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AMERICAN PARTICIPATION IN
FOREIGN ATOMIC ENERGY ACTIVITIES:
THE STATUTORY FRAMEWORK

HAROLD P. GREEN †

THE ATOMIC ENERGY ACT of 1954¹ opened vast new areas of economic activity to American enterprise. Under the predecessor Atomic Energy Act of 1946² most important areas of atomic energy activity were subject to an almost absolute government monopoly, and the role of private enterprise was limited to participation in the government's development of military and civilian applications of atomic energy. The 1954 act broke this monopoly and permitted private exploitation of this new technology, thereby opening a new economic frontier. But of perhaps even greater significance to the American business community was the lifting of barriers to international economic activity in the atomic energy field.

Only a very few countries have atomic energy programs which approach the advanced level of the program of the United States. Most other countries represent virtually virgin territory, and have almost a passionate desire for securing the promised blessings of the new atomic energy technology. Under these circumstances there are substantial markets for the export of American atomic energy know-how and materials, equipment, and services necessary to build an atomic energy technology. The economic potential of these foreign markets is particularly high in connection with the development of nuclear facilities for the production of electric power, since most other areas of the world have high power costs relative to the power costs of the United States. This means that economically competitive nuclear power may be more easily achieved in other countries, and experience gained there in design, construction, and operation of power reactors would constitute a valuable asset looking toward development of competitive nuclear power in the United States. American industry, quite understandably, can see considerable short-run and long-run profit, tangibly and intangibly, in participation in

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foreign nuclear power projects. It is the purpose of this paper to explore the legal framework within which American industry may seek atomic energy profits through foreign activities.

I.

HISTORICAL BACKGROUND.

The Atomic Energy Act of 1946 reflected the belief that the United States' lead and superiority over other nations in atomic energy development gave it an untouchable monopoly position. There was no recognition that other nations might be able to contribute ideas or services which would strengthen our own atomic energy program. Correspondingly, there was an obsession with considerations of secrecy, and statutory barriers were created which would, it was assumed, protect the lead of the United States. The net result was a statutory policy of atomic energy isolation.

There was, under the 1946 act, an almost absolute prohibition against communication of Restricted Data³ to other nations;⁴ an absolute prohibition against export, transfer, or distribution of fissionable material⁵ to other nations;⁶ and an absolute prohibition against Americans' engaging "directly or indirectly" in the production of fissionable material outside of the United States.⁷ These prohibitions effectively stifled inter-government co-operation in atomic energy matters and made it impossible for American enterprise to seek atomic energy business abroad.

Throughout the entire period, 1946 to 1954, there was only one relaxation of these statutory prohibitions. In 1951 it became important to our own national atomic energy program to co-operate with another nation's atomic energy program in a specific instance. This

1. 68 STAT. 919, 42 U.S.C.A. §§ 2011-2281 (Supp. 1954).

2. 60 STAT. 755 (1946), 42 U.S.C. §§ 1801-1819 (1952).

3. "Restricted Data" is a statutory term which embraces, as a practical matter, all atomic energy data which AEC believes requires protection in the interest of the common defense and security. The statutory definition is of such breadth as to embrace not only atomic energy secrets developed in government programs, but also such secrets which may be developed by private enterprise wholly independent of government programs or assistance.

4. The 1946 act prohibited "exchange of information with other nations with respect to the use of atomic energy for industrial purposes." 60 STAT. 766 (1946), 42 U.S.C. § 1810(a)(1) (1952). The prohibition was, of course, interpreted as applying to all information on atomic weapons. It did, however, leave open the possibility of exchange of information in a limited area not involving the use of atomic energy for industrial purposes.

5. "Fissionable material" under the 1946 act is equivalent to "special nuclear material" under the 1954 act. See text at note 22.

6. 60 STAT. 760 (1946), 42 U.S.C. §§ 1805(a)(3), 1805(d) (1952).

7. 60 STAT. 760 (1946), 42 U.S.C. § 1805(a)(3) (1952).

episode demonstrated that other similar occasions might arise when the United States program could gain from co-operation with other nations. Under this impetus, an amendment to the 1946 act was enacted⁸ which authorized severely circumscribed exchanges of Restricted Data, as well as assistance by American firms to foreign atomic energy programs, upon a determination by a unanimous Atomic Energy Commission, and a determination by the President based upon a recommendation by the National Security Council, that the "common defense and security would be substantially promoted and would not be endangered." A further condition of such co-operation was a finding that the other nation's security standards were adequate. This meant that the United States could co-operate with other nations in atomic energy matters only in the rare instances in which our own national security would be substantially promoted thereby and where it could be affirmatively stated that our own security would not be endangered, and only where the other nation had security standards comparable to ours. These factors, plus the extremely cumbersome procedures required for instituting co-operation, made the amendment virtually useless, except for dealing with the immediate specific situation which prompted it. There was still no opportunity for American enterprise to capitalize on foreign atomic energy markets.

