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Earth Exposure to Extraterrestrial Trial Matter: NASA's Quarantine Regulations†

A. Space Activities and the Reality of Earth Contamination

Perhaps the most expensive and intricate measures in preventive medicine were conducted prior to, during, and after the United States Apollo 11 mission to the lunar surface. Official concern, both domestic and international, over what has been termed back contamination¹ from re-entry vehicles, astronauts, associated equipment and non-crew personnel was not a last-minute issue of scientific interest or concern over a possible reaction by an aroused international public regarding the possibility of "Earth invasion" by alien micro-organisms from the lunar surface.² The official concern, although not completely revealed to the public, was timely and, in

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¹No specific instrument, pronouncement, or decree ordered the use of "back contamination" as official terminology and as the designation for the Interagency Committee on Back Contamination ultimately established to consider the problem. In contradistinction to "outbound contamination," interested members of the scientific community have used "inbound contamination" interchangeably with "back contamination." Contamination means to "... infect by contact or association ... [and] implies intrusion of or contact with an outside source as the cause. ..." WEBSTER'S SEVENTH NEW COLLEGIATE DICTIONARY (1965), under *contaminate*, p. 180. Within the context of quarantine regulations issued by NASA, 34 Fed. Reg. 11975, No. 135 (July 16, 1969), back contamination relates to the object of the regulations, i.e., those who, or that which, is "extraterrestrially exposed." The latter is defined in the regulations as "... the state or condition of any person, property, animal or other form of life or matter whatever, who or which has: (1) touched directly or come within the atmospheric envelope of any other celestial body; or (2) touched directly or been in close proximity to (or been exposed indirectly to) any person, property, animal or other form of life or matter who or which has been extraterrestrially exposed by virtue of subparagraph (1) of this paragraph."

²Because of the proximity of the Apollo 10 Lunar Excursion Module to the lunar surface (9.5 mile "flyby" in an essentially non-existent lunar atmosphere), the Apollo 10 command module was subjected to limited bio-analyses and quarantine procedures. In this respect, see *NASA-Medical Requirements, Apollo Mission F (10)*, Manned Spacecraft Center (April 1969).

itself, precipitated partially adequate and timely preparations through the coordinated efforts of several government agencies and elements of private industry.

Certain precautions have been taken over the years to sterilize space hardware designed to leave Earth's atmosphere, to enter alien atmospheres; or to impact upon the surfaces of other celestial bodies. The principal purpose was, and is, to minimize the probability of contaminating outer space and other planets with Earth organisms,³ not only to avoid frustration of scientific investigations aimed at acquiring knowledge about life-forms and life-related molecules on other planets, but also to avoid the possibility of identifying, in a quarantine situation, organisms indigenous to Earth as space alien.⁴

With the imminence of manned missions and recoverable unmanned missions, the concern focused principally on the prevention of possible Earth contamination.⁵ Over a period of time, the National Aeronautics and Space Administration has been developing a back contamination program designed principally for the Apollo manned missions and consisting of very complex equipment and extensively intricate operational procedures. The program is far in advance of generally practiced microbiological laboratory techniques and offers unprecedented laboratory capabilities.

Many factors have interacted to require the United States to be the first nation to promulgate and effectively implement rules regarding the safeguarding of Earth's ecosystem from extraterrestrial contaminants. Principal among the influential factors was President John F. Kennedy's commitment of the United States to land a man on the moon by 1970.⁶ The fulfilling of this commitment necessitated the formulation of back con-

³Art. IX of the Treaty on Principles Governing the Activities and Use of Outer Space Including The Moon and Other Celestial Bodies, U.N. Doc. A/RES/2222/(XXI) 25 Jan. 1967; TIAS No. 6347 (27 Jan. 1967) (hereinafter referred to as the Outer Space Treaty) provides for the exploration and use of outer space and celestial bodies in such a way "as to avoid their *harmful* contamination" (emphasis added). The Outer Space Treaty recognizes, by use of the word "harmful," that not only is 100% sterilization of spacecraft, equipment, delivery vehicles and personnel impossible, but also that within certain contexts the word "contamination" is legitimately argumentative.

⁴Effective control of "outbound contamination" is an integral facet of back contamination quarantine procedures since, among other factors, the duration of quarantine may depend upon the facility with which organisms are identified as indigenous to Earth and not extraterrestrially derived.

⁵As indicated in n. 3, *supra*, "contamination" is subjective in nature. Within the framework of space activities, and specifically back contamination of Earth's ecosystem, the word is intended to describe, essentially, an inclusive, but passive, situation, i.e., contact with extraterrestrial matter without necessarily involving infection or tainting of Earth's ecosystem. As will be seen in subsequent discussions of quarantine authority, the reason for such a passive definition is the large element of ignorance regarding the physical and potential etiologic properties of extraterrestrial matter.

⁶Speech delivered at Rice University, Houston, Texas, on September 12, 1962.

tamination standards and quarantine procedures by July 1969.

To the extent that unmanned recoverable satellites may present possibilities of back contamination—as well as outbound contamination—it may well be said that the U.S.S.R. had the first opportunity to set precedence for regulating the threat of contamination of Earth's ecosystem by virtue of having launched the world's first artificial satellite.⁷ However, because of the absence of effective reporting by the Soviets, it is difficult, at best, to determine whether they were mindful, at that time, of back contamination control—other than perhaps within a strictly scientific framework as opposed to public health considerations. The fact that the United States was put in the position of promulgating back contamination regulations of the first instance does not necessarily imply that those regulations are precedents for subsequent manned and unmanned flights conducted by other countries. Indeed, every indication is that, effectively, they are constrained to domestic jurisdiction with only questionable efficacy as they relate to pertinent activities in international waters, international airspace, and perhaps even the *res communis* of outer space and other celestial bodies as envisioned by the United Nations. Functionally, however, operational application of the regulations has a direct effect on the rights of other nations in the preservation of their domestic and international health and security.

For the purpose of providing assistance to NASA in formulating a program to prevent adverse contamination of Earth's biosphere by lunar matter returned from manned explorations, the Interagency Committee on Back Contamination (ICBC) was established in 1967.⁸ In the preamble to the Interagency Agreement, it is observed that

[i]n developing the Apollo Lunar Program, the National Aeronautics and Space Administration recognizes that it must draw upon the specialized knowledge and experience of certain other agencies [presumably restricted to Federal agencies or instruments of the Federal Government] in order to protect the public's health, agriculture, and other living resources against the possibility of contamination resulting from returning lunar astronauts or lunar exposed material. . . . (Emphasis and insert added.)

The principal agencies represented on the ICBC are NASA, the Department of Agriculture, the Department of Health, Education and Welfare, the Department of the Interior, and the National Academy of Sciences. The primary mission of the ICBC was, and continues to be, the provision of assistance to NASA in developing a lunar-Earth contamination pre-

⁷Sputnik I was launched October 4, 1957, and was quickly followed on November 3 of the same year, by Sputnik II.

⁸The Interagency Agreement, establishing the Interagency Committee on Back Contamination, came into effect August 24, 1967. The Committee is charged with the protection of Earth's biosphere from lunar sources of contamination.

ventive system. Specifically, the ICBC Interagency Agreement provides for the authority to *evaluate* and *approve* procedures to prevent back contamination.⁹ Toward accomplishing this objective, the ICBC approved the requirements for manned lunar missions as set forth in the cited NASA Management Issuances and detailed *Manned Spacecraft Center Documents MSC 00001-00004*.

