REPORT TO THE JOINT COMMITTEE ON ATOMIC ENERGY CONGRESS OF THE UNITED STATES

Opportunities For Improving AEC's Administration Of Agreements With States Regulating Users Of Radioactive Materials B-155352

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

JUNE 12, 1973

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-155352

The Honorable Melvin Price, Chairman
Joint Committee on Atomic Energy
Congress of the United States

Dear Mr. Chairman:

This is our report on opportunities for improving the Atomic Energy Commission's administration of agreements with States regulating users of radioactive materials. We prepared it in accordance with the former Chairman's June 23, 1972, request.

We are sending a copy of this report to the Vice Chairman of your Committee. As your Committee agreed, copies are also being sent to the Atomic Energy Commission; the Department of Health, Education, and Welfare; the Department of Transportation; the Department of Labor; the Environmental Protection Agency; and the Office of Management and Budget.

Because we believe this report will be of interest to other committees and Members of Congress, we are distributing it to them, as agreed to by the Committee.

Sincerely yours,

Comptroller General
of the United States

Contents

ABBREVIATIONS

AEC	Atomic Energy Commission
BRH	Bureau of Radiological Health
DCPA	Defense Civil Preparedness Agency
DOT	Department of Transportation
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
GAO	General Accounting Office
HEW	Department of Health, Education, and Welfare
OSHA	Occupational Safety and Health Act of 1970
R	Roentgen

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JOINT COMMITTEE ON ATOMIC ENERGY
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D I G E S T

WHY THE REVIEW WAS MADE

At the request of the Chairman, Joint Committee on Atomic Energy, GAO reviewed the administration by the Atomic Energy Commission (AEC) of its agreement-State program. (See app. I.) Under this program State governments enter into agreements with AEC to assume responsibility for regulating licensed users of certain radioactive materials (agreement materials licensees). The licenses cover industrial, commercial, medical, educational, or other uses of radioactive materials.

As of April 1973, 24 States (agreement States) had entered into agreements with AEC and were responsible for enforcing regulations over some 8,500 licensees. (See pp. 5 to 7.)

The Atomic Energy Act requires agreement-State radiation control programs to be adequate to protect public health and safety but does not require the State programs to be identical to AEC's program. (See p. 9.)

After a major reorganization in April 1972, AEC began to make several changes in the administration of its agreement-State program. (See p. 12.)

FINDINGS AND CONCLUSIONS

The States have been making concerted efforts to exercise strong radiation control programs, and AEC has been assisting, and cooperating with, the States in these efforts.

Although GAO noted a number of areas in which AEC should strengthen its administration of the agreement-State program, it did not note any instances in which the problem areas identified adversely affected public health and safety.

Advantages of agreement-State program

Several advantages accrue to the Federal Government, the States, licensees, and the public when the States assume and properly carry out their responsibility for regulating agreement materials.

Because AEC encourages States to have comprehensive radiation control programs and to license and inspect users of radium and accelerator-produced materials in the same manner as agreement materials, GAO believes that the agreement-State program is an incentive to the States to regulate all radioactive materials users similarly. (See p. 13.)

The program also eliminates duplicative radiation control inspections of licensee facilities. (See p. 14.)

Since regulatory authority was transferred to the States, they have inspected licensees more frequently and made more prelicensing inspections than AEC did. (See p. 15.)

Need to expand preagreement training program

Before consummating an agreement with a State, AEC is required to determine that a State's program for licensing and inspecting users of agreement materials is compatible with AEC's program and is adequate to protect public health and safety.

AEC trains some State licensing and inspection personnel before consummating an agreement. AEC needs to improve its procedure for evaluating the capabilities of State personnel to properly evaluate license applications and inspect facilities of radioactive materials users in initially determining adequacy and compatibility. (See p. 16.)

AEC has made its determinations that States can assume independent regulatory responsibility by reviewing the qualifications of State personnel described in the States' program plans. As AEC's experience has shown, however, these personnel evaluations do not necessarily mean that the individuals can properly evaluate license applications and inspect licensee facilities.

AEC should expand its preagreement training program to provide State personnel with on-the-job licensing and inspecting experience. This will provide AEC with a better basis for evaluating the adequacy and compatibility of State programs before consummating an agreement.

Adequacy and compatibility determinations

The Atomic Energy Act authorizes AEC to terminate an agreement if AEC finds that a State's program has become inadequate to protect public health and safety. AEC has determined annually since 1966, usually by evaluating the major elements of the States' programs, that all agreement-State programs have continued to be adequate and compatible with AEC's program.

AEC's criteria for such determinations were general; they did not state the bases to be used by AEC reviewers in assessing the continued adequacy and compatibility of all aspects of an agreement-State program. Also, in some cases AEC's conclusions of adequacy and compatibility were based on evaluations of a small percentage of State actions. (See p. 21.)

On a number of occasions AEC's evaluations of State programs disclosed such problems as (1) failure of the State to update its radiation control regulations and (2) lack of training and experience necessary for State personnel to license and to inspect the types of licenses for which they were responsible.

Recognizing the need to develop adequacy and compatibility criteria to formulate a more definitive basis for concluding that States have adequate and compatible programs, AEC drafted such criteria in November 1972. (See p. 22.)

AEC should provide its reviewers with guidance on an acceptable depth of review to support a conclusion of adequacy and compatibility.

Differences between AEC and State programs

GAO reviewed 174 license files in 5 agreement States and accompanied 21 of the 35 State inspectors on inspections of licensees in the States.

A substantial number of the State files did not contain some of the information AEC usually requires to support the issuance of a license, and 8 of the 21 State inspectors did not cover some areas covered by AEC during its inspections of similar licensees. (See p. 26.)

Because the differences between AEC and State licensing and inspection practices were technical, GAO did not assess their significance. AEC told GAO that the differences varied in significance and that State programs were not necessarily inadequate or incompatible because of the differences.

GAO recognizes that the Atomic Energy Act does not require agreement-State programs to be identical to AEC's program. However, AEC should be aware of the differences between its program and those of the agreement States and should satisfy itself that such differences do not hinder States' accomplishment of program objectives.

AEC should provide additional guidance to the agreement States and AEC reviewers, specifying what it believes to be the

--minimum information which should be required from an applicant to support the issuance of a license and

--aspects of a licensee's operation to be covered during inspections. (See p. 37.)

Cooperation with the States

Although AEC's assistance to and cooperation with both agreement and nonagreement States have benefited them, AEC can improve its assistance and cooperation by

--helping the States to identify and solve certain common problems and

--expanding its training program for personnel of both agreement and nonagreement States. (See p. 39.)

Funding of agreement-State programs

AEC does not provide funds to the States to administer their agreement materials programs; however, several Federal agencies provide funds to the States to assist them in administering various aspects of the States' radiation control programs. (See p. 45.)

States apparently need additional financial assistance for their radiation control programs; however, their needs relate to their total radiation control programs and not just to the agreement materials portions. AEC is evaluating the funding concerns of the States. (See p. 49.)

Other concerns of the States

The States expressed a number of concerns about the Federal Government's involvement in controlling radiation hazards. These matters are identified in this report for the consideration of the Joint Committee. (See p. 57.)

RECOMMENDATIONS

GAO made a number of recommendations

on (1) improvements in the administration and effectiveness of AEC's agreement-State program (see pp. 24, 37, and 43) and (2) factors which it believes AEC should consider in evaluating the States' funding concerns. (See p. 56.)