By 1954, the assumptions underlying the atomic energy program had undergone considerable change. The United States had lost its monopoly in the field of atomic weapons, and it had been demonstrated that hoarding our atomic energy secrets could not forestall development of nuclear weapons by other nations. It was recognized also that the United States could not easily relax its national monopoly over atomic energy so as to permit private enterprise to exploit its civilian applications within the United States, without at the same time permitting other nations—particularly those, like Belgium, which have been major suppliers of uranium—to share in the peaceful applications. An overriding consideration was the concern that American prestige would suffer, and American industry lose out, "if some other nation were to be permitted to assume leadership in bringing the peaceful fruits of atomic energy technology to a world eager to share in them."⁹

8. 65 STAT. 692 (1951), 42 U.S.C. §§ 1805(a)(3), 1810(a)(3) (1952).

9. Testimony of Lewis L. Strauss, Chairman, United States Atomic Energy Commission, *Hearings Before Joint Committee on Atomic Energy on S. 3323 and H.R. 8862, to Amend the Atomic Energy Act of 1946*, 83rd Cong., 2d Sess. 591 (1954).

II.

CONTROL OF INTERNATIONAL ACTIVITIES UNDER THE 1954 ACT.

It was against this background that the provisions for international co-operation were written into the Atomic Energy Act of 1954. These provisions do not completely unlock the doors to foreign atomic energy activity by American firms. The door remains locked, but a key is provided for opening the door under certain limited circumstances and subject to severe government control.

The cornerstone of government control over foreign atomic energy activity is the statutory "agreement for cooperation," a bilateral agreement between the United States and another nation for atomic energy co-operation. As will be pointed out below, not all atomic energy activities of American business outside the United States require an agreement for co-operation, but it is safe to say that most important activities of this kind may be conducted only under such an agreement. Such an agreement is regarded as necessary to assure that the United States' security interest in information and nuclear materials is preserved, and to assure, before any assistance is given to the atomic energy programs of other nations, that there has been a high-level determination by responsible officials of the United States that the contemplated activity is in consonance with the best interests of the United States.

The Atomic Energy Act requires¹⁰ that each agreement for co-operation include specific guarantees on the part of the other nation. First of all, there must be a guarantee that "security safeguards and standards as set forth in the agreement for cooperation will be maintained."¹¹ This does not require any specific level of security efficiency, adequacy, or comparability to United States standards, but only that the other nation guarantee to maintain whatever security standards may be agreed upon and expressed in the agreement. Since this statutory requirement is primarily related to protection of Restricted Data, and since there have been only three agreements for cooperation to date under which Restricted Data may be communicated to other nations,¹² there is not a great deal of experience as to its significance. But these three agreements involve some interesting variations. The agreement for cooperation with Belgium, which was transmitted to the Presi-

10. 68 STAT. 940, 42 U.S.C.A. § 2153 (Supp. 1954).

11. 68 STAT. 940, 42 U.S.C.A. § 2153(a) (2) (Supp. 1954).

12. To date 27 agreements for civilian atomic energy co-operation have been negotiated. Of these, 24 specifically prohibit communication of any Restricted Data. The agreements which authorize communication of Restricted Data are those with Belgium, Canada, and the United Kingdom.

dent on June 15, 1955, recites a Belgian guarantee to maintain safeguards and standards prescribed in a separate, unpublished agreement of June 15, 1955.¹³ The agreement with Canada, which was transmitted to the President on June 14, 1955, similarly refers to a separate agreement of June 15, 1955, which, it is stated, reflects that the United States and Canada "have adopted similar security safeguards and standards in connection with their respective programs."¹⁴ The third agreement, with the United Kingdom, includes a guarantee that the United Kingdom will maintain safeguards and standards "in accordance with the applicable security arrangements" between the Atomic Energy Commission and the British Atomic Energy Authority but contains no concrete indication that a specific security agreement exists.¹⁵

The act also requires guarantees that the other nation will not use material transferred to it by the United States under the agreement for cooperation for weapons or military purposes or related research,¹⁶ or transfer such material to unauthorized persons or beyond its jurisdiction, except as may be specified in the agreement.¹⁷