From the pertinent NASA policy directives and deliberations of the ICBC evolved the Apollo Back Contamination Program which can be divided, very generally, into three phases: (1) procedures to be followed by the crew "while in flight to reduce and, if possible, eliminate the return of lunar surface contaminants in the command module;"¹⁰ (2) procedures involving the spacecraft recovery and isolated transport of the crew, lunar samples, and spacecraft and associated mission equipment to the site of protracted confinement (quarantine); (3) procedures accompanying quarantine operations and initial lunar sample analyses at the Lunar Receiving Laboratory. Also arising from NASA policy directives and ICBC deliberations was the "last-minute" promulgation of quarantine regulations, as to the authority for which NASA must have entertained serious doubts even during the drafting stages.¹¹

B. Authority to Promulgate Quarantine Regulations and Enforce the Back Contamination Program

The very nature of *quarantine* has significant impact upon the integrity

⁹According to Item 5.b. of the ICBC Agreement, "[t]he Administrator of NASA, or NASA's designated representative, shall consult with the head or designated representative of each other interested agency prior to NASA's taking of any of the following actions, unless such action is in accordance with the unanimous recommendation of the regulatory agency and National Academy of Sciences members of the Interagency Committee on Back Contamination. . . ." The actions specified cover (1) changing of procedures regarding isolation and containment of astronauts and lunar samples; (2) changes in procedures, standards, etc., of containment testing at the LRL; (3) changing of procedures, standards, etc., for astronaut testing and lunar-exposed material; and (4) the release of astronauts and lunar-exposed materials.

¹⁰For a brief, but good, working description of the contamination control program see Nat'l Aeronautics and Space Admin., Press Kit for the Apollo 11 Lunar Landing Mission 181-191, Release No. 69-83K, released Sunday, July 6, 1969, by the National Aeronautics and Space Administration. See, also, NASA—Report on the Status of the Apollo Back Contamination Program, Manned Spacecraft Center (April 28, 1969).

¹¹For an itemization of those documented indications that NASA and the ICBC had serious reservations about the adequacy of existing legislative authority for NASA to promulgate quarantine regulations, see G. ROBINSON, CONTAMINATION OF EARTH'S ECOSYSTEM BY EXTRATERRESTRIAL MATTER: UNITED STATES AUTHORITY TO PROMULGATE AND ENFORCE QUARANTINE REGULATIONS, DCL thesis submitted to McGill University, July 1970. This interdisciplinary study records the scientific, legal, and administrative history of the first steps taken by the United States to protect Earth from harmful extraterrestrial contaminants. Further, the thesis provides an extensive analysis of the efficacy and applicability of the quarantine regulations within the framework of existing international law.

of certain provisions of the United States Constitution. For this reason, it is essential that all quarantine authority be drafted with utmost care and precision. Historically, this has been followed carefully. However, it appears that assurance of adequate legislative authority was not forthcoming regarding promulgation of NASA's quarantine regulations. Put concisely, the issue for evaluation at this point in the discussion is whether the Administrator of NASA, acting alone or in conjunction with certain other Government officials, has the authority to (1) apprehend, detain, examine, decontaminate and quarantine individuals; and (2) seize, examine, decontaminate, condemn and destroy animals, or other forms of life or property, if such individuals, animals or property should—through design or accident—be exposed to extraterrestrial matter obtained by, or involved in, a NASA space flight.

The legislative history of the Space Act of 1958 indicates the intention of the Congress to make NASA's authority for conducting research and exploration of space rather broad, principally because the scope of "space activities" was still in a highly speculative stage at the time of drafting. As noted in their Report, the Congressional conferees observed that

[t]he use of the word 'activities' . . . is intended to be broad in the area of outer space because no one can predict with certainty what future requirements may be. . . . [T]he term 'activities' should be construed broadly enough to enable . . . [NASA] to carry on a wide spectrum of activities which relate to the successful use of outer space.¹²

In view of the rather unrestrained language and apparent underlying intent of the Congress, it would appear that (1) extraterrestrial exposure or contamination is a natural result of certain space activities; (2) that transfer contamination of Earth's ecosystem logically may follow from such space activities involving recoverable personnel and objects; and (3) that NASA quite naturally has the statutory responsibility to protect Earth from adverse extraterrestrial exposure. In essence, as well as theory, this sequence of reasoning leads to the conclusion that the NASA Administrator has authority to control not only NASA and Contractor personnel *vis-a-vis* quarantine procedures, but he has authority to "regulate the conduct of every person and interfere with all property subject to the jurisdiction of the United States" [and it has been shown, above, that such jurisdiction may have direct extraterritorial applications and consequences], in conflict with the right of liberty and the right to property prescribed by the Federal Constitution.¹³ As seen in the following discussions of the explicit and

¹²See House Report 2166, 85th Congress, 2d Sess., p. 17.

¹³Tentative Report for NASA authority to quarantine is the Congressional approval for construction of the Lunar Receiving Laboratory. According to pertinent testimony at the hearings, it was understood that, insofar as NASA personnel and contractor employees are

detailed authorization by Congress for certain departments and agencies to quarantine, the absence of NASA's authorizing legislation with respect to promulgating quarantine regulations stands out in sharp contrast.

At first reflection, it appears that since the NASA Administrator has not been provided with necessary and proper legislative authority to quarantine, Congress has defaulted and Nasa quite rightly has filled this void with its own regulations to protect Earth's ecosystem. In addition to the absence of legal precedence and Constitutionality of this approach, NASA has not stated, as a means of justifying promulgation of the quarantine regulations, that the Congress has defaulted. Rather, it appears that the Congress was kept functionally uninformed about the work of the ICBC and the difficulty it was having in finding existing authority to quarantine. To the contrary, NASA ultimately premised the regulations on what the ICBC determined was adequate existing legislation. The adequacy of this legislation is examined, below.

NASA

Government Departments and agencies principally responsible for the protection of the public's health, agriculture and other life forms constituting a resource for man,¹⁴ pooled their respective statutory authorities in order to provide substance to any regulations NASA might promulgate to enforce the back contamination program. This was probably considered essential since NASA, by itself, did not appear at the outset to have adequate statutory authority to issue regulations sufficiently extensive in scope to cover all activities envisioned for protection of Earth's ecosystem from returning missions having come in contact with alien atmospheric envelopes and/or celestial bodies.

The principal source of potential authority, of course, is the Space Act of 1958, as amended (72 Stat. 426). Specifically, section 203(b)(1) provides, in part, that

[i]n the performance of its functions the Administration is authorized . . . to make, promulgate, issue, rescind, and amend rules and regulations governing the manner of its operations and the exercise of the powers vested in it by law. . . .

concerned who are intimately involved with a recoverable, extraterrestrially exposed mission, the LRL was to be the facility for quarantined astronauts and other extraterrestrially-exposed personnel and objects. Apparently, the Congress was not fully aware of the scope of the regulations until the day they were published and became effective, i.e., the day of the Apollo 11 launching. See, therefore, *Hearings of the House Subcommittee on Manned Space Flight* 90th Cong., 1st Sess. (on the NASA Authorization Act 1968), Part 2, pp. 398, 1340, 1342-1346.

¹⁴See *Code of Federal Regulations* (CFR), Titles 7, 9, 42, 50 and Public Law 410, wherein those Government agencies responsible for protecting the public's health, agriculture and other living resources are identified clearly.

At a glance, this broad sweep of authority may appear to provide NASA with more than sufficient authority to quarantine material and personnel exposed to extraterrestrial matter. However, since the act of quarantine involves the detention and/or incarceration not only of Government employees and property, but of private individuals and property as well, it is extremely difficult to interpret Congressional intent regarding section 203(b)(1) of the Act as giving NASA's Administrator *carte-blanche* authority in this area without more specifically delineated constraints; especially since it involves the issue of deprivation of liberty and property covered by the Federal Constitution.¹⁵

Section 304(a) of the Act offers a possible alternative approach to authorization of quarantine regulations by providing, in part, that

[t]he Administrator shall establish such security requirements, restrictions, and safeguards as he deems necessary in the interest of the national security.

Because of the possibility that space contaminated material could interfere severely with the human ecosystem, or adversely infect Earth's biosphere, it is reasonable to consider the possibility as contrary to the interests of national security and, therefore, a proper subject for the Administrator's "security requirements, restrictions, and safeguards." However, the entire section 304 deals with matters such as personnel investigations within the framework of national loyalty, accessibility of certain employees and private individuals to restricted data, preservation of the integrity of such data as it relates to the common defense and security, and acts of espionage in general.¹⁶ Subsection 304(c) provides for penalties applicable to the violation of security regulations and leaves little doubt as to the constraints on the scope of the "interest of the national security."¹⁷ Subsections (d) and

¹⁵See, specifically, the 4th and 5th Amendments to the United States Constitution. Whenever Congress has legislated authority to quarantine, such authority has been the subject of well-defined procedural constraints. See 42 U.S.C. 264, 266; 7 U.S.C. 150 dd, 160-161; and 21 U.S.C. 111, *et seq.* Under the analogous general authority for all heads of departments and agencies to issue regulations pursuant to 5 U.S.C. 301, no regulations have been issued which could result in the confinement of individuals and the seizure and possible destruction of property.