AGENCY ACTIONS

AEC concurred in GAO's recommendations and has taken, or agreed to take, a number of actions to implement them. (See pp. 25, 38, 43, and 56.)

CHAPTER 1

INTRODUCTION

Under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011), the Atomic Energy Commission (AEC) is required to assure, through a system of regulation, that the possession, use, and disposal of source, byproduct, and special nuclear materials,[1] and the construction and operation of reactors and other nuclear facilities are conducted consistent with public health and safety.

As of June 30, 1972, about 13,300 organizations or persons (materials licensees) were licensed to use source, byproduct, and special nuclear materials. Materials licensees are involved in (1) the manufacturing and processing of fuel for nuclear reactors and (2) any industrial, commercial, medical, educational, or other operation in which source, byproduct, and special nuclear materials are used. Materials licensees do not include those licensees which construct and operate nuclear reactors.

Organizations or persons licensed to use source, byproduct, and special nuclear materials can have one or more licenses, depending on their activities. The licensees mentioned above have about 16,700 materials licenses. Regulatory responsibility for about 8,200 of these licenses rests with AEC.[2] The remaining 8,500 licenses are subject to regulation by States which have entered into regulatory agreements with AEC pursuant to section 274 of the act. (See p. 6.)

Under section 274 of the act, AEC may, by formal agreement, relinquish to a State certain of its regulatory authority over source material, byproduct material, and special nuclear materials in quantities below certain specified limits (hereafter referred to as agreement materials).

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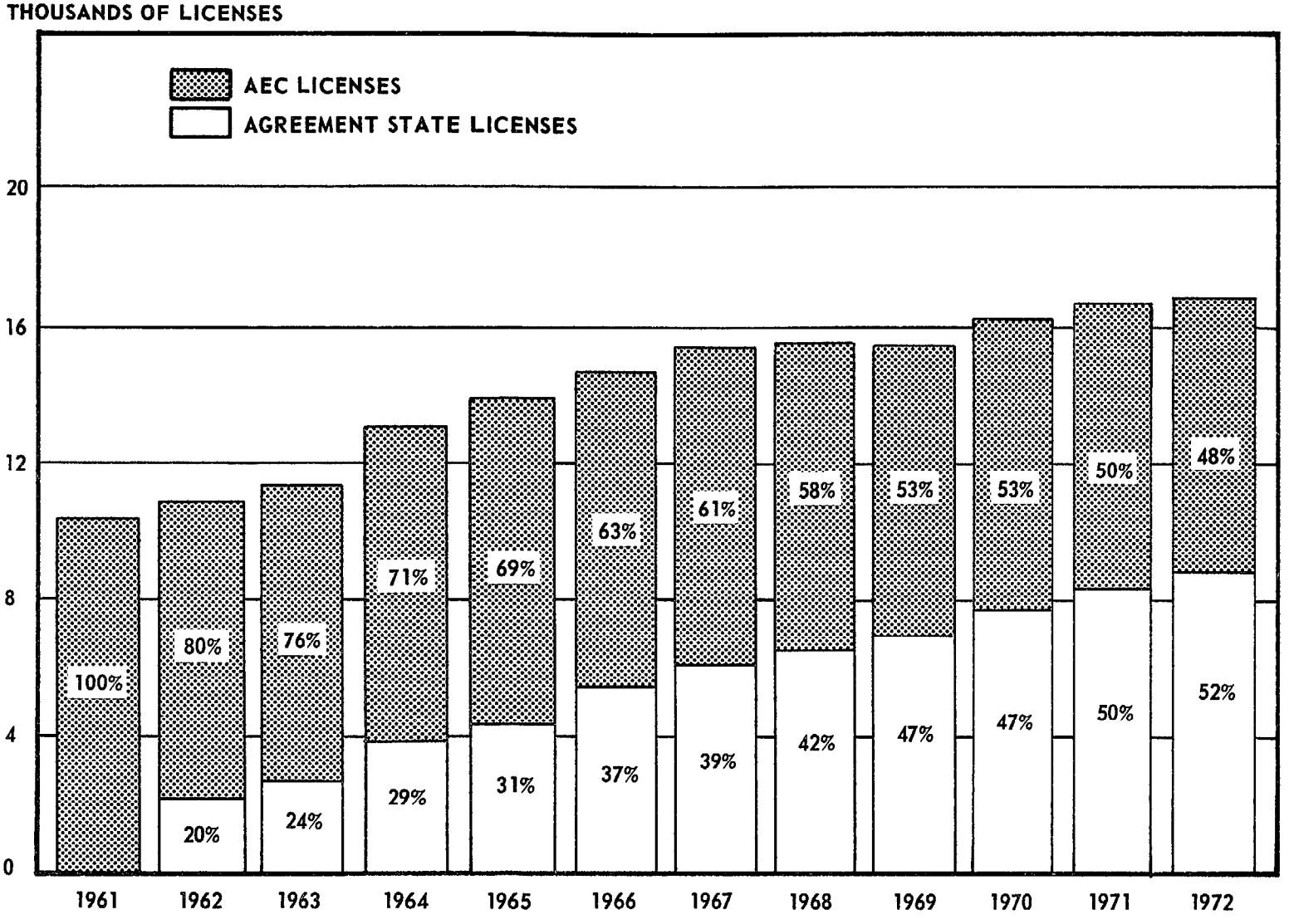
[1] Source material is uranium or thorium, byproduct material is material made radioactive by a nuclear reactor, and special nuclear material is plutonium or enriched uranium.

[2] Our report to the Congress on AEC's program for regulating materials licensees (B-164105, Aug. 18, 1972) discussed certain problems AEC had experienced with such licensees.

ATOMIC ENERGY MATERIALS LICENSES IN EFFECT
1961 – 1972



To do so, AEC determines that the State's program is compatible with AEC's regulatory program and is adequate to protect public health and safety. As of April 1973 24 States (agreement States) had been granted such authority. (See p. 8.)

AEC may not transfer regulatory responsibility to States for quantities of special nuclear material above certain specified limits or for obtaining, distributing, or disposing of licensed materials in certain ways. For example, a State cannot authorize a licensee to export or import agreement materials to or from foreign countries.