After an agreement for cooperation has been negotiated and its terms agreed to, the AEC is required to submit the proposed agreement to the President for his approval and for his authorization to execute the agreement.¹⁸ It is necessary that the President make a written determination that performance of the agreement will promote and will not constitute an unreasonable risk to the common defense and security.¹⁹ The proposed agreement must then be submitted to the Joint Committee on Atomic Energy, together with the President's approval and determination, where it must lie for thirty days while Congress is in session, after which period the agreement may become effective.²⁰ The Joint Committee may, of course, exercise a form of veto power over an agreement for cooperation or specific provisions of an agreement. Ordinarily, this could be accomplished by moral or political suasion, but if such suasion failed the Joint Committee could probably

13. Agreement for Cooperation Between the United States and Belgium, Article X, Paragraph B, S. REP. No. 1051, 84th Cong., 1st Sess. 13 (1955).

14. Agreement for Cooperation Between the United States and Canada, Article X, Paragraph A, S. REP. No. 1051, 84th Cong., 1st Sess. 22 (1955).

15. Agreement for Cooperation Between the United States and the United Kingdom, Article IX, Paragraph A, S. REP. No. 1051, 84th Cong., 1st Sess. 30 (1955).

16. 68 STAT. 940, 42 U.S.C.A. § 2153(a) (3) (Supp. 1954).

17. 68 STAT. 940, 42 U.S.C.A. § 2153(a) (4) (Supp. 1954).

18. 68 STAT. 940, 42 U.S.C.A. § 2153(a) (Supp. 1954).

19. 68 STAT. 940, 42 U.S.C.A. § 2153(b) (Supp. 1954).

20. 68 STAT. 940, 42 U.S.C.A. § 2153(c) (Supp. 1954).

succeed in rushing prohibitory legislation through the Congress within the thirty-day period.²¹

With an understanding of the general nature of the concept of "agreement for cooperation," we may now proceed to a general consideration of the ground rules for international co-operation in atomic energy matters. This consideration may best be described in terms of the Act's specific restrictions on international activities.

A.

Distribution of Special Nuclear Material.

Special nuclear material is the statutory term for material capable of releasing substantial quantities of energy through nuclear fission or nuclear transformation.²² It is at one and the same time the fuel which makes reactors operate and the material produced as a result of reactor operation. In addition, special nuclear materials may have considerable utility, apart from reactor technology, in biological, industrial, or research activities. It is also the basic nuclear material of atomic weapons.

All special nuclear material within the United States, and all such material produced within the United States, is owned by the Government under the 1954 act.²³ There is no latitude for private ownership of special nuclear material within the United States. The AEC will, however, license possession or use of special nuclear material by private persons and will distribute special nuclear material to licensees. Private parties may also be licensed to produce special nuclear material²⁴ to which the Government instantly acquires title by operation of law.²⁵ Licensees may not transfer or export special nuclear material outside of the United States.²⁶ The AEC itself may, however, distribute special nuclear material to other nations under an agreement for cooperation.²⁷ No nation could practicably go forward with construction of a nuclear reactor until it was assured of a supply of special nuclear

21. "Experience has shown that for the most part when the joint committee is reasonably united in its opposition to anything that is being proposed by the Commission, it does not go through." Remarks of Rep. Morano, 100 CONG. REC. 11025 (daily ed. July 23, 1954). An example of the influence of the Joint Committee is to be found in the very first agreement for cooperation under the 1954 act submitted to the Committee. The Joint Committee objected to a provision of the proposed agreement with Turkey as "open-ended," whereupon AEC promptly rewrote the provision in question so as to meet the objection.

22. 68 STAT. 924, 42 U.S.C.A. § 2021(t) (Supp. 1954).

23. 68 STAT. 929, 42 U.S.C.A. § 2072 (Supp. 1954).

24. 68 STAT. 936, 937, 42 U.S.C.A. §§ 2133, 2134 (Supp. 1954).

25. 68 STAT. 930, 42 U.S.C.A. § 2072 (Supp. 1954).

26. 68 STAT. 932, 42 U.S.C.A. § 2077(a)(2) (Supp. 1954).

27. 68 STAT. 931, 42 U.S.C.A. § 2074 (Supp. 1954).

material with which to operate it. Since, at the present time, the United States appears to be the most promising source of such material, any nation of the free world entering the reactor field would undoubtedly desire to conclude an agreement for cooperation.²⁸

B.

Distribution of Source Material.