¹⁶See, specifically, §§ 304(a) and (b) of the Act, 42 U.S.C. 2455. Reference in these subsections to arrangements for investigations of personnel by the Civil Service Commission and referral to the Federal Bureau of Investigation for full field investigations of actual and prospective employees suspected of "questionable loyalty" is fairly conclusive that the security provisions of section 304 were not intended to include authority for the Administrator to promulgate quarantine regulations.

¹⁷Sec. 304(c) provides that "[w]hoever willfully shall violate, attempt to violate, or conspire to violate any regulation or order promulgated by the Administrator . . . for the protection or security of any laboratory, station, base or other facility, or part thereof, or any aircraft, missile, spacecraft, or similar vehicle, or part thereof, or other property or equipment in the custody of the Administration, or any real or personal property or equipment in the custody of any contractor . . . shall be fined not more than \$5,000, or imprisoned not more than one year, or both." (Chp. 37, Title 18 U.S.C. 799).

(e) provide for protection of officers and employees in the execution of security regulations and permit the use of firearms for proper enforcement of them.¹⁸ Consequently, it appears that the proper conclusion is that the act of incarcerating persons or property pursuant to back contamination quarantine procedures does not derive its authority from section 304 of the Space Act. This section is, essentially, authorization for passive preparation against, and defensive response to, acts which are initiated from without NASA, and does not encompass positive acts properly initiated pursuant to the general authority of the Space Act.

Aside from the obvious scientific justification to provide for quarantine in the contamination control program, the United States has agreed by Treaty to take necessary steps to protect Earth's biosphere from contamination. Therefore, international commitment by formal agreement, as well as practical necessity, compel the need for quarantine authority. Consequently, a final possible alternative¹⁹ for authority of NASA to issue quarantine regulations is Article IX of the Outer Space Treaty. Article IX provides that all States Parties to the Treaty shall conduct exploration of outer space and celestial bodies, and shall make use of those resources, in such a manner

¹⁸Sec. 304(e) of the Space Act, 42 U.S.C. 2456.

¹⁹Emergency authority pursuant to the Administrator's oath of Office, prescribed in 5 U.S.C. 3331, is omitted as an alternative since it is too remote and the history of back contamination consideration indicates ample planning time for the Governmental bodies involved. Any emergency authority invoked undoubtedly would not issue from the Administrator's oath. A situation could occur, of course, where instantaneous quarantine by NASA was required with a consequent attempt to invoke the theory of Presidential *alter ego*. See, therefore, *In re Neagle* 135 U.S. 1 (1890), in which the court determined that a Federal Government officer, who had killed an assailant of a Supreme Court Justice, in defense of the Justice, should be released on a writ of *habeas corpus* from the custody of a California county sheriff who had charged him with murder pursuant to California Law. The Court premised its determination, in part, on the President's Constitutional authority to ensure that the laws are faithfully executed and that this authority extended, by oath of office, to the Head of an Executive Department who authorizes the protection of Government officers performing their official duties. The implication in the instant situation is that if the NASA Administrator may be considered the President's *alter ego*, he may authorize in an emergency those steps necessary to protect NASA personnel and Government property from the potentially adverse effects of lunar contamination. This contention is defeated by the fact that (1) the Administrator is required, by oath of Office, to protect the Constitution, a principal provision of which protects a person from deprivation of liberty or property without due process of law; and (2) the Administrator of NASA is not the Head of an Executive Department. See, therefore, 5 U.S.C. 101, in which Executive Department is defined. NASA is not included. See also *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579 (1952), in which the authority of the President to ensure faithful execution of the laws is referred to and discussed at pp. 587, 610-612, 633, 646, 649 (fnt. 17), 660 and 661 (fnt. 3). Here, it was indicated that *In re Neagle* may no longer be viable since the President was held not to have the authority, by himself, to seize private steel mills in an emergency and in the interest of national defense. This view is even more firm in back contamination situations where applicable quarantine regulations are premised upon a carefully thought-out program and no emergency is not involved.

as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary *shall adopt appropriate measures* for this purpose. (Emphasis added.)

The first point which tends to negate Article IX as a source of NASA authority to promulgate quarantine regulations is the phrase "where necessary." At present, the state of the art does not permit absolute knowledge of the existence of alien life forms (let alone whether they are harmful to Earth's biosphere) until they have been introduced into the ecosystem and examined under laboratory conditions. The second, and perhaps most limiting factor is that the Treaty cannot be considered self-executing and, hence, adequate authority does not exist in that source for the Administrator to "adopt appropriate measures" for the purpose of safeguarding Earth from extraterrestrial contamination.²⁰ Since regulatory implementation (i.e., quarantine regulations) would directly affect basic rights of citizens in such a way as to deprive them of their liberty and property, the intervening factor of appropriate legislative authorization by the Congress appears absolutely necessary. This legislation, of course, does not exist.

The Department of Health, Education and Welfare

The United States Public Health Service Act (Public Law 410, 78th Congress) provides authority for the Surgeon General²¹ to issue and enforce regulations designed to prevent the introduction and spread of communicable diseases into, and throughout, the United States, its territories and possessions. The authority provides, in pertinent part, that

(a) The Surgeon General . . . is authorized to make and enforce such regulations as . . . are necessary to prevent the introduction, transmission, or

²⁰By its own terms, Article IX cannot be self-executing; e.g., the provision envisages that the United States, as well as other States Parties to the Treaty, " . . . *shall adopt appropriate measures* for this purpose" (emphasis added). In this respect, *see* Hackworth, V DIGEST OF INTERNATIONAL LAW, § 490, pp. 198-199 (1943), wherein it is observed that, "[l]egislative aid to give effect to treaties is often necessary . . . where administrative machinery is required in order to carry out such terms, and where penalties are to be imposed for treaty violation, etc." *Query*: If the Outer Space Treaty is self-executing, is the violation of NASA's quarantine regulations and attendant criminal provision in fact a violation of a Treaty criminal provision? *See, also*, in Hackworth, Vol. V, § 488, pp. 177-185, *Self-executing treaties*. In the view of Chief Justice John Marshall, a treaty is not self-executing if "the terms of the [treaty] . . . import a contract, [and] when either of the parties engages to perform a particular act, the treaty addresses itself to the political, not the judicial department; and the legislature must execute the contract before it can become a rule for the Court." *Foster and Elam v. Neilson*, 27 U.S. (2 Peters) 253 at 314 (1829). *See also*, Dembling and Arons, *The Evolution of the Outer Space Treaty*, 33 J. AIR. L. & COMM. 419 (1967), wherein no mention is made of whether the Treaty is self-executing or not.

²¹*See* 80 Stat. 1610, wherein responsibilities of the Public Health Service and the Surgeon General were transferred to the Secretary of Health, Education and Welfare pursuant to the 1966 Reorganization Plan No. 3.

spread of communicable diseases from foreign countries into the States or possessions. . . .

(b) Regulations prescribed under this section shall not provide for the apprehension, detention, or conditional release of individuals except for the purpose of preventing the introduction, transmission, or spread of such communicable diseases as may be specified . . . in Executive orders of the President upon the recommendation of the National Advisory Health Council and the Surgeon General.²²

(c) Except as provided in subsection (d) of this section, regulations prescribed under this section, insofar as they provide for the apprehension, detention, examination, or conditional release of individuals, shall be applicable only to individuals coming into a State or possession from a foreign country or a possession.