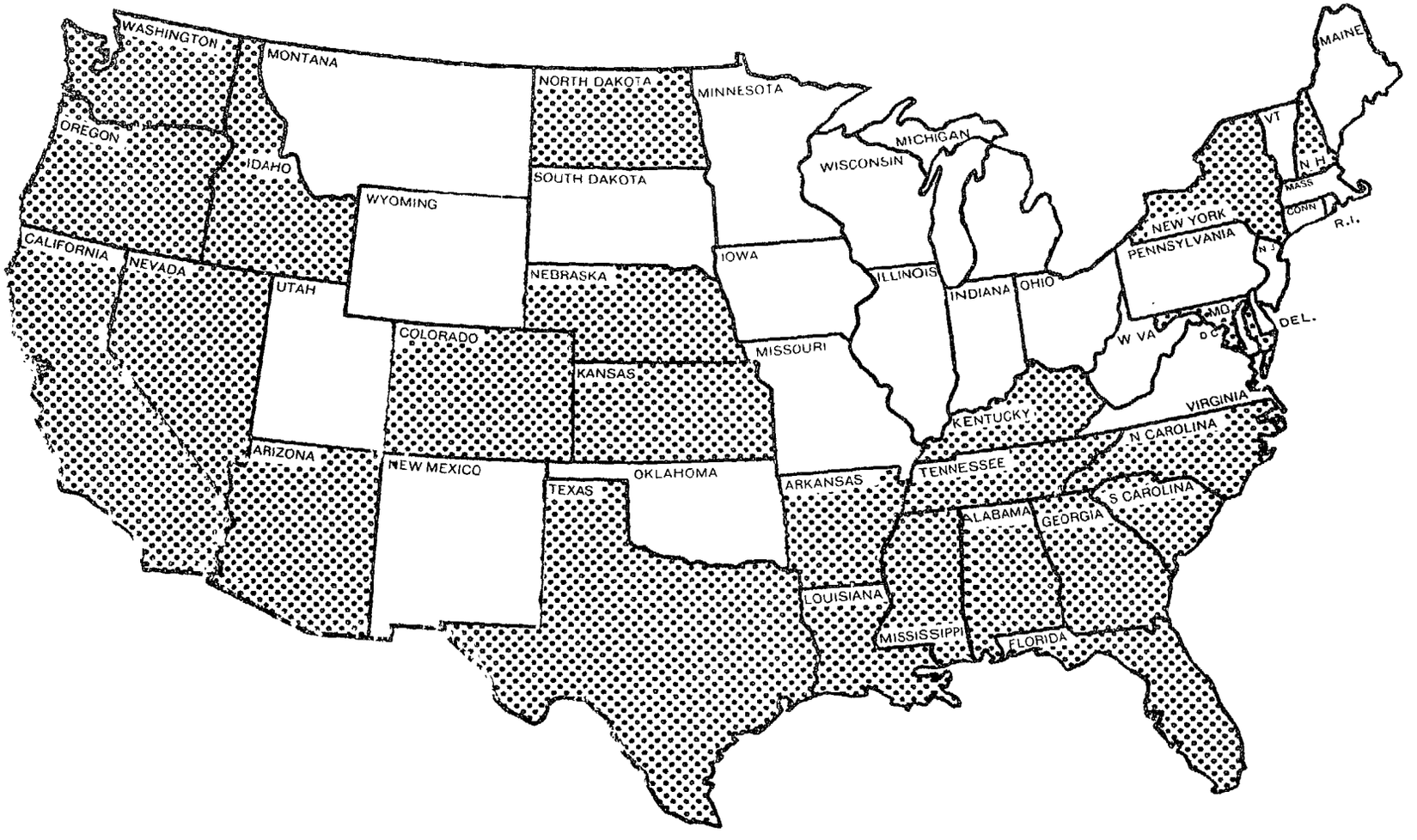
Also, AEC maintains regulatory responsibility for Federal installations, such as Veterans Administration hospitals and Department of Defense installations, in agreement States. Further, licensees in agreement States are required to obtain AEC licenses if they operate more than 180 days a year in nonagreement States.

EVOLUTION OF AGREEMENT-STATE PROGRAM

Atomic energy activities before 1954 were confined largely to the Federal Government. The Atomic Energy Act of 1954, however, allowed private enterprise to use nuclear materials and operate nuclear facilities, consistent with our national tradition of free enterprise. Because these activities involved using radioactive materials, they presented considerations of public health and safety.

The Congress therefore determined that private activities in atomic energy should be regulated under a licensing system to protect the health and safety of radiation workers and the public and charged AEC with this responsibility. The act, however, did not specify the States' regulatory responsibilities, if any.

Protecting the public health and safety had traditionally been a responsibility of the States, which had been responsible for regulating such radiation sources as X-ray machines, radium (a naturally occurring radioactive



STATES THAT HAVE ENTERED INTO
REGULATORY AGREEMENTS WITH AEC

material),[1] and materials made radioactive in accelerators. States also had the responsibility for regulating sources of nonionizing radiation, such as that emitted from microwave ovens.

Many States expressed concern to the Congress about what, if any, responsibilities they had for agreement materials and about establishing clearly defined boundaries of Federal and State authority.

In response to the States' concern, the Congress enacted section 274 of the Atomic Energy Act in 1959 to clarify the respective responsibilities of the States and AEC under the act and to provide a statutory means by which AEC could relinquish to the States a part of its regulatory authority.

The mechanism established for transferring AEC's regulatory authority was an agreement[2] between the Governor of a State and AEC. The Governor of a State which wants to enter into an agreement with AEC must certify to AEC that (1) his State has a program for controlling radiation hazards, (2) the program is adequate to protect public health and safety with respect to the agreement materials within the State, and (3) the State desires to assume regulatory responsibility for such materials. Before entering into such an agreement, AEC must determine that the State program is compatible with AEC's program and is adequate to protect public health and safety.

In 1961 AEC, in conjunction with the States, developed standards for determining whether agreement materials programs proposed by States wishing to become agreement States

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[1] The term "radioactive material" as used in this report refers to all materials which are radioactive, regardless of the manner by which they become radioactive. Radioactive materials include source, byproduct, special nuclear materials, radium, and accelerator-produced radioactive materials.

[2] Before an agreement can be entered into, a State must have enabling legislation authorizing its Governor to enter into such an agreement. Of the 29 nonagreement States (including Puerto Rico, the Virgin Islands, and the District of Columbia), 21 have such authority.

were adequate and compatible with its regulatory program. The standards require that a State's regulatory program be staffed with trained radiological health personnel. Also, the State must develop

--radiation protection standards uniform with those of AEC,

--a system for licensing or authorizing users of agreement materials, and

--an inspection program over licensees.

AEC does not have statutory responsibility for all radiation sources (e.g., AEC has no regulatory responsibility for X-ray machines, radium, and accelerator-produced radioactive materials); therefore, the standards developed by AEC and the States in 1961 do not require States to have a total regulatory program covering all sources of radiation. AEC told us, however, that it encourages States to have comprehensive regulatory programs before an agreement is consummated.

ADMINISTRATION OF AGREEMENT-STATE PROGRAM

AEC's Agreements and Exports Branch administers the agreement-State program. Until April 25, 1972, when AEC's regulatory organization changed, the agreement-State program was administered by the Division of State and Licensee Relations. The reorganization included designating new management officials to be responsible for the agreement-State program.

AEC does not provide funds to States which plan to enter, or have entered, into regulatory agreements with AEC. AEC's principal function before consummating an agreement is consulting with the State in drafting (1) enabling legislation and (2) radiation control and licensing regulations. Also, AEC offers training in radiation safety and regulatory procedures to the States.

Section 274(j) of the Atomic Energy Act provides for terminating an agreement if AEC finds that a State's program has become inadequate to protect public health and safety.

Until 1965 AEC relied on informal information exchange, periodic meetings, and training to promote and evaluate the continued compatibility and adequacy of agreement States' regulatory programs. During 1965, however, AEC changed its evaluation procedures, as described below.

Between 1962 and 1965 the Department of Labor amended its safety regulations issued under the Walsh-Healey Act (41 U.S.C. 35). These amendments imposed radiation safety requirements on employers having Federal Government contracts over $10,000.

In 1965 the Department published a proposed amendment to its safety regulations which would have resulted in dual surveillance of agreement-State radiation control programs by the Department and AEC and in the Department's evaluation of agreement States' radiation safety programs rather than contractors' programs. Under the proposal, if the Department deemed the State's radiation safety program to be compatible with Department regulations, the Federal contractors in the State would be deemed to be in compliance with Department radiation safety regulations.

To avoid this dual regulation, the AEC Chairman, in a May 28, 1965, letter to the Department Secretary, committed AEC to make a formal annual determination of the compatibility of agreement States' regulatory programs with AEC's program. The Secretary agreed to accept AEC's annual compatibility determination in lieu of independently evaluating (1) contractor compliance with Department radiation regulations or (2) compatibility of State agreement materials programs with Department requirements.