Source material is defined in the act to include uranium and thorium, or other materials determined by the AEC to be essential to the production of special nuclear material.²⁹ Private ownership of source material is permitted, but except for quantities of source material which are in AEC's opinion unimportant, no person may transfer, receive, or possess source material without an AEC license.³⁰ There is no prohibition against export of source material by private persons, but such export must be undertaken pursuant to a license, except where there is an exception to the license requirement because the quantity involved is unimportant.³¹ In addition AEC itself is expressly authorized to distribute source material outside the United States either pursuant to an agreement for cooperation or pursuant to a simple determination that such activity will not be inimical to the interests of the United States.³²

C.

Distribution of By-product Material.

By-product material is a statutory concept embracing radioactive material yielded in or made radioactive by exposure to radiation incident to the production or utilization of special nuclear material.³³ Radioisotopes fall within this category. No person may transfer, receive, or possess by-product material without an AEC license.³⁴ AEC is expressly authorized to distribute by-product material outside the United States, or to license licensees to do so, either pursuant to an agreement for cooperation or pursuant to a simple determination that such distribution will not be inimical to the common defense and security.³⁵

28. This is demonstrated by the haste with which 24 nations have rushed to enter agreements for cooperation involving research reactors, and that each of them has accepted the standard form agreement for cooperation devised by AEC.

29. 68 STAT. 924, 42 U.S.C.A. § 2021(s) (Supp. 1954).

30. 68 STAT. 932, 42 U.S.C.A. § 2092 (Supp. 1954).

31. *Ibid.*

32. 68 STAT. 933, 42 U.S.C.A. § 2094 (Supp. 1954).

33. 68 STAT. 923, 42 U.S.C.A. § 2021(e) (Supp. 1954).

34. 68 STAT. 935, 42 U.S.C.A. § 2111 (Supp. 1954).

35. 68 STAT. 935, 42 U.S.C.A. § 2112 (Supp. 1954).

D.

Production and Utilization Facilities.

The concepts of "production facility"³⁶ and "utilization facility"³⁷ embrace any equipment or device which AEC determines to be capable of producing or of using special nuclear material (or, in the case of utilization facilities, using atomic energy) in such quantity as to be of significance to the common defense and security or the public health and safety. AEC has ruled that all nuclear reactors fall within these concepts, and that the concepts also embrace facilities for separation of isotopes of uranium or plutonium and facilities used for the processing or fabricating of special nuclear material.³⁸ Construction, operation, possession, and transfer of production facilities and utilization facilities may be undertaken only pursuant to an AEC license,³⁹ and such licenses may be granted only for activities which are under or within the jurisdiction of the United States,⁴⁰ except that licenses may be granted for the export of production facilities or utilization facilities pursuant to an agreement for cooperation.⁴¹ AEC also has authority to include important component parts of production or utilization facilities within the "production facility" or "utilization facility" concepts⁴² although it has determined, for the time being at least, not to do so.⁴³ If any component parts are brought within these concepts, a license for their export may be issued by AEC, without an agreement for cooperation, upon a written determination that the particular export will not constitute an unreasonable risk to the common defense and security.⁴⁴

E.

Dissemination of Information.

The act imposes severe limitations upon the communication of atomic energy Restricted Data to other countries. Restricted Data may be communicated only as authorized by the AEC in accordance with the standards and restrictions imposed by the act. The act provides that Restricted Data within certain specified areas, covering vir-

36. 68 STAT. 924, 42 U.S.C.A. § 2021(p) (Supp. 1954).

37. 68 STAT. 924, 42 U.S.C.A. § 2021(v) (Supp. 1954).

38. Proposed Regulations on Licensing of Production and Utilization Facilities, 20 FED. REG. 2486, § 50.2(a), (b) (1955).

39. 68 STAT. 936, 42 U.S.C.A. § 2131 (Supp. 1954).

40. 68 STAT. 937, 42 U.S.C.A. §§ 2133(d), 2134(d) (Supp. 1954).

41. *Ibid.*

42. 68 STAT. 923, 924, 42 U.S.C.A. § 2021(p), (v) (Supp. 1954).

43. *Supra*, note 38, § 50.2 NOTE.

44. 68 STAT. 939, 42 U.S.C.A. § 2139 (Supp. 1954).

tually the entire field of civilian applications of atomic energy, may be communicated to other nations as authorized by AEC, but only under, and in accordance with, an agreement for cooperation.⁴⁵

F.

The Section 57(a)(3) Catch-all.

The broadest and most troublesome restriction upon foreign economic activities under the act is Section 57(a)(3) which provides:

“Section 57. *Prohibition.*—

“a. *It shall be unlawful for any person to—*

“ . . .

