.

Because the substance of State laws varies considerably, it is essential that the jurisdiction of State courts and the applicability of State law to space station activities be determined clearly. This will involve deciding: 1) whether the grant of jurisdiction over 'space-related' cases is exclusively limited to Federal courts or is shared with the States; 2) whether the individual States will be allowed to pass laws affecting space station activities; and 3) how to apply the doctrine of *Erie v. Tompkins* to space activities.

Analogies drawn from air law and maritime law can provide useful examples; however, the radical differences between the air, sea, and space environments may make it unwise to try to apply the same laws to these different regimes.

Since the beginning of the space age lawyers have debated whether and to what extent the legal principles found in air law and maritime law could be applied to outer space activities. Most legal experts agree that air and sea law could not be transferred wholesale to the realm of space. However, many believe that analogies drawn from air and sea law could assist in the development of a unique body of space law. Although such analogies could not accurately reflect the unique technological and political circumstances of the space station, certain legal aspects of interpersonal relationships may be similar. For example, how nations compensate injuries, keep track of and transfer personal property, delegate authority, and punish minor wrongs on the space station need not differ substantially from their practices in the air or on the high seas.

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5 304 U.S. 64 (1938).