Since this commitment, AEC has made formal annual determinations that agreement-State programs continue to be adequate to protect public health and safety and are compatible with AEC's program. (See p. 20.) AEC's principal means for making these annual determinations are periodic visits to States to appraise the adequacy and compatibility of their agreement materials programs. At the time of our review, AEC's policy was to visit at 15-month intervals States having established programs and at 9-month intervals new agreement States or those having problems.

In December 1970 the Congress enacted the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. 651) which charged the Department with the responsibility for insuring that employers protect workers from job-related hazards. Safety standards issued under OSHA superseded those issued under the Walsh-Healey Act, and OSHA specifically exempted employers who used agreement materials from the Department's radiation safety requirements. The legislative history of OSHA indicates that this exemption was placed in the act to avoid duplication of effort by the Department and AEC because AEC was already reviewing agreement-State radiation safety regulatory programs.

After AEC's regulatory reorganization in April 1972, management officials responsible for administering the agreement-State program initiated a review of the policies and procedures for administering the program and, in June 1972, requested us to inform them, on the basis of our review at that time, of any areas we considered to need improvement. Accordingly, we made a number of suggestions to AEC in June 1972 similar to the recommendations in chapters 3 and 4.

Subsequently, AEC began to change its administration of the agreement-State program to strengthen the overall program coordination and improve the training of, and communications with, State personnel. AEC officials stated in June 1972 that they had also identified some of the areas we identified as needing improvements.

CHAPTER 2

ADVANTAGES OF THE AGREEMENT-STATE PROGRAM

This chapter describes three principal advantages of the agreement-State program. It provides:

--An incentive to States for developing comprehensive radiation control programs.

--Elimination of duplicative radiation control inspections at licensee facilities.

--A more concerted effort in inspecting licensees' operations by placing the regulatory authority closer to the licensees.

INCENTIVE FOR DEVELOPING COMPREHENSIVE RADIATION CONTROL PROGRAMS

The States traditionally have been responsible for protecting public health and safety and controlling the hazards of using X-ray machines, radium, and accelerator-produced radioactive material, which are not subject to AEC's regulatory control. Some of the States, however, had not established comprehensive radiation control programs to fulfill these responsibilities and did not regulate radium and accelerator-produced materials to the same degree that AEC regulates agreement materials. For example, according to the Commissioner of the Food and Drug Administration (FDA), only two nonagreement States required radium users to be licensed as of March 13, 1972.

Because AEC encourages States--before an agreement is entered into--to have comprehensive radiation control programs and to license and inspect users of radium and accelerator-produced radioactive materials in the same manner as for agreement materials, we believe that the agreement-State program is an incentive to the States to develop comprehensive regulatory programs for all radioactive materials users.

ELIMINATION OF DUPLICATIVE RADIATION CONTROL INSPECTIONS

Certain types of licensees in nonagreement States are subject to radiation control inspections by AEC and the States. If these licensees used X-ray machines, radium, or accelerator-produced radioactive materials, they would also be subject to inspection by the Department of Labor under OSHA. (See app. II, p. 76.)

Radiological health officials in 13 nonagreement States told us that they regulate AEC licensees in a manner which duplicates AEC's regulation. For example, one nonagreement State annually inspects about 300 AEC licensees. The director of this State's radiological health program told us that even though AEC regulates these licensees, the State believes that it also is responsible for insuring that AEC-licensed activities in the State are adequate to protect public health and safety.

Also, the Department of Health, Education, and Welfare (HEW) found that nonagreement States were devoting substantial effort toward controlling radioactive materials licensed by AEC. In a report published in June 1971, HEW stated that of 1,456 inspections made by nonagreement States during fiscal year 1968, 904, or 62 percent, were inspections of facilities using radioactive material under the jurisdiction of AEC. HEW concluded that this duplication should be avoided.

If a State entered into an agreement with AEC, AEC would turn over regulatory responsibility for agreement materials to the State. If an agreement State also entered into a cooperative arrangement with the Department of Labor under OSHA (see p. 76) to insure that employers protected workers from the hazards of using X-ray machines, radium, accelerator-produced radioactive material, and other sources of ionizing radiation, the Department would turn over the responsibility for regulating these radiation sources to the State. Duplicative regulatory efforts would be eliminated because the State would assume regulatory responsibility for agreement materials and for other sources of ionizing radiation.

MORE CONCERTED EFFORT IN INSPECTING LICENSEE OPERATIONS

Since regulatory authority was transferred to the States, they have inspected licensees more frequently and made more prelicensing inspections than AEC did.

During fiscal year 1972, agreement States inspected about 35 percent of their licenses and AEC inspected about 11 percent of its materials licenses. Because of staff shortages and a decision to concentrate on licenses which authorized more hazardous uses of radioactive materials, AEC requires periodic reinspection for only about 10 percent of the 8,200 materials licenses for which it has regulatory responsibility. The States, on the other hand, generally do require periodic reinspections for those licenses not required to be reinspected by AEC.

Some agreement States also conduct prelicensing and followup inspections for licenses for which AEC generally does not. For example, although AEC does not generally make prelicensing inspections of applicants for industrial radiography licenses, regulatory agencies did in three of the five States whose programs we reviewed.

Several advantages accrue to the Federal Government, the States, licensees, and the public when the States properly carry out their responsibilities for regulating agreement materials. As discussed in the following chapters, AEC can better insure that such benefits are obtained by improving its administration of the agreement-State program.

CHAPTER 3

AEC'S DETERMINATIONS OF ADEQUACY AND COMPATIBILITY

The Atomic Energy Act requires AEC to determine that a State's proposed agreement materials program is adequate to protect public health and safety and is compatible with AEC's program before transferring its regulatory responsibility to a State. The act also authorizes AEC to terminate an agreement with a State if it finds that a State's program has become inadequate to protect public health and safety.

In our opinion, AEC needs to improve its procedure for evaluating the capabilities of State personnel to properly evaluate license applications and inspect facilities of radioactive materials users in initially determining adequacy and compatibility. We believe that AEC should develop a preagreement, on-the-job training and evaluation program for State personnel to provide a better basis for assessing their licensing and inspection capabilities.

Since 1966 AEC has annually determined that all agreement-State programs are adequate and compatible with its program. AEC made these determinations, however, on the basis of (1) general criteria which did not contain statements of the bases to be used by AEC reviewers in assessing the continuing adequacy and compatibility of all aspects of an agreement-State program and (2) reviews, which in some cases included evaluations of only a small percentage of selected State licensing and inspection actions.

In November 1972 AEC drafted more definitive criteria for measuring the continuing adequacy and compatibility of agreement-State programs. We believe that AEC can further improve the administration of its agreement-State program by providing guidance to its reviewers on the depth of review necessary to support a conclusion of adequacy and compatibility; that is, the number and types of license and inspection files to be reviewed and the number of State inspectors to be accompanied on inspections of licensees' facilities.

BASIS FOR INITIAL DETERMINATIONS OF ADEQUACY AND COMPATIBILITY

States have no regulatory authority for agreement materials before they enter into an agreement with AEC. When a State is ready to consummate an agreement, it submits its regulations and a program plan for AEC's evaluation. The program plan includes (1) a description of how the State intends to carry out its licensing and inspection functions and (2) a list of the qualifications of the State personnel who will be responsible for licensing and inspecting users of agreement material. If AEC concludes from these submissions that a State's program is adequate and compatible, an agreement is consummated.