(d) . . . regulations prescribed under this section may provide for the apprehension and examination of any individual reasonably believed to be infected with a communicable disease in a communicable stage. . . . Such regulations may provide that if upon examination any such individual is found to be infected, he may be detained for such time and in such manner as may be reasonably necessary." (Emphasis and footnote added.)²³

First, the applicable Public Health Service regulations are limited in scope to those situations involving the introduction and spread of communicable diseases throughout the U.S., its territories or possessions. One of the critical factors in the back contamination program is that initial contact of re-entry vehicles, limited by the present state of the art, is with Earth's airspace and surface over and in international waters ("hard" landings by the U.S.S.R. in domestic territory, notwithstanding). As discussed previously, United States jurisdiction for the international application of its domestic quarantine regulations is, at best, questionable at this point. One highly improbable exception may be the Public Health Service regulation which premise is jurisdiction, in part, upon *control* of an area by the United States as follows:

A person shall not import into any place *under the control of the United States*, nor distribute after importation, *any etiological agent* . . . unless accompanied by a permit issued by the Surgeon General. (Emphasis added.)²⁴

Although "control" is not defined, it may be argued that the splashdown area in international waters is under the *de facto* control of the United States for the period of recovery operations. However, this involves an issue which would undoubtedly be unacceptable in most international legal

²²The diseases which the President has so specified are listed in Executive Order 11070; also 42 CFR, Parts 71 and 72.

²³42 U.S.C. 264. For Public Health regulations dealing with the transportation of etiologic agents as well as provisions for transporting etiologic agents, *see* 42 CFR, Chp. I, PHS, Part 71, Foreign Quarantine; Subpart J, Importation of Certain Things; Sec. 71.156; and 42 CFR, Chp. I, PHS; Part 72, Interstate Quarantine; Subpart C, Shipment of Certain Things; Sec. 72.25, respectively.

²⁴42 CFR, Chp. I, Part 71, Subpart J, Sec. 71.156(a).

fora, depending upon the type, location, and extent of interference caused by the control. Further, the regulation requires a permit based upon knowledge that an individual is carrying, or is contaminated with, an etiological agent. In most recovery missions, if not all, this can be only *post facto* knowledge. The same is true of the basic premise of these regulations, i.e., that the etiologic agent is a known communicable disease when, in fact, it can be known only after laboratory examination to identify any extra-terrestrial life form which might have been brought back from a space mission.²⁵

Subsection (c), above, is self-explanatory to the extent that a State and a possession are well defined in international law and "foreign country" has yet to be construed as covering outer space and nonterrestrial celestial bodies. Subsection (d), above, would be applicable only to the extent that experience or previous space missions have provided the knowledge that equipment and/or personnel reasonably may be expected "to be infected with a communicable disease in a communicable stage. . . ." For these reasons, it is submitted that necessary authority to quarantine in support of the back contamination program does not rest with the Secretary of the Department of Health, Education and Welfare.

The Department of Agriculture

Statutory provisions exist which authorize the Secretary of Agriculture to quarantine any "article of any character whatsoever" capable of carrying any dangerous plant disease or insect infestation, but only if he has reason to believe that the article *is* (not *may be*) infested or infected, or that the quarantine is necessary to prevent the spread of a dangerous disease or infestation.²⁶

The Secretary of Agriculture also has authority to quarantine any article or animal, but no person, in order to prevent the introduction or dissemination of a contagious, infectious or communicable disease of animals.²⁷ Once more, the condition precedent to the Secretary of Agriculture's exercise of quarantine authority, including exercise of that authority in support of NASA's back contamination program, appears to be that first

²⁵At most, under these circumstances a determination can be made on the basis of *suspicion*—a ground which very likely would be insufficient for the determination. Several state courts have distinguished between probable cause for reasonable belief that a person has been exposed to a contagious or infectious disease (which a state's statute requires for quarantine) and suspicion of exposure. The courts have held that suspicion is not enough; *see* *People v. Robertson*, 134 N.E. at 815 (Ill. 1922); *Ex parte Shepard* 195 Pac. 1077 (Calif. 1921); and *Wragg v. Griffin*, 170 N.W. 400 (Iowa 1919).

²⁶*See* 7 U.S.C. 150 dd, and 160-161.

²⁷*See* 21 U.S.C. 111-134h.

he must make a determination that a contagious, infectious, or communicable disease exists.

From the foregoing discussions it is seen that NASA, almost solely on a *pro forma* basis as the ICBC representative responsible for the space mission, has promulgated the quarantine regulations, even though the question remained extant as to which Department or agency had the necessary legislative authority. An attempt was made, within the regulations themselves, to rely on every source of legislation that, collectively, might provide adequate authority for the regulatory action. However, by evaluating the legislation relied on, it was seen that neither collectively nor severally is there proper and sufficient legislation—or other emergency sources—necessary to provide adequate authority for the regulations.

C. Legislative Authority for the Quarantine of Extraterrestrially-Exposed Matter — Constitutional Barriers?

Since the Supreme Court consistently has upheld the authority of a State to make reasonable quarantine regulations under the State's exercise of its police power, and since the Court also has recognized that it would be proper for Congress to enact quarantine legislation,²⁸ it is submitted that there probably would not be a constitutional bar to the enactment of such legislation. Apparently, the authority which the Congress has exercised in enacting provisions such as 42 U.S.C. 264 is the authority "to regulate Commerce with foreign Nations, and among the several States. . . ." and "to make all Laws which shall be necessary and proper for carrying into execution the foregoing Powers and all other powers vested by this Constitution in the Government. . . ."²⁹

There has been no direct confrontation before the Supreme Court regarding Congressional exercise of the quarantine authority and the "right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures" (4th Amendment); the right not to "be deprived of life, liberty, or property, without due process of law" (5th Amendment); and the proscription that "neither slavery nor involuntary servitude . . . shall exist within the United States, or any place subject to their jurisdiction" (13th Amendment).

The Supreme Court has heretofore held constitutional various state quarantine provisions that deal with an *actual communicable disease*,

²⁸See, therefore, *Compagnie Francaise v. Louisiana State Board of Health*, 186 U.S. 380 (1902), and *Morgan Steamship Co. v. Louisiana Board of Health*, 118 U.S. 455 (1886); see also *Benton v. Reid*, 231 F.2d 780 (D.C. Cir. 1956).

²⁹U.S. CONST. Article I, sec. 8.

while any proposed quarantine legislation for back contamination would not; there would be only speculation—a possibility—that contaminated materials carry communicable diseases or may otherwise endanger Earth's biosphere. Bearing this distinction in mind, the issues arise whether (1) seizure pursuant to future legislation would be unreasonable and therefore in conflict with the 4th Amendment; (2) the permitted seizure, examination, decontamination and detention of contaminated persons or property would be an arbitrary, capricious and unreasonable act with no reasonable relation to a legitimate legislative purpose and, therefore, prohibited by the 5th Amendment; (3) procedures invoked in the quarantine are not suitable and proper, and thus do not meet the procedural due-process requirement of the 5th Amendment; and (4) whether the quarantine of contaminated persons results in an involuntary servitude prohibited by the 13th Amendment.

Responding to the question whether it is unreasonable or arbitrary to seize and otherwise deprive contaminated persons of liberty or to deprive persons of contaminated property by quarantine, it is submitted that no reasonable person could contend at this time that Earth's immediate ecosystem is immune from the danger of extraterrestrial contaminants. Precisely because the danger of contamination to Earth's biosphere is unknown, and because the possibility exists that extraterrestrial bodies may harbor communicable diseases unknown to man, it is persuasively reasonable to permit quarantine in this *sui generis* situation. Therefore, since the 4th and 5th Amendments proscribe unreasonable seizures³⁰ and arbitrary, capricious and unreasonable acts with no reasonable relation to a legitimate legislative purpose,³¹ it is submitted that proper quarantine legislation oriented toward extraterrestrially contaminated persons and objects, etc., would not violate the U.S. Constitution.

If what is required by the procedural due process aspect of the 5th Amendment is "that kind of procedure . . . which is suitable and proper to the nature of the case, and sanctioned by the established customs and usages of the courts,"³² then this requirement may be met by specific and carefully drawn legislation. In brief, the procedure envisioned would be an administrative determination based on probable cause that the person or material had been contaminated. This determination undoubtedly would be reviewable on application for a writ of habeas corpus, though the quaran-

³⁰Carroll v. United States, 267 U.S. 132, 147, 149 (1925).

³¹Boylan v. United States, 310 F.2d 493, at 498-499 (9th Cir. 1962) *cert. denied*, 372 U.S. 935 (1963); *see also* Compagnie Francaise, *supra* n. 28, at p. 393.