“(3) *directly or indirectly engage in the production of any special nuclear material outside of the United States except (A) under an agreement for cooperation made pursuant to Section 123, or (B) upon authorization by the Commission after a determination that such activity will not be inimical to the interest of the United States.*” (Emphasis added.)⁴⁶

Willful violation of section 57(a)(3) carries heavy criminal penalties.⁴⁷

The italicized language was found in precisely this form in the original Atomic Energy Act of 1946.⁴⁸ The 1951 amendment to the 1946 act⁴⁹ created the first exception to the prohibition, but AEC's authority to grant exceptions to the prohibition did not provide a practical means for authorizing harmless foreign activities which might fall within the scope of the extremely broad prohibition because of the cumbersome procedures required to authorize an exception and because of the necessity for a determination that the contemplated foreign activity would substantially promote and would not endanger the common defense and security. Accordingly, when the 1954 act was under consideration, AEC requested a liberalization of the manner for authorizing exceptions, a liberalization reflected in the excepting clause quoted above.

The breadth of the prohibitory language of Section 57(a)(3) is quite obvious. It is not particularly difficult to read a fairly definite meaning into the phrase “engage in the production of any special nuclear

45. 68 STAT. 942, 42 U.S.C.A. § 2164 (Supp. 1954).

46. 68 STAT. 932, 42 U.S.C.A. § 2077(a)(3) (Supp. 1954).

47. 68 STAT. 958, 42 U.S.C.A. § 2272 (Supp. 1954).

48. 60 STAT. 759 (1946), 42 U.S.C. § 1805(a)(3)(C) (1952).

49. See note 8, *supra*.

material outside of the United States.” Nor is there any great difficulty in reading a meaning into this phrase when modified by the adverb “directly.” It is the adverb “indirectly” which introduces tremendous breadth and uncertainty into the prohibition. Precisely what conduct constitutes “engaging directly or indirectly in the production of special nuclear material”? The legislative history of the 1946 act provides virtually no insight as to what Congress had in mind in enacting the original prohibition. There are, however, a number of quite meaningful clues in the 1954 act’s legislative history.

When the President initiated legislative consideration of the 1954 atomic energy legislation by transmitting to the Congress his proposals for amendments to the 1946 act, he stated:

“Matters that have arisen under this provision have been ordinary business or commercial activities which nevertheless fall within the broad statutory prohibition because they might contribute in some degree, however minor, to foreign atomic energy programs.”⁵⁰

During the hearings before the Joint Committee on Atomic Energy on the proposed legislation, Representative Cole, Chairman of the Joint Committee on Atomic Energy, gave this description of the scope of the prohibition:

“Now, directly or indirectly engage in the production of special nuclear material, has to do with teachers, salesmen, instructors, or anything (sic) else who indirectly engage in the production of atomic energy.”⁵¹

The Report of the Joint Committee on the 1954 legislation states that the exceptions are:

“. . . designed to permit those who might teach abroad, or who might wish to sell unclassified services or parts of facilities . . . or who might wish to help build facilities abroad [to] have an opportunity to do so with prior Commission approval.”⁵²

And AEC’s Deputy General Counsel has characterized section 57(a)(3) as being designed to assure that “none of our nationals should be permitted to help any other country, either directly or indirectly,” in the production of special nuclear material without authorization.⁵³

50. *Message from the President of the United States Transmitting Recommendations Relative to the Atomic Energy Act of 1946*, H.R. Doc. No. 328, 83rd Cong. 2d Sess. 4 (1954).

51. *Hearings*, *supra* note 9, at 698.

52. S. REP. NO. 1699, 83rd Cong. 2d Sess. 16 (1954).

53. Address of Edward Diamond, AEC Deputy General Counsel before the Mineral Law Section of the American Bar Association, August 23, 1955.

All of this clearly reflects that section 57(a)(3) can be given an extremely broad interpretation so as to prohibit any activities by United States nationals which might contribute in any degree to foreign atomic energy programs unless, of course, the activity is specifically authorized by AEC or is authorized under an agreement for cooperation. Thus, a college physics professor who accepts a visiting professorship at a foreign institution might require AEC authorization since, presumably, he would assist in the training of nationals of that country who might ultimately participate in production of special nuclear material in the atomic energy program of that country.⁵⁴ Authorization might also be required for an American consultant who advises a foreign government or firm on matters relating to its atomic energy program. Indeed, the provision could conceivably be interpreted as extending to the sale of cement or nails by American firms for use in construction of atomic energy facilities abroad. In the light of the above-quoted statements about the meaning of section 57(a)(3) its potential scope would appear to be of almost infinite breadth. This would place a most substantial burden upon American business to obtain prior authorization before engaging in any activities which might assist foreign atomic energy programs.