To prepare State personnel for licensing and inspecting users of agreement materials before consummating an agreement, AEC offers a 3-week training course--an orientation course in regulatory practices and procedures--and invites State personnel to accompany AEC inspectors to observe them inspecting AEC licensees. (A discussion of AEC's training programs begins on p. 41.) AEC informed us that at least one radiological health staff member from each agreement State attended its 3-week orientation course before the agreement became effective.

AEC has often stated that having adequate personnel, in terms of numbers and professional qualifications, is the most important part of a State's radiation control program. Section 274(i) of the Atomic Energy Act provides AEC with a mechanism for preparing States to assume independent regulatory jurisdiction over agreement materials users and for evaluating the licensing and inspection capabilities of State personnel. It states, in part, that:

> "The Commission in carrying out its licensing and regulatory responsibilities under this Act is authorized to enter into agreements with any State, or group of States, to perform inspections or other functions on a cooperative basis as the Commission deems appropriate. The Commission is also authorized to provide training, with or without charge, to employees of, and such other assistance to, any State or political subdivision thereof or groups of States as the Commission deems appropriate."

AEC did not give State personnel the opportunity to evaluate license applications and inspect licensees' facilities for agreement materials users, nor did it evaluate the performance of such functions by State personnel before consummating an agreement. AEC instead determined that States could assume independent regulatory responsibility by reviewing the qualifications of State personnel described in the States' program plans.

Problems found after consummating agreements

AEC obtained firsthand knowledge of the capability of State personnel to evaluate license applications and inspect licensees' facilities during its first appraisal of a State's program. These first appraisals were generally made about 6 months after agreements had become effective.

AEC's first appraisals of States' agreement materials programs have often identified State licensing and inspection practices needing improvement, such as

--States' licensing uses of radioactive material without complete information in the application,

--inspectors' not being familiar with States' regulatory requirements, and

--inspectors' conducting inspections inadequate in scope and depth.

The following table shows the results of AEC's initial formal appraisals (see p. 11) in seven agreement States: the five States included in our review; Georgia, which became an agreement State in 1969; and Maryland, which became an agreement State in 1971.

Results of AEC's Initial Formal Appraisals

for Selected States (note a)

State	Date of agreement	Appraisal of records: Date	Appraisal of records: License files reviewed	Appraisal of records: License files found deficient	Appraisal of inspectors: Date	Appraisal of inspectors: Inspectors accompanied (note b)	Appraisal of inspectors: Inspectors whose practices were criticized
California (note c)	9-62	8-67	10	2	7-66	1	1
Georgia	12-69	7-70	3	2	7-70	2	2
Maryland	1-71	6-71	8	5	7-71	3	1
New York (note c):	10-62						
Labor		2-66	6	4	2-66	1	1
State Health		2-66	5	1	2-67	2	2
City Health		2-66	5	2	3-66	1	1
Oregon	7-65	2-66	5	0	3-66	3	0
Texas (note c)	3-63	10-65	8	1	4-66	3	2
Washington	12-66	7-67	8	4	11-67	1	1
Total			58	21 (36%)		17	11 (65%)

[a]Examples of the problems identified by AEC in its initial formal appraisals are on page 18.

[b]AEC accompanies agreement-State inspectors on inspections of licensees' facilities to evaluate the inspectors' performances and, in some cases, to provide training.

[c]Consummated agreements before AEC began to make formal appraisals and accompaniments.
(See p. 11.)

As the table shows, during its first appraisals and accompaniments in these States, AEC identified problems in (1) the licensing practices followed in issuing 36 percent of the licenses it reviewed and (2) the inspection practices followed by 65 percent of the inspectors it accompanied. In the four States (Georgia, Maryland, Oregon, and Washington) which consummated agreements after AEC began to make formal appraisals and accompaniments, AEC did not make initial evaluations of the State personnel capabilities to license and inspect until about 7 months after the agreements were effective.

We obtained information by questionnaires from both agreement and nonagreement States on funding and administrative problems. Of 29 nonagreement States (including the District of Columbia, Puerto Rico, and the Virgin Islands) 19 said that their personnel would benefit from receiving practical inspection experience by inspecting under the supervision of AEC personnel just before consummating an agreement. Also, 25 of these States said that their staff should be given the opportunity, before their State entered into an agreement, to obtain practical training in evaluating agreement materials license applications. The Chief, Agreements and Exports Branch, told us that AEC arranged in January 1973 to provide on-the-job training to a radiological health staff member from a State that was contemplating entering into an agreement.

DETERMINATIONS OF CONTINUED ADEQUACY AND COMPATIBILITY

Although section 274 requires that agreement-State programs remain adequate to protect public health and safety, it does not expressly require State programs to continue to be compatible with AEC's program. The legislative history of section 274, however, does indicate that the Congress intended agreement States to maintain compatible programs. In addition, the agreements between the States and AEC for transferring regulatory authority require the States to use their best efforts to insure that their programs will continue to be compatible with AEC's.

AEC's policy is to maintain a continuing relationship with each agreement State to help insure continued adequacy and compatibility. In evaluating State programs, AEC mainly considers whether

- --States have a sufficient number of adequately trained and experienced personnel;
- --radiation control regulations are compatible with AEC's; and
- --licensing, inspection, and enforcement practices are adequate and compatible with AEC's practices.

AEC's principal means for evaluating State programs are its periodic visits to the States. At the time of our review, AEC's policy was to visit at 15-month intervals States having established programs and at 9-month intervals new agreement States or those having problems. During these visits, AEC:

- --Reviews license files to determine whether appropriate supporting information has been obtained from applicants to justify issuance of the licenses and whether the licenses contain proper conditions.
- --Reviews inspection files to determine whether inspection reports adequately describe the scope of the inspections and support the noncompliance items noted and whether appropriate enforcement action has been taken.

--Accompanies State inspectors on inspections of various types of licensees to observe and evaluate their performance and to provide training.

--Obtains information on various other aspects of the State's program, such as budget data, new personnel, and training courses attended by State personnel.

Actions being taken to develop more specific criteria for measuring adequacy and compatibility

The criteria which AEC had used in assessing the adequacy and compatibility of agreement-State programs were those developed for assisting the States in establishing the regulatory programs discussed on page 9. These criteria, however, were general and did not contain the bases to be used by AEC reviewers in assessing the continued adequacy and compatibility of all aspects of an agreement-State program.

AEC had, on a number of occasions, identified various problems in some programs during its periodic reviews of licensing and inspecting practices; in some cases these problems had existed for 2 or 3 years. The types of problems identified included

--staff shortages,

--personnel who lacked the training and experience necessary to license and inspect the types of licenses for which they were responsible,

--licensing and inspection practices inconsistent with AEC's practices, and

--States' failures to update their regulations in a timely manner to incorporate changes in AEC's regulations.

Although AEC found such problems, it concluded that the State programs were adequate and compatible. AEC officials told us that it based its determinations of adequacy and compatibility on assessments of the total program capability of the State rather than just on the performance of the State program personnel. AEC further stated that its determinations were based on staff judgments and that in

no case did it believe that such situations as those described above adversely affected public health and safety.

We brought to AEC's attention the need for developing more specific criteria for AEC reviewers' use in assessing the State programs. AEC told us that it recognized this need, and in November 1972 it sent a draft "Guide for Evaluation of State Radiological Control Programs" to the agreement States for their comments. This guide contains 6 major program elements which must be evaluated, 27 indicators which must be considered to determine adequacy, and approximately 64 guidelines on acceptable practices. AEC told us that it was considering the States' comments on the guide and that the guide would

--assist in determining the adequacy and compatibility of agreement-State programs and

--provide the AEC reviewers, as well as the agreement States, with a balanced basis for assessing program adequacy.