³²*Ex parte* Wall, 107 U.S. 265, at 289 (1883); *see also*, Cafeteria Workers v. McElroy, 367 U.S. 886, 895 (1961).

tined person would not be permitted to appear before the Court.³³

If, then, a person is deprived of liberty or property with due process of law, it appears that legislation could not be successfully contested on the ground that the quarantined person is thus required to perform an involuntary servitude which is proscribed by the 13th Amendment; or that property was unreasonably seized in violation of the 4th Amendment. The argument would be specious. Insofar as a person's liberty is taken from him, it would be done with due process of law in accordance with the 5th Amendment; and insofar as the 13th Amendment proscribes involuntary servitude, no enforced compulsory service or labor would be required under such new legislation.

It is seen, finally, that although proper and sufficient legislative authority does not exist at present to justify the back contamination quarantine regulations, there is no real obstacle, constitutional or otherwise, to enactment of new quarantine legislation by the Congress to accommodate the *sui generis* situation of contamination of Earth's biosphere by extra-terrestrial matter.

D. Proposed Legislation for the Clarification of Extraterrestrial Exposure Quarantine Authority

NASA's back contamination quarantine regulations have been exposed as lacking adequate legislative authority, even for domestic application—either from a single source or from cumulative sources. This does not mean, however, that formulation of adequate legislation would be either improper or difficult. Common sense and the Outer Space Treaty dictate that responsible measures with appropriate safeguards should be adopted to protect Earth, and therefore the United States, from potential adverse effects of contamination resulting from both manned and unmanned space activities involving "extraterrestrial exposure." Toward this end, the proposed legislation, set forth below and discussed in a section-by-section analysis, would provide the Administrator of NASA with authority to promulgate and enforce necessary back contamination standards and attendant quarantine regulations with the advice and consent of the Interagency Committee on Back Contamination and the approval of the President.

The legislation would authorize the President to direct any Federal department, agency, or instrumentality of the Executive branch to provide appropriate and available assistance, upon request, to NASA in executing

³³See 28 U.S.C. 2241 *et seq.* for provisions dealing with the writ of *habeas corpus*. See also, *United States v. Shinnick*, 219 F.Supp. 789 (E.D. N.Y. 1963).

and enforcing the standards and regulations promulgated pursuant to the legislation. Further, it would provide the President with authority to implement more effectively Article IX of the Outer Space Treaty, i.e., to negotiate bilateral and multilateral agreements for requesting and accepting the assistance of, or the rendering of assistance to, any State, possession, commonwealth, territory, the District of Columbia, foreign government, or international organization, in the implementation of domestic or foreign quarantine standards and procedures.

Since (1) there is no express statutory authority upon which NASA may rely to enforce its agreements with astronauts, personnel and contractor employees who may be exposed to extraterrestrial contamination,³⁴ and (2) there are no guidelines for Executive implementation of quarantine procedures which could be applied extraterritorially to non-U.S. citizens and property, the need for comprehensive legislation is imperative. It should be recognized that regardless of the procedural and physical security measures undertaken by NASA to confine back contamination to NASA astronauts, employees and others under contract, there are easily foreseeable situations in which unauthorized persons, intentionally or inadvertently, may be exposed to extraterrestrial contaminants. Further, there is always the problem of a foreign citizen being exposed to a "spill," or some other form of extraterrestrial contamination, thereby providing a "leak" in the safeguard procedures through the inapplicability of quarantine requirements.

In all of these and similar hypothetical instances, the serious issue exists whether, in the absence of self-evident harmful effects to Earth's ecosystem by extraterrestrial exposure, a person or thing can be quarantined against his will or the will of the owner. The proposed legislation, set forth below, is designed to mitigate the acuteness of the issue by providing the authority necessary for NASA's Administrator and the President to deal with these situations in a reasonable manner, both domestically and within the context of present international political realities.

Draft Legislation and Sectional Analysis

The proposed bill reads as follows:

A BILL

To amend the National Aeronautics and Space Act of 1958, as amended, to protect the United States and Earth from harmful contamination and adverse changes in the environment resulting from the

³⁴See NASA/MSF Form 84/May 1969 (OT)/, Application and Crew Participant Quarantine Agreement.

introduction of extraterrestrially-exposed persons and matter, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 103 of the National Aeronautics and Space Act of 1958, as amended (42 U.S.C. 2452) is amended by adding at the end of the following three subsections:

103(3) The terms "Administration" and "Administrator" mean, respectively, the National Aeronautics and Space Administration, and the Administrator of the National Aeronautics and Space Administration or his authorized representative.

103(4) The "Interagency Committee on Back Contamination" (ICBC) means that Committee established under the auspices of the National Academy of Sciences, effective August 24, 1967, consisting of one voting representative each from the National Aeronautics and Space Administration, the Department of Health, Education and Welfare, the Department of the Interior, the National Academy of Sciences, the Department of Agriculture, the Department of Justice, and the Department of State, who shall be permanent members, and any other instrumentality of the Executive branch that the President determines is essential to the full consideration, and promulgation, of back contamination standards and quarantine regulations. The ICBC also shall consist of one non-voting representative each from the Committee on Space Research and the World Health Organization, expert organizations of the United Nations, and one non-voting representative from any other international organization which the President determines is essential to the deliberations of the ICBC. All such non-voting representatives shall participate directly in consulting capacities for all business of the ICBC, except in those matters which the representatives of the National Aeronautics and Space Administration and the Department of State jointly determine, in consultation with the Department of Defense, are of a classified nature.

103(5) The term "extraterrestrially contaminated" means the state or condition of any person, property, animal or other form of life or matter whatsoever, who or which has been exposed:

(a) directly to the surface of the moon or of any other celestial body without having a predetermined acceptable level of protective clothing or shielding; or

(b) directly to any non-Earth atmospheric or outer-space environment which the ICBC determines scientifically, or through predictive models, is likely to bring any person, property, animal or other form of life or matter whatsoever into contact with known alien etiologic agents or which will surpass a probability level of direct contact as

established by the ICBC in consultation with international organizations; or

(c) directly or indirectly to any person, property, animal or other form of life or matter whatsoever who or which is extraterrestrially contaminated according to subsections 103(5)(a) and 103(5)(b), immediately preceding.

103(6) "United States" means, for purposes only of subsections 203(b)(2) through 203(b)(10), inclusive, the States, the District of Columbia, the Commonwealth of Puerto Rico, the Canal Zone, the U.S. Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, and any other territory or possession of the United States, and all other airspace, waters, or land subject to total de facto control of the United States as established by the ICBC, and which are located outside the United States, as defined herein, for the duration of recovery phases of specified space missions.

103(7) "Quarantine" means the detention of any person, property, animal or any other life form or matter whatsoever, or the geographic isolation of any land, water and airspace as defined in section 103(6), herein, for such time and in such reasonable manner as may be determined to be necessary by NASA, as published in the form of regulations and promulgated pursuant to the public rule-making provisions of the Administrative Procedure Act of 1946, as amended, upon the advice of the ICBC and with the approval of the President.

ANALYSIS

It is not essential that the quarantine authority be implemented through amendment of existing legislation, i.e., the Space Act of 1958. Quite legitimately, and perhaps with more drafting ease, the authority could be established in the form of a separate Act. However, for present purposes, amendment of the Space Act is both logical and helpful, since (1) quarantine regulations and procedures will, of necessity and for the present, be parochial in scope, and (2) in the absence of total international participation in the promulgation of back contamination standards and quarantine procedures, and in view of total NASA control over all U.S. civilian space missions which have complete operational integration with available quarantine facilities, the logical location for quarantine legislation delineating the Administrator's responsibilities and authority is in the Space Act of 1958. With increasing, substantive international participation, it may well be that a separate Act would be necessary, placing both policy and operational authority in the Department of Health, Education and Welfare and/or the Department of Agriculture. Another likely alternative would be

an independent bureau or agency which also could interface with the World Health Organization as that entity becomes more a participant in the back contamination standards and quarantine rulemaking procedures.