It should be noted also that the section 57(a)(3) restriction cuts across all of the other specific restrictions on foreign atomic energy activities outlined above, since any export of atomic materials, facilities, or component parts, and any communication of Restricted Data to foreign interests, would also involve a section 57(a)(3) problem.

It is apparent that the breadth and uncertainties of section 57(a)(3) have been quite troublesome to American enterprise. Questions have arisen, for example, as to whether section 57(a)(3) restricts American firms from sending abroad advertising brochures involving no Restricted Data or other classified matter,⁵⁵ or from sponsoring unclassified exhibits at international atomic energy exhibitions such as the Trade Fair in conjunction with the recent atomic energy conference at Geneva.⁵⁶ An AEC spokesman has conceded that section 57(a)(3):

54. Or because "there is even the remotest possibility that by doing so he would free another professor in the foreign country for work in that foreign country's atomic energy plants." Remarks of Sen. Stennis, 100 CONG. REC. 11542 (daily ed. July 26, 1954).

55. Address of Edward Diamond, note 53, *supra*.

56. AEC refused to permit General Dynamics Corporation to display at the Geneva Conference a model of an experimental airplane reactor being developed by it. The Wall Street Journal, August 11, 1955, p. 1. At a Press Conference with officials of the United States Delegation to the Geneva Conference on July 5, 1955, newsmen queried AEC Chairman Strauss and Commissioner Libby as to

“. . . has created problems both for the Commission and for industry, particularly as it has either restricted or discouraged American business firms from advertising or holding initial discussions relating to the sale of facilities, component parts, or reactor materials, and American consultants from offering their services abroad without authorization. . . .”⁵⁷

III.

THE PATTERN FOR ATOMIC ENERGY ACTIVITIES ABROAD.

American enterprise is faced with a difficult and unusual situation in adapting to the stringent ground-rules for foreign economic activity in the atomic energy field. The necessity for licenses, authorizations, or bilateral agreements for cooperation, coupled with the heavy overtones of security considerations, gives rise to considerable uncertainty as to what may be accomplished and makes it quite difficult to formulate long-range plans.⁵⁸ The degree to which American enterprise will be able to compete successfully in world atomic energy markets is dependent upon the manner in which AEC chooses to implement the vast regulatory authority conferred upon it in the Atomic Energy Act of 1954.

The AEC's record in establishing clearly defined guides to foreign atomic energy activity has been spotty. Very few authoritative, helpful statements were made by AEC during the first year after enactment of the act, a period in which AEC was apparently concentrating its efforts on negotiating and consummating the 27 bilateral agreements for cooperation. During this period AEC did virtually nothing to clarify the permissible role of American enterprise, and, indeed, did nothing to dissipate the widespread concern that the provisions of the act would be interpreted in a broadly restrictive manner. Thus, it was reported that AEC had refused to authorize an American corporation to advise a group of corporations in a friendly country, on the basis of unclassified information only, as to which of a number of possible reactor types should receive their concentrated efforts.⁵⁹ Sim-

whether exhibits by American firms at the Conference would be within the scope of Section 57(a)(3). Both Chairman Strauss and Commissioner Libby appeared to lose the import of the question and it went unanswered. Transcript of Press Conference, pp. 21-22.

57. Address of Edward Diamond, note 53, *supra*.

58. As one American industrialist has been quoted: "Have you ever tried to sell somebody something when you couldn't tell him how good your product is, why it is good, what it will do, how long it will last or how much better it is than a similar product?" Cotton, *Patent Rights Muddle Threatens Export Trade of U.S. Nuclear Firms*, The Wall Street Journal, Aug. 4, 1955, pp. 1, 10.

59. Gemmill, *Atomic Secrecy—It Balks U.S. Firms Seeking Foreign Sales, But Curtain May Lift*, The Wall Street Journal, Aug. 11, 1955, p. 1.

ilarly, it was reported that American firms have been operating under a considerable competitive handicap, occasioned by delays in getting AEC approval for export, in trying to obtain foreign markets for unclassified, plentiful, radioisotopes for medical use.⁶⁰