Actions being taken to expand depth of AEC reviews of State programs

Chapter 4 discusses a number of differences we identified between the licensing and inspection practices of the States and of AEC. Since many of the differences we noted were not mentioned in AEC's appraisal reports, AEC was apparently not aware of them.

One of the reasons AEC may not have been aware of differences between its practices and those of the States was that AEC's determinations of adequacy and compatibility, in some cases, were based on evaluations of only a small percentage of State licensing and inspection actions.

AEC had not provided written instructions to its reviewers on the depth of review necessary to support a conclusion that a State's radiation control program was adequate and compatible with AEC's program. AEC's reviewers have made these decisions on the basis of (1) their reviews of all agreement-State licenses (but not of the information submitted by applicants to support issuing the licenses), (2) their professional judgment, and (3) advice from supervisory personnel.

Our analysis of AEC's periodic reviews of State licensing and inspection practices from January 1, 1968, through June 30, 1972, for the five State programs included in our review showed that:

--The depth of AEC's review did not necessarily relate to the size of the State program. For example, in appraising California's program, one of the largest State programs, AEC reviewed less than 3 percent of the applications supporting the issuance of new licenses and less than 2 percent of the State inspection reports. The percentages for Oregon, one of the smaller State programs, were 30 and 15 percent, respectively.

--AEC did not expand the depth of its review to determine the cause or extent of identified problems, such as those described on page 21.[1]

--AEC did not always review license and inspection files for the various types of licenses during each review. For example, between October 1968 and November 1972 AEC made four appraisals of the Washington program; however, none of these appraisals included evaluations of applications supporting the issuance of industrial radiography licenses.

After our fieldwork, AEC, in October 1972, implemented an accelerated program to review all agreement-State programs in greater depth. For example, between January 1, 1968, and June 30, 1972, AEC reviewed an average of three license files during each of its reviews of the New York State Department of Health's agreement materials program. In October 1972 AEC reviewed 79 license files for licenses issued by the Department.

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[1]AEC informed us that although it did not always expand the depth of its review, it did attempt to resolve the differences it identified during its appraisals of State programs.

CONCLUSIONS

AEC has been entering into agreements with States without sufficient knowledge of the inspection and licensing capabilities of the State personnel. As AEC's experience has shown, its evaluation of a description of an individual's training and experience does not necessarily mean that the individuals can properly evaluate license applications and inspect facilities of agreement materials licensees.

AEC stated that many of the problems noted in its initial review of programs may be attributed to the normal operational difficulties of new programs. We recognize that agreement-State programs need some time to develop into ongoing operations. We believe, however, that, to minimize these problems, AEC should improve its procedures for determining that a State can effectively assume independent regulatory responsibility.

AEC's reviews of the continued adequacy and compatibility of agreement-State programs covered the major program elements. However, it based its determinations on general criteria and, in some cases, on reviews of only a small percentage of selected State licensing and inspection actions. In November 1972 AEC drafted more definitive criteria for determining continued adequacy and compatibility.

RECOMMENDATIONS TO THE CHAIRMAN, AEC

We recommend that AEC, to provide a better basis for determining adequacy and compatibility of State programs:

- --Develop and implement an on-the-job training and evaluation program to provide State personnel with experience in evaluating license applications and inspecting licensees' facilities before consummating an agreement.

- --Provide guidance to its reviewers on the number and types of licensing and inspection actions which should be evaluated to support a conclusion that a State's program is adequate and compatible.

In commenting on our draft report, AEC concurred in our recommendations and said that it would

--provide State personnel with opportunities to work in its Materials Licensing Branch under the supervision of a senior licensing reviewer, so that they can obtain further practical licensing training;

--revise its inspector accompaniment program to provide more formal training and to give the State representatives more opportunity to conduct inspections and prepare reports; and

--explore with the States, through the Conference of Radiation Control Program Directors' task force on training, the possibility of having the more experienced agreement States provide similar practical experience for neighboring States.

AEC also stated that guidance (1) had been drafted for agreement-State reviewers and (2) was being used in its current accelerated review of State programs. This guidance is designed to structure the review effort to the size and complexity of the State program.

CHAPTER 4

DIFFERENCES BETWEEN AEC AND STATE LICENSING AND INSPECTION PRACTICES

Our comparison of the licensing and inspection practices of AEC with those of the five States included in our review disclosed a number of policy and procedural differences. Since AEC's appraisal reports on the continued adequacy and compatibility of State programs did not mention many of the differences we found, AEC was either not aware of the differences or did not document them.[1]

Our review of the agreement materials programs in five States showed that the States were making concerted efforts to exercise strong programs and that the cooperation provided by AEC assisted the States. In our opinion, however, AEC needs to provide additional guidance to the States and its reviewers to (1) minimize significant differences between its licensing and inspection practices and those of the States and (2) help insure that its reviewers will identify and assess such differences.

We recognize that the Atomic Energy Act does not require agreement-State radiation control programs to be identical with AEC's program to be adequate and compatible. We believe, however, that AEC should be aware of the differences to be able to satisfy itself that they do not hinder State accomplishment of the program objectives.

LICENSING PRACTICES

To determine whether State licensing practices were similar to AEC's, we reviewed applications supporting 109 medical and 65 industrial radiography licenses issued since fiscal year 1969 by five agreement States. Our review showed that although most of the applications contained most of the information AEC requires, 159, or 91 percent, of the

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[1]AEC informed us that it frequently commented orally on State licensing and inspection practices during its appraisal meetings with the States but did not always document differences it found in appraisal reports.

174 license files did not contain some of the required information.

AEC requires that the issuance of a materials license be supported by an application demonstrating that the applicant has the necessary training, experience, and equipment to use the materials desired and that the radiation safety program will be adequate. General guidance on the requirements is provided in title 10 of the Code of Federal Regulations. The regulations do not, however, discuss the specific requirements.

To provide additional guidance to materials license applicants, AEC has developed 20 licensing guides, including guides on

--preparing applications for the medical use of radioisotopes and

--radiation safety considerations in preparing industrial radiography license applications.

These guides describe the kinds of information to be submitted in applications but, according to AEC, are not necessarily requirements and do not necessarily describe all the information required before a license will be issued.

To determine whether agreement-State licenses were adequately supported by the information submitted by the applicants, we compared the information contained in selected license applications in five agreement States with what AEC informed us were its usual minimum requirements for licensing such activities.

Medical licenses

Of the 109 medical license application files we reviewed, 94 did not contain all of the information AEC usually requires. The types of AEC requirements we covered included

--experience,
--radiation detection equipment, and
--the use of isotope committees at medical institutions.

Experience requirements

AEC has established specific minimum training and experience requirements which physicians must meet before they can independently use radioactive materials in practicing nuclear medicine. In addition, in its licensing guide for prospective applicants for medical licenses, AEC states that applications without evidence showing that the proposed users meet all necessary training and experience requirements will be forwarded to its Advisory Committee on Medical Uses of Isotopes for evaluation.

Of the 109 medical license applications, 54 did not contain sufficient evidence that all the physicians authorized to use radioactive materials met all AEC's minimum experience requirements. For example, we noted that physicians either did not show suitable evidence of active participation in the authorized medical procedures or presented evidence of having some, but not the required, experience. Some license applications did not show evidence of the physicians' having the required experience in one authorized procedure, while others did not show evidence of the physicians' having the required experience in several authorized procedures.