The new definitions under section 103 are very important since they are, in part, the mechanisms upon which back contamination standards and quarantine regulations are opened for public scrutiny and substantive participation. Subsection 103(3) is simply *pro forma*, since the definitions of "Administration" and "Administrator" do not appear in the Space Act of 1958, as amended. However, subsection 103(4) defines the ICBC and provides for international participation, albeit with no voting rights and subject to essential, but minimal, control over information determined by NASA and the Department of State, *in consultation with* (not consent of) the Department of Defense, to be classified in nature.

Subsection 103(5) defines the operative term "extraterrestrially contaminated." This definition differs from that in the existing regulations in two principal ways. The first is exemption from application of the regulations of anyone or thing coming in direct contact with the surface of a non-Earth celestial body which is adequately (i.e., completely) insulated. In the context of present space mission technology, this change, for the most part, is clarifying in nature. The second principal difference is extension of contamination coverage to outer space and to non-Earth atmospheric environments which the ICBC determines will cause contact with alien etiologic agents or which will surpass an established probability level of direct contact. Further, by definition, the ICBC would assume both planning and operational roles, rather than one which is designed simply for providing advice and giving approval on a "before-the-fact" basis. Concisely, as elaborated upon in subsequent sections, the purpose is to remove back contamination problems from final consideration by NASA, alone, and place them with at least a quasi-independent entity that has the direct benefit of international, as well as domestic, public expertise.

Subsection 103(6) includes in the definition of "United States" non-sovereign territory, water, and airspace, the control of which the ICBC determines is essential to implement back contamination standards and quarantine procedures for a specific mission. Subsection 103(7) simply defines "quarantine" and constrains promulgation of quarantine requirements to (1) publication as regulations pursuant to public rule-making procedures of the Administrative Procedure Act, (2) advice of the ICBC, and (3) approval of such requirements by the President. The latter constraint arises principally from the uniqueness of quarantine procedures to accommodate extraterrestrial exposure, i.e., the absence of knowledge

about, or the existence of, Earth-alien pathogens and nonliving matter which could provide a setting for easy abuse of the quarantine concept.

SEC. 2

Subsection 203(b) is amended by inserting, after subsection 203(b)(1), the new provisions set forth below, and renumbering existing subsections 203(b)(2) through 203(b)(14) as 203(b)(11) through 203(b)(21).

203(b)(2). The Administrator, with the advice of the ICBC and approval of the President, is authorized to promulgate and enforce (with specific due regard for 5 U.S.C. 553–558, inclusive, and applicable international law) those quarantine regulations as are necessary to protect the United States and Earth from harmful effects resulting from exposure to any extra-terrestrially contaminated person, property, animal or other form of life or matter whatsoever. In emergency situations in which it is impractical to seek advice of the ICBC, the Administrator may, with the approval of the President, apply quarantine procedures which in his judgment are necessary to ensure protection of the United States and Earth, consistent with international law. Under no circumstances will the emergency quarantine procedures apply beyond ten consecutive days without review and approval by the ICBC.

ANALYSIS

Of primary importance in subsection 203(b)(2) are (1) the requirement to promulgate regulations in accordance with the spirit and intent of the Administrative Procedure Act (timely publication and procedures for public participation in rule making, i.e., 5 U.S.C. 553 through 558), and (2) the provision for application of quarantine procedures which have not been subject to APA requirements because of an emergency situation. In recognition of the fortuitiveness of such emergencies and the possible need for a relatively time-critical decision, the advice of the ICBC is not required. However, Presidential approval is mandatory, principally on the assumption that his deliberations would not be as time-consuming as those of the ICBC, and also on the assumption that the President's personal review and approval would minimize the possibility of abuse of the emergency quarantine authority.

It should be noted, also, that implementation of all quarantine regulations must be consistent with international law. This would not only prohibit implementation of such regulations in those non-sovereign areas, and under those circumstances, which customary or treaty law has determined inappropriate for unilateral application of sovereign jurisdiction, but also would permit—perhaps encourage—bilateral and multilateral arrange-

ments to facilitate, throughout the political world, the safeguarding of Earth from adverse effects of extraterrestrial contaminants. This requirement also constrains appropriately the definition given under proposed subsection 103(6) for the "United States." In any event, it would necessitate a closer view of Article IX of the Outer Space Treaty by the United States as a Contracting Party to determine precisely how much international participation is required by that Treaty in the formulation of back contamination standards and quarantine procedures for U.S. (or U.S.-involved) space missions.

Finally, under no circumstances will emergency quarantine procedures be applied beyond a period of ten days without the ICBC's review and approval. This provision is consistent with the more cautious, and perhaps more realistic, regulatory authority deriving from a few State legislatures as a means of accommodating those situations in which Constitutional guarantees must, of necessity, be compromised.

SEC. 3

203(b)(3). The Interagency Committee is hereby authorized to select a competent staff of experts necessary to execute the duties and responsibilities of the Committee. There are authorized to be appropriated such sums as may be necessary to carry out the provision of this subsection.

ANALYSIS

This subsection is self-explanatory, providing both for ICBC staffing and the necessary attendant appropriations.

SEC. 4

203(b)(4). The rules and regulations issued pursuant to subsection 203(b)(2) may provide for:

(i) the apprehension, physical examination, detention, quarantine or conditional release of any person determined by the Administrator or his authorized representative to be extraterrestrially exposed or contaminated. Such person, in accordance with the authority granted in subsection 203(b)(2), may be detained or quarantined in a manner determined reasonably necessary in view of the known or unknown contaminants. Such detention or quarantine shall not exceed thirty consecutive calendar days calculated from the last known date on which a person, property, animal or any other form of life or matter whatsoever, was contaminated; provided that if the extraterrestrially-contaminated person suffers from a condition resulting from such contamination, and which the President determines would

be harmful to the United States or Earth if such person were released from quarantine, then the President shall direct, by Executive order, that quarantine be continued until such time and in such reasonable manner as may be necessary. This provision in no way affects subsection 203(b)(2) as it relates to emergency situations in which review and approval of the quarantine by the ICBC is necessary to extend such quarantine beyond ten consecutive days.

(ii) except with respect to persons, the seizure, inspection, quarantine, fumigation, disinfection, sterilization and destruction of property, animals or other form of life or matter whatsoever in any situation in which the Administrator or his authorized representatives determine that there is probable cause to believe that such form of life or matter is extraterrestrially contaminated;

(iii) quarantine facilities, essential grounds and anchorages within the United States, and at any point outside the United States as defined in subsection 103(6) which the President, through bilateral agreements, or multilateral treaty arrangements with the advice and consent of the Congress, may so designate;

(iv) the quarantine, in a reasonable manner, and with the advice of the ICBC and approval of the President, of any area of the United States, or anywhere on Earth if consistent with international law, when there is good and sufficient cause to believe that such area is extraterrestrially contaminated; and

(v) the holding of hearings, by the Administrator with or without participation of the ICBC, at times and in a manner he determines desirable and necessary to assist in the execution of his duties, and for the purpose of creating a record for use in making any determination pursuant to subsections 203(b)(2)–203(b)(9), inclusive, or for the purpose of reviewing any such determination.

ANALYSIS

The nature of subsection 203(b)(4) is permissive, providing examples of the types of rules and regulations that may be promulgated and enforced consistent with the authority which would be granted by the proposed amendments. Such rules and regulations are largely self-explanatory and, in part, are somewhat analogous to authority legislated for the Secretaries of Health, Education and Welfare, and of the Department of Agriculture.³⁵

Except in emergency situations, the duration of quarantine shall extend to, but not exceed, thirty consecutive days from the last date of extraterrestrial exposure. Those persons or objects, etc., indirectly exposed need only be watched for the remainder of the isolation period for those

³⁵See 7 U.S. 150dd, 160-161 and 164a; 20 U.S.C. *et seq.*; and 42 U.S.C. 264 and 67(a).

contaminated or directly exposed, except when exceptional circumstances are *known* to exist. The period of thirty days is now altogether arbitrary. It allows a reasonable time, beyond the normal 21-day incubation period for most Earth-indigenous microbial diseases known to reach epidemic proportions, to accommodate potential extraterrestrial micro-organisms or matter which might manifest latent adverse effects. Presumably, such adverse effects are likely to become evident within a period of thirty consecutive days. If it is determined during or at the end of thirty days that the contamination is harmful and classifiable by the Department of Agriculture and/or of Health, Education and Welfare as a communicable disease, then those Executive Departments may, of course, invoke their own respective quarantine authorities and continue the detention in the manner, and for the duration, prescribed by their rules and regulations. However, if the harmful effects continue and the etiology cannot be determined to be communicable in nature, then the President may, by Executive order, continue the quarantine for such time and in such manner as may reasonably be necessary to ensure the safety of the United States and of Earth against a premature release of the contaminated subject.