The major problem was Section 57(a)(3). AEC did, apparently, assist individual firms in handling specific problems by furnishing interpretations as to whether contemplated activities fell within the concept of "engaging directly or indirectly in production," and by authorizing exceptions to the prohibition where appropriate in specific situations.⁶¹ But AEC's actions in these cases were not made public as possibly applicable precedents and so did not furnish assistance to the business community generally. It was not until September, 1955, that AEC made the first meaningful public statement as to its views on the scope of the prohibitory language. It revealed then that its General Counsel did not regard the mere transmittal abroad of unclassified and generally available information as within the scope of the prohibition, although, it was stated, the situation might be different if the transmittal were coupled with the rendering of services requiring the application of technical judgment.⁶² Also, it was revealed that AEC did not regard ordinary advertising or business promotional activities as within the scope of the prohibition, although a final commitment to sell goods or services might be.⁶³

It was not until late September and early October of 1955 that a definite and authoritative pattern for foreign atomic energy activities by American enterprise began to crystallize. The crystallization took the form of a major AEC decision as to implementation of Section 57(a)(3), and a clarification of the role of private firms under bilateral agreements for cooperation.

A.

Implementation of Section 57(a)(3).

On October 3, 1955, AEC announced a far-reaching decision which, in effect, eliminates the problems and uncertainties of Section 57(a)(3) and establishes a climate within which American firms may be able to engage effectively in world developments of atomic energy. AEC's decision⁶⁴ was that no atomic energy activities conducted by

60. *Ibid.*

61. Address of Harold L. Price, Director of AEC's Division of Civilian Application on September 27, 1955, before the Atomic Industrial Forum.

62. *Ibid.*

63. *Ibid.*

64. 20 Fed. Reg. 7399 (1955).

Americans on an unclassified basis in friendly foreign countries (i.e., not on the Department of Commerce's list of Communist-dominated countries) would be inimical to the interests of the United States. Accordingly, pursuant to this decision and the statutory authority of Section 57(a)(3) of the act, AEC issued a blanket authorization for Americans to engage in any such activities. Classified atomic energy activities abroad could, in any event, be conducted only under an agreement for cooperation,⁶⁵ so the effect of AEC's determination is to remove all impediments to foreign atomic energy activities in friendly countries, except to the extent that the impediment must, under the statute, be removed by an agreement for cooperation. Section 57(a)(3) remains an effective regulatory instrument only with respect to contemplated atomic energy activities in Communist-dominated countries. Firms interested in doing unclassified business in friendly countries may, as a practical matter, forget that there is any such provision as Section 57(a)(3), except for the fact that AEC will require reports by firms engaging in certain types of activity within the scope of this provision.⁶⁶

B.

The Role of Enterprise Under Agreements for Cooperation.

In much the same spirit, AEC officials have indicated that agreements for cooperation will be regarded as self-executing within a fairly wide area, so that activities within their scope may be conducted in many instances without specific AEC approval.⁶⁷ Each agreement establishes a specific area of activity within which cooperation between the United States and the other nation will be carried out, and expressly provides that private firms in both countries may deal directly with private firms in the other country as well as with the other government. Specific AEC approval for activities under the agreements is required only for transmittal of classified information, or for consummation of transactions requiring an AEC license or authorization.⁶⁸

The effect of this crystallization of AEC policy is to give American enterprise virtual *carte blanche* to seek any type of foreign atomic energy business in friendly countries, at least to the extent that classified information is not involved. Indeed, it would appear that American enterprise would be permitted to do anything in a friendly country

65. Note 45, *supra*.

66. 20 FED. REG. 7399 (1955).

67. Address of Algie A. Wells, Office of the AEC General Counsel, on September 27, 1955, before the Atomic Industrial Forum.

68. *Ibid*.

which has not entered into an agreement for cooperation which could be done under any of the agreements for cooperation already consummated except those with the United Kingdom, Canada, and Belgium, which embrace the exchange of Restricted Data. Thus the importance of the bulk of the agreements for cooperation as creating a charter for American atomic energy activities abroad is greatly reduced, and the principal advantage of the existing agreements for cooperation (except those with the United Kingdom, Canada, and Belgium) is that they make possible development of reactor programs in other countries through establishment of the availability of United States special nuclear material.

It should not be assumed, however, that these enlightened and enlightening policy decisions by AEC will in themselves enable American firms to engage in foreign atomic energy programs with the ease and certainty with which they conduct other foreign activities. There remain substantial legal hurdles peculiar to the atomic energy business. Although AEC's action has given Americans *carte blanche* to seek foreign atomic energy business and in principle to engage in any type of unclassified activity, or even in classified activity if there is an agreement for cooperation, final commitments to engage in certain projects may still require an AEC license or authorization. Thus, an AEC license or AEC authorization will be required, both under and in the absence of an agreement for cooperation, for the export of production or utilization facilities,⁶⁹ source material,⁷⁰ and by-product material.⁷¹ Similarly, specific AEC approval is required before Restricted Data may be transmitted,⁷² and private firms in both countries are responsible for assuring that any firm in the other country with which they deal pursuant to an agreement for cooperation is authorized under the laws of its own nation to receive the materials or services involved in any transaction.⁷³