The number of applicants whose files lacked such information varied considerably among the States, as shown below.

States	Licenses reviewed	Physicians licensed	Cases in which applications did not indicate minimum experience requirements were met	
			Licenses	Physicians
California	30	59	15	38
New York	30	34	10	11
Oregon	11	23	6	15
Texas	30	46	19	38
Washington	8	14	4	5
Total	109	176	54	107

Radiation detection equipment

AEC requires persons applying for authorization to use molybdenum 99/technetium 99m generators[1] to have radiation survey meters with detection ranges up to 1 roentgen (R)[2] per hour and to describe their proposed methods for evaluating the radiation exposure to the hands and arms of personnel who withdraw radioactive material from these generators. AEC has imposed these requirements because (1) high radiation levels could exist as a result of the large amount of radioactive materials contained in these generators and (2) the hands and arms are most susceptible to radiation exposure when these generators are used.

As the table below shows, we found a number of instances in which (1) the files showed no evidence that the applicants had radiation survey meters with detection ranges up to 1 R per hour or (2) the applicants did not describe their methods for evaluating hand and arm exposure.

States	Licenses authorizing molybdenum generator	Files not indicating that applicants had survey meters with range to 1 R per hour	Applicants not describing method for evaluating personnel exposure
California	10	8	7
New York	12	2	0
Oregon	9	7	5
Texas	14	3	6
Washington	4	4	2
Total	49	24	20

Thirteen of the 24 files which did not indicate that applicants had survey meters with detection ranges up to 1 R per hour contained no information on the detection ranges of the applicants' survey meters. The remaining 11 files contained statements that the applicants had survey meters with ranges as shown.

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[1]A device which uses one radioactive material, molybdenum 99, to produce another, technetium 99m.

[2]A unit for measuring radiation levels.

Radiation detection range in milliroentgens[a] per hour	Survey meters
0 to 10	1
0 to 50	6
0 to 100	2
0 to 200	1
0 to 300	1
	11

[a]One-thousandth of an R.

According to AEC, the detection ranges of these 11 survey meters are not always capable of measuring the high radiation levels associated with the use of the molybdenum generators.

Use of isotope committees

AEC requires that all applicants for institutional medical licenses have isotope committees responsible for the use of radioactive materials in the institutions. AEC requires that the names; medical specialties; and a description of the authority, functions, and responsibilities of these committees be included in applications for institutional licenses.

We reviewed 61 institutional medical licenses. As shown by the table below, 37 of the 61 either did not contain descriptions of medical isotope committees or contained incomplete descriptions.

State	Institutional medical licenses reviewed	Lack of or incomplete descriptions of isotope committee
California (note a)	21	21
New York	24	4
Oregon	4	1
Texas	6	6
Washington	6	5
Total	61	37

[a]California officials told us that they issue institutional medical licenses in certain situations in which AEC issues private practice medical licenses.

Industrial radiography licenses

Because of special hazards associated with industrial radiography, AEC has imposed stringent licensing requirements on those firms and persons desiring to perform or assist in such operations. These persons must be instructed and tested in specific subjects. Also, they must submit a copy of their operating and emergency procedures, a description of their administrative controls--internal inspection systems--for insuring compliance with applicable regulations and certain other information.

At our request the AEC official responsible for issuing radiography licenses identified what he believed to be the most important areas which should be described in a radiography license application, including

--the training program,

--the internal inspection program, and

--the operating procedures for conducting radiation surveys, controlling access to radiographic areas, and inspecting and maintaining equipment daily and quarterly.

We compared AEC's requirements in the above areas with agreement-State licensing practices and found that, although most of the applications contained most of the required information, none of the 65 industrial radiography files we reviewed contained all of the required information. Following are examples of the type of information not contained in the industrial radiography license files.

Testing program

AEC requires applicants for radiography licenses to submit examples of tests which will be administered to radiographer candidates along with the correct answers and the passing score. AEC told us that it requires this information to ascertain that

--the tests to be administered appropriately cover principles of radiation safety, the applicant's operating and emergency procedures, regulatory

requirements, and the use of the applicant's equipment;

--the answers which will be accepted as correct by the the applicant are correct; and

--the criteria used to determine the candidates' knowledge, understanding, and competency are reasonable.

Of 43[1] industrial radiography license files, 38 did not contain complete descriptions of testing programs.

--22 did not contain sample tests.

--32 did not contain answers to test questions.

--25 did not contain criteria for evaluating radiographer candidates' competency.

Internal inspection systems

AEC told us that it requires radiography licensees to have internal inspections to better insure that regulatory requirements are being met. AEC also said that it evaluates an applicant's proposed internal inspection program to determine that it calls for qualified management personnel to observe operations and review records periodically. Applicants are required to (1) describe the scope and frequency of internal inspections and (2) give the names and qualifications of those who will conduct the inspections.

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[1]We did not determine whether applications submitted by 22 radiography licensees of Texas contained testing information required by AEC because Texas did not require these licensees to submit such information.

As shown by the table below, 52 of the 65 industrial radiography license files we reviewed did not contain descriptions of one or more aspects of an acceptable internal inspection system as defined by AEC.

State	Licenses reviewed	Licenses not meeting AEC requirements			
		Total	Inspection areas not described		
			Frequency	Scope	Personnel
California	16	16	11	16	9
New York	7	0	0	0	0
Oregon	5	4	3	3	2
Texas	30	25	23	20	16
Washington	7	7	5	7	4
Total	65	52	42	46	31

Equipment inspection

AEC requires that the radiography operating procedures submitted with the license applications include instructions to (1) radiographers on how and what to inspect daily and (2) management on how and what to inspect quarterly.

AEC imposed these equipment inspection requirements on its licensees on December 13, 1970. Of the 65 industrial radiography license files we reviewed, 42 were for licenses issued after that date and 31 of the 42 did not contain descriptions of the applicants' daily or quarterly equipment inspection programs.

INSPECTION PRACTICES

AEC has given each agreement State an inspection guide which describes how to interpret certain requirements. This guide was prepared in 1959, and a discussion of requirements for industrial radiography licensees was added to the guide in 1965. According to AEC, however, the guide does not contain current information on the aspects of licensees' operations which should be covered during inspections.

Because AEC had not provided the States with such guidance, we developed checklists containing the scope and depth of inspections made by AEC during its inspections of AEC licensees. The checklists were reviewed by the AEC official responsible for inspecting materials licensees, who concurred that the checklists contained AEC's normal inspection procedures.

Using these checklists we accompanied 21 of the 35 State inspectors in the 5 States included in our review. These 21 inspectors conducted 18 medical and 13 industrial radiography inspections. Of the 21 inspectors, 13 covered all areas which AEC normally covers but 8, or 38 percent, of the 21, did not. For example, some inspectors did not

- --make independent radiation surveys to determine that radiation levels were within regulatory limits (four inspectors);

- --observe radiographers' field operations or review training and testing records during inspections of industrial radiography licensees (three inspectors);

- --determine that medical licensees were following special procedures required by license conditions (five inspectors);

- --review medical licensees' procedures for restricting unauthorized entry into, or preventing removal of radioactive materials from, storage areas (three inspectors); or

- --review medical licensees' radiation survey records (one inspector).

FACTORS CONTRIBUTING TO DIFFERENCES

In our opinion, the following factors contributed to the licensing and inspection differences between the States and AEC.

--AEC did not provide the States with sufficient licensing and inspection guidance.

--Effective communications did not exist between AEC's Materials Licensing Branch and Agreements and Exports Branch.