The President is also authorized, by subsections 203(b)(4)(iii) and (iv), to make formal and informal arrangements to facilitate an effective back contamination program world-wide. These provisions, by their permissive nature, would provide encouragement to the Executive branch to seek international agreements for implementing a broadly applicable back contamination program (within the recognized constraints of classified information and national security of all countries which might participate), in order to confine the risk and spread of back contamination as much as possible.

SEC. 5

203(b)(5). The Administrator may administer oaths and affirmations; take, or have taken, depositions; and require, on his own motion and by subpoena, the attendance and testimony of witnesses, as well as the production of documentary evidence relating to any matter pending before him under the authority of subsections 203(b)(2)-203(b)(8). In the event of contumacy or failure to obey a subpoena, any district court of the United States within the jurisdiction of which said person guilty of contumacy or refusal to obey is found or resides or is domiciled or transacts business, upon application of the Attorney General, shall have jurisdiction to issue to such person an order requiring such person to appear before the Administrator, there to produce documentary evidence if so ordered, or there to give testimony touching the matter under investigation; and any failure to

obey such order of the court may be punished by the court as a contempt thereof.

ANALYSIS

For the most part, this subsection follows the pattern of 42 U.S.C. Supp. IV 1973g(c), and 5 U.S.C. Supp. IV 304, 556(c), which respectively (1) provides for the subpoena power of the Civil Service Commission and a contempt penalty for contumacy and refusal, and (2) describes the subpoena power and procedures therefor, of heads of an Executive department, military department, or bureau thereof, and also delineates powers of employees—subject to published rules and regulations—in conducting a hearing of record.

Exercise of authority granted in this subsection may be essential, for example, in the determination as to whether a person, animal or thing has been extraterrestrially contaminated, either directly or indirectly on a successive basis pursuant to the definition of “extraterrestrial contamination.” Further, authority is provided through these procedures for the Administrator to determine where the alleged contaminee is located. Finally, the Administrator is authorized at his discretion to hold hearings of record as to any matter property within his sole responsibility in accordance with subsections 203(b)(2)-203(b)(8).

SEC. 6

203(b)(6). The Administrator shall employ a staff of quarantine inspectors who shall be expert in the area of extraterrestrial contamination and attendant quarantine procedures. The membership of the staff shall be subject to the review and approval of the United States Public Health Officer. Any properly-identified quarantine inspector is authorized, when so directed by the Administrator: (i) to stop and inspect, without a warrant, any person, property, animal or other form of life or matter whatsoever, moving into the United States (as defined in subsection 103(b) herein) or in interstate commerce, in order to determine whether he or it is extraterrestrially contaminated. The quarantine inspector must have adequate reason and sufficient cause to believe that the person, property, etc., stopped and inspected is likely to be extraterrestrially contaminated; and (ii) to enter, with a warrant, any premise in the United States (as defined in subsection 103(b), herein) and to conduct any inspections and make any seizures necessary pursuant to rules and regulations promulgated according to the authority provided in subsections 203(b)(2)-203(b)(8) inclusive. Any judge of the United States or a court of record of any state, or of any commonwealth, territory or possession of the United States, or a United

States Commissioner or magistrate, within his respective jurisdiction and upon proper oath or affirmation showing probable cause to believe that there is on certain premises an extraterrestrially-contaminated person, property, animal or other form of life or matter whatsoever, may issue warrants for the entry of such premises to make any inspections or seizures provided for by the rules and regulations promulgated according to subsections 203(b)(2)-203(b)(7) inclusive. Such warrants may be executed by any authorized employee of the Administration.

ANALYSIS

This subsection is clear and self-explanatory, and closely follows, for the most part, 7 U.S.C. 150ff and 164a, which provide, respectively, for inspections, seizures and the issue of warrants regarding quarantine authority and procedures of the Department of Agriculture, and for interception, without a warrant and under specified conditions, of certain plants moving into the United States or in interstate commerce. Reference to magistrates is an accommodation of 28 U.S.C. Supp. IV 636, which provides, in part, that "[e]ach United States magistrate [appointed pursuant to 28 U.S.C. Supp. IV 631]. . . shall have within the territorial jurisdiction prescribed by his appointment . . . such additional duties as are not inconsistent with the Constitution and laws of the United States."

SEC. 7

203(b)(7). The President is authorized to direct any Federal agency or department in the Executive branch to assist the Administration, through the use of its personnel, equipment, supplies, facilities and other available resources which may be appropriate, in the execution of the quarantine-related authority, rules and regulations deriving from subsections 203(b)(2)-203(b)(7). The President may also direct that such assistance be made available, upon appropriate request and in such manner as may be agreed, to countries with which the United States has agreements or treaty arrangements covering the facilitation of a mutually-agreed international extraterrestrial back contamination and quarantine program. In either situation, when a Federal agency or department is so directed, the Administrator may invest the necessary employees of such agency or department with the same authority and concomitant protection provided in subsections 203(b)(2)-203(b)(8), or rules and regulations issued pursuant thereto, that may be invested in employees of the Administration. Such services, personnel, facilities, and equipment may be made available on a reimbursable basis. Any funds received by Federal agencies as reimbursement for use of its personnel, equipment, supplies, facilities and other available

resources shall be deposited to the credit of the appropriation or appropriations currently available therefor. Any appropriations presently available, or that will be made available, to the Administration for back contamination control shall be used as necessary to assist in defraying the expenses of enforcing the quarantine rules, regulations, and other authority provided for in subsections 203(b)(2)–203(b)(8), inclusive.

ANALYSIS

This subsection is patterned, in part, on 42 U.S.C. 2473a(6), which provides that the National Aeronautics and Space Administration shall “use, with their consent, the services, equipment, personnel and facilities of Federal and other agencies with or without reimbursement. . . .” Such Federal and other agencies are directed to cooperate fully with the Administration in making such services, equipment, personnel and facilities available. The subsection is supported further by 31 U.S.C. 686 which deals with expenditures for telegraph and telephone communication. Other legislation serving both as a pattern and as supporting authority for this subsection are 42 U.S.C. 243, by which it is provided that the U.S. Surgeon General may accept or render any necessary and available assistance from and to State and local authorities in the enforcement of quarantine regulations issued pursuant to subchapter II of Chapter 6A of 42 U.S.C., and 50 U.S.C. 2292, which provide that Federal agencies and departments, at the direction of the President and *under specified emergency conditions*, shall assist states in confronting such conditions. Existing subsection 203(b)(6) of the Space Act of 1958 provides for such loans and services among private and governmental entities, but it was decided that for purposes of quarantine authority a separate provision should be proposed because of the pervasive nature of the back contamination program and quarantine procedures.

With respect to the provision for NASA and other Federal agencies and departments, at the direction of the President, to render assistance to, and accept it from, foreign countries in furtherance of the extraterrestrial quarantine authority, additional supporting authority may be found in the existing Space Act of 1958. Subsection 102(c)(7) [42 U.S.C. 2451(c)(7)], provides that “aeronautical and space activities of the United States shall be conducted so as to contribute materially to . . .

(7) Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof. . . .

Further, section 205 provides that

[t]he Administration, under the foreign policy guidance of the President, i.e.,

Department of State, may engage in a program of international cooperation in work done pursuant to this Act, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate."

SEC. 8

203(b)(8). Any person who violates any rule or regulation issued pursuant to authorization in subsections 203(b)(2)-203(b)(7), inclusive, or who enters or departs the limits of any quarantine station, ground or anchorage in disregard of quarantine rules and regulations, or without permission of the quarantine inspector, officer or other proper official in charge, or who violates any of the rules or regulations deriving from an international agreement dealing with quarantine of extra-terrestrially-contaminated objects, persons or other life forms for which an appropriate sanction is not otherwise provided, shall be subject to a fine of not more than \$5,000, or to imprisonment not to exceed one year, or both.