It would appear, therefore, that there remains a fairly substantial area within which the Atomic Energy Commission retains discretion and authority to permit or prohibit foreign atomic energy activities by Americans. Specific standards for AEC's exercise of these powers do not exist, and the heavy emphasis on "common defense and security" in atomic energy law makes it not unlikely that security considerations

69. See note 39, *supra*, and note 41, *supra*.

70. See note 31, *supra*.

71. See note 34, *supra*, and note 35, *supra*.

72. This requirement is established in the agreements for cooperation with the United Kingdom, Canada, and Belgium.

73. This requirement is established in each of agreements for cooperation negotiated to date.

will play a large part in AEC's determination whether a license or authorization should be issued for contemplated foreign activities. If security considerations will in fact play a role in these determinations, a cloud of considerable uncertainty will continue to exist. It would be most difficult for enterprise to operate in this field if, for example, issuance of an AEC authorization or license were contingent upon investigation and consideration of the precise nature of the foreign country's atomic energy programs, its political relationships with the United States, and the security implications of the specific firms and personnel in both countries who are involved in the transaction.

Where the contemplated activities may be conducted only under an agreement for cooperation, there are additional hurdles to be overcome. If American firms solicit business which would require an agreement for cooperation which has not yet been negotiated, the business discussions would necessarily have to be conducted in somewhat of a vacuum because of Restricted Data problems and because of the contingency as to whether an agreement for cooperation can be negotiated and the uncertainty as to its terms if it can be negotiated. If a tentative understanding is reached to be implemented when an agreement for cooperation is finally consummated, the American firm would find itself in the politically uncomfortable position of having an agreement for cooperation (which would be understood to be in large part for its benefit) negotiated and run through the procedure for making it effective.

IV.

CONCLUSION.

The statutory framework for foreign atomic energy activity by American enterprise represents a blending of three considerations. First of all, it represents an effort to maintain American prestige abroad and to strengthen the international position of the United States in the era of the cold war by demonstrating that the United States is eager to bring the blessings of atomic energy to mankind as well as in strengthening our atomic armaments. Secondly, it represents an effort to permit American business to capitalize on foreign atomic energy markets. And, third, it represents an effort to achieve these results without adversely affecting our national security. The third consideration is reflected in the restrictions and prohibitions of the act discussed above and is necessarily controlling in the statutory scheme, since steps to accomplish the first two purposes may be undertaken only within the bounds of the security framework.

The position of American atomic enterprise in the competitive race for foreign markets is considerably less than optimum because of the security restrictions. All other factors being equal, other countries, whose atomic industry is not so fettered by security chains, are in a much better position to capture the world atomic energy markets. To the extent that American enterprise possesses any present advantage in the competitive race, the advantage lies in the superior resources and know-how of the United States. This advantage, as the Geneva Conference demonstrated, may be more illusory than real, and in any event will undoubtedly dwindle with the passage of time.

Pressures mounted during the Summer of 1955 for liberalization of the ground rules for foreign atomic energy activities by American enterprise. In response to these pressures, AEC has taken dramatic action to remove the Section 57(a)(3) impediment and to establish a general climate of freedom for Americans to seek and capture foreign atomic energy markets. It must now be hoped that AEC's creditable action in establishing this climate will not be nullified by obsessive and excessive application of security concepts in its handling of specific applications for licenses or authorizations.

Security considerations are of paramount importance in considering the role of American enterprise in world development of atomic energy applications. It is important, however, that security considerations be applied realistically rather than through the assumption that ostrich-like concealment will preserve our present atomic energy advantage. We must strip away the superstition and mythology which have surrounded atomic energy security policies since 1946, and consider the realities of the situation. Our security restrictions have not prevented other nations from developing nuclear and thermonuclear weapons or from matching our top performance in many atomic energy areas. Indeed, it was demonstrated at Geneva that many of our penuriously hoarded secrets are not secrets at all. If American enterprise is barred from or impeded in atomic energy activities abroad, the only consequence will be that enterprise of other nations will accomplish what American enterprise could have accomplished.

The decision of our Government, expressed in the Atomic Energy Act of 1954, to open the atomic energy industry to private exploitation cannot be implemented in a half-way manner. Effective private exploitation of atomic energy opportunities cannot be reconciled with effective security, and any attempt to reconcile them can result only to the disadvantage and in the foolish appearance of both.