Need for licensing and inspection guidance

Oversights by State personnel caused many of the differences we noted between State and AEC licensing and inspection practices. In other cases, States had requirements different from AEC's or State personnel were unaware of AEC requirements. State radiological health officials in some cases changed their requirements to comply with AEC's requirements after we brought differences to their attention.

To illustrate, radiological health officials from New York, Texas, and Washington told us that they did not believe all institutional medical licensees needed isotope committees (see p. 30 for AEC's requirement), and California did not require all applicants for such licenses to describe the operations of their isotope committees in their applications. Radiological health officials from the New York State Department of Health told us that they plan to require all institutional applicants for medical licenses to describe the operations of their isotope committees.

Texas and California did not require applicants for medical licenses to describe their methods for evaluating radiation exposure to the hands and arms of the personnel withdrawing radioactive materials from molybdenum generators. (See p. 29 for AEC's requirement.) The Texas radiation control program director told us that he was unaware that AEC required such descriptions, and that he would require them in the future. Radiological health personnel from California said that they were adding a condition to their medical licenses which requires licensees authorized to use the molybdenum generator to evaluate the hand and arm exposures of personnel.

Need for effective communications

AEC State program reviewers in the Agreements and Exports Branch were not aware that AEC's Materials Licensing Branch required applicants for certain radiography licenses to describe their testing programs. One State radiation control program director told us that over the last several years, AEC's four industrial radiography license application reviewers had interpreted differently the information the regulations required.

This official stated:

> "* * * the Commission should develop a policy on the minimum criteria to be used by all A.E.C. license application reviewers. This policy could then be given to the Agreement States to guide them in the development of criteria with which to review license applications."

Radiological health officials from the other four agreement States included in our review also told us that AEC guidelines, specifying the information which should be contained in license applications to support the issuance of licenses, would assist them in administering their agreement-State programs. Radiological health personnel from three of the States made similar comments about AEC inspection guidelines.

As of April 1, 1973, AEC had reviewed licensing and inspection programs in all 24 agreement States as part of an accelerated program to make detailed reviews of all agreement-State programs. AEC officials told us that the results of its reviews had shown that it would be necessary to provide the States with the additional detailed guidelines mentioned above.

CONCLUSION

By expanding its depth of review as discussed in chapter 3, AEC should be able to more readily identify the policy and procedural differences between its and the States' licensing and inspection programs.

We believe that the lack of sufficient guidance on applications and inspections, as discussed in this chapter, has contributed to

--States' issuing licenses when the applications did not contain all the information necessary to support the issuances,

--State inspectors' performing inspections without covering all the aspects of the licensees' radiation safety programs considered appropriate by AEC, and

--AEC State program reviewers' failing to identify and assess a number of differences between AEC and State licensing practices.

Because the differences between AEC and State licensing and inspection practices were technical, we did not assess the significance of the differences we identified. AEC officials told us that the differences we noted varied in significance and that the State programs were not necessarily inadequate or incompatible because of the differences. We did not note any instances in which the problem areas adversely affected public health and safety.

We recognize that the Atomic Energy Act does not require agreement-State radiation control programs to be identical with AEC's program to be adequate and compatible. We believe, however, that AEC should be aware of the policy or procedural differences between its and States' programs and should satisfy itself that such differences do not hinder the States' accomplishment of program objectives.

RECOMMENDATIONS TO THE CHAIRMAN, AEC

We recommend that AEC, to (1) minimize significant differences between its licensing and inspection practices and those of the States and (2) better insure that such differences will be identified and assessed by its reviewers:

--Provide the States and its State program reviewers with additional guidance on (1) the minimum information necessary in applications to support the issuance of licenses and (2) the areas which should be covered during inspections of various types of licensees.

--Assess the differences between AEC and State licensing and inspection practices or requirements to satisfy itself that such differences do not hinder the States' accomplishment of program objectives.

AEC concurred in our recommendations and stated that it would issue additional guidance on specific areas which State regulatory personnel should cover in licensing and inspecting various types of licensees. AEC stated that its policy was to discuss differences in licensing and inspection practices with agreement-State officials during program reviews, the annual program review meetings, or the annual 3-week regulatory orientation sessions. However, to expand this effort, AEC stated that it would inform the States, on a more formal basis, of basic changes in, or interpretations of, licensing and inspection practices. AEC pointed out that improving such communications was a major objective of the April 1972 reorganization. (See p. 12.)

CHAPTER 5

AEC'S ASSISTANCE TO AND COOPERATION WITH THE STATES

AEC cooperates with and assists (1) nonagreement States in preparing to become agreement States and (2) agreement States in carrying out their regulatory responsibilities. We believe that AEC's cooperation with and assistance to the States has benefited the States. In our opinion, however, AEC needs to provide (1) greater assistance to the States by helping them to identify and solve certain common problems and (2) additional training programs for personnel of both agreement and nonagreement States.

Upon request from a nonagreement State, AEC will

--appear before State legislative committees to testify on the benefits and desirability of becoming an agreement State,

--assist the State in developing regulations and programs for controlling the use of agreement materials compatible with AEC's requirements, and

--train State personnel to carry out their responsibilities under the agreement-State program.

AEC's principal concern for agreement States is to assist them in maintaining adequate and compatible regulatory programs, which includes

--exchanging information on licensing, inspection, and enforcement activities;

--visiting States periodically;

--meeting annually with all agreement States;

--providing training to State personnel; and

--assisting the States in handling radiation control problems.

ASSISTANCE TO NONAGREEMENT STATES

Section 274 of the Atomic Energy Act was enacted to recognize the interest of the States and to promote an orderly

regulatory pattern between AEC and the States on the development, use, and regulation of agreement materials. The legislative history of section 274 indicates that AEC was to (1) be the principal Federal agency responsible for preparing the States for transferring regulatory responsibility for such materials and (2) promote the agreement-State program.

Before June 1972 AEC had brought the program to the States' attention and had explained the assistance it would provide if the States requested it. AEC had not, however, actively worked with or encouraged nonagreement States which had not expressed an interest in becoming agreement States. Consequently, AEC did not know the status and the specific problems of each nonagreement State and did not know what would be required to bring more nonagreement States into the program.

Radiological health officials from 18 of the 29 nonagreement States advised us that their States were interested in becoming agreement States, and 16 of these officials stated that their biggest problem was insufficient funds.

In June 1972 AEC changed its policy and plans to promote the agreement-State program. According to the revised policy statement, AEC will analyze each nonagreement State's efforts and problems in becoming an agreement State and assist each State.

In October 1972 AEC, for the first time, invited all the nonagreement States, except the Virgin Islands, to attend a meeting at AEC headquarters to discuss the relationship between AEC and the States in regulating the use of radioactive materials. During this meeting, AEC explained the agreement-State program and described the assistance it would provide to those States interested in entering into agreements.

Several States wanted to know the financial resources required to assume regulatory responsibility for agreement materials. AEC told the States that it had estimated that as a broad guideline, about 1 man-year of effort for each 100 licenses, with an annual expenditure of about $200 for each license, is required to administer the authority assumed from AEC. AEC stated, however, that these were only

general guidelines and that the resources required would vary according to a State's particular circumstances. AEC also said, however, that it was making detailed reviews of agreement-State programs to refine its guidelines for the resources necessary to assume regulatory authority. (Funding of agreement-State programs is discussed in chapter 6.)

TRAINING PROGRAMS

To assist States in developing and maintaining adequate and compatible agreement materials programs, AEC provides