ANALYSIS

This subsection is self-explanatory and patterned largely on 18 U.S.C. 799 [Sec. 304(c) of the Space Act of 1958], which provides that violation of any regulation of the National Aeronautics and Space Administration shall be a misdemeanor punishable as such.

SEC. 9

203(b)(9).

a. Any claim for money damages against the United States arising out of an act or omission of any Government employee or agent while acting within the scope of his employment, office or agency, pursuant to subsections 203(b)(2)-203(b)(8), or the rules and regulations deriving therefrom, shall be governed by, and disposed of in accordance with, the provisions of Chapter 171 of Title 28, and subsection 2473(b)(13) of Title 42, except that:

(i) for the purposes of subsections 1346(b), 2672, and 2675 of Title 28, any injury or loss of property or personal injury or death sustained as a result of the enforcement, operation or execution of the authority provided in subsections 203(b)(2)-203(b)(8) herein, or the rules or regulations deriving therefrom, which has been caused by an act or omission of an employee or agent of the Government acting within the scope of his employment, office or agency, shall be deemed to have been caused by the negligent or wrongful act or omission of an employee or agent of the Government;

(ii) *Subsection 1346(b) and Chapter 171 of Title 28, and subsection 2473(b)(13) of Title 42, shall apply to claims for money damages arising from actions or conduct pursuant to subsections 203(b)(2)-203(b)(8) herein, and which are described in subsections 2680(a) and (f) of Title 28, or which arise out of false imprisonment as described in subsection 2680(h) of Title 28; and*

(iii) *in determining solely the circumstances in which the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred, this subsection 203(b)(9) a(i) and a(ii) shall not be applicable.*

b. The remedy against the United States provided by sections 1346(b), 2672, and 2675 of Title 28 and section 2473(b)(13) of Title 42, for damages for any injury or loss of property or personal injury or death, arising out of an act or omission of any Government employee or agent while acting within the scope of his employment, office or agency pursuant to subsections 203(b)(2)-203(b)(8) herein, or rules or regulations deriving therefrom, shall be exclusive of any other civil action or proceeding by reason of the same subject matter against such employee or agent whose act or omission gave rise to the claim.

c. Subsection 203(b)(9)a. above, shall not be applicable to any claim for money damages for injury or loss of property or personal injury or death arising out of a willful violation of any rule or regulation issued pursuant to subsections 203(b)(2)-203(b)(8), herein.

ANALYSIS

Subsection 203(b)(9)a. is based on the Federal Tort Claims Act (28 U.S.C., Chap. 171) and the NASA provision for administrative settlement of claims [42 U.S.C. 2473(b)(13)], as the devices for compensating persons for injury or loss of property or personal injury or death sustained as a result of the enforcement and execution of the quarantine authority provided by the bill. Three exceptions are made to the provisions of the Federal Tort Claims Act and the NASA settlement provision. In paragraph 203(b)(9)a.i. provision is made for the conclusive presumption that if harm results from an act or omission of a Government employee or agent (the latter of which is intended to accommodate those persons directed by the President to render assistance and services in furtherance of the objectives of the quarantine authority) while acting within the scope of his employment, office or agency pursuant to the authority provided by the bill, or the rules and regulations deriving from such authority, the harm shall be deemed to have been caused by the wrongful or negligent act or omission of the employee or agent acting within the scope of his employ-

ment and authority. On the other hand, this does not necessarily mean that the person harmed will have a cause of action under the law of the place where the act or omission occurred; nor does it prevent the Government from raising the defense that the employee or agent was not acting within the scope of his employment, office or agency, or that an exception provided in 28 U.S.C. 2680 is applicable.

As an alternative approach to subsection 203(b)(9)a., a provision could be drafted providing for a form of administratively-determined compensation or indemnification based on 10 U.S.C. 2354, 21 U.S.C. 134a(d), 38 U.S.C. 216, 42 U.S.C. 2210 and E.O. 10789, 14 Nov. 1958, as amended, which implement 50 U.S.C. 1431.³⁶

In paragraph 203(b)(9)a.ii., four defenses, whether considered jurisdictional in nature or not and normally available to the Government, are eliminated [i.e., the two defenses available in 28 U.S.C. 2680(a), generally referred to as the discretionary fund, the defense in 28 U.S.C. 2680(f), which is the quarantine exception, and the defense in 28 U.S.C. 2680(h) that deals with claims arising out of false imprisonment]. The remaining exceptions in 28 U.S.C. 2680(h) would be applicable to actions brought under the authority proposed in this bill, as well as under the rules and regulations deriving from that authority. The net effect of subsection 203(b)(9)a.ii. would be the availability of an action brought by a person for compensation, if, for example, the harm is caused by a Government employee or agent who exercises due care in the execution of his responsibilities pursuant to the authority granted; or if the harm is caused by the exercise or performance, or failure to exercise or perform a discretionary function or duty; or if the harm arises directly from the imposition or establishment of a quarantine by the United States; or if such harm is the consequence of false imprisonment.

Paragraph 203(b)(9)a.iii. is designed to accomplish several purposes. First, it is intended to ensure that no argument will be made that the United States, considered as a private person, would be privileged or otherwise immune from liability because a statute (i.e., the authority which would be granted in the proposed amendments) required that the "private person" act or fail to act, thereby causing the damage which serves as the basis of a complaint. Concisely, it strikes any vestige of law which would immunize or make privileged an act performed by a private person in the execution of a law. Second, this provision would supplement the conclusive presumption, set forth in subsection 203(b)(9)a.i., that the act or omission causing damage is deemed a wrongful act or omission. This would

³⁶In this respect, see also Frankel, *Preventative Restraints and Just Compensation: Toward a Sanction Law of the Future*, 78 YALE L.J. 229, 256 (1968).

be accomplished by use of a fiction that the exceptions were not in force and could not be relied upon by the Government employee or agent whose act or omission caused the damage. Third, this provision would ensure that the United States is not designated improperly as the "good samaritan" by virtue of the proposed amendments, i.e., one who has volunteered to be conclusively liable for protecting the public from the danger of extra-terrestrial contamination. Finally, section 203(b)(9)a. is in no manner intended to preclude actions for compensation against the United States that may be brought under other law; for example, 28 U.S.C. 1491.

Subsection 203(b)(9)b. renders the remedy provided in subsection 203(b)(9)a. against the United States exclusive, so that no Government employee or agent acting within the scope of his employment or office pursuant to the proposed amendment, or rules and regulations deriving therefrom, would be liable personally for the consequences of an act or omission.

Subsection 203(b)(9)c. provides that if any injury, loss, or death arises from a willful violation (i.e., an act or omission where the person responsible or his principal knew that such an act or omission was a violation) of any rule or regulation deriving from these amendments, the remedy in subsection 203(b)(9)a. would not be available to him or his successors in interest.

SEC. 10

203(b)(10). Any determination made under the authority of subsections 203(b)(2)–203(b)(8), inclusive, or any rule or regulation deriving therefrom that results or will result in the detention or quarantine of a specific person or property, shall be reviewable, as appropriate, on application for a writ of habeas corpus as provided in Chapter 38 of Title 28, United States Code, or on application to a proper Federal court for injunctive relief. Any other provision of law notwithstanding, the body of the person or the property which has been detained or quarantined shall not be required to be produced at an attendant hearing, nor shall it be discharged from detention or quarantine pending the court's final order or judgment; nor shall it be discharged pending a review of that order or judgment.

ANALYSIS

In this subsection the fact is made explicit that any determination to detain or quarantine a specific person or property as being suspected of extraterrestrial contamination, may be reviewed on application for a writ of *habeas corpus* or for injunctive relief. With respect to a writ of *habeas corpus*, this subsection would, of necessity, qualify the procedure by ensur-

ing that the person or property would not be discharged on recognizance, bail, bond, etc., pending a final order or judgment, or pending a review of that order or judgment on appeal. Further, injunctive relief would be constrained to selective conduct or restraints on the part of the Government—in the absence of an adequate showing that detention or quarantine is justified—to ensure a continuing effectiveness of quarantine procedures being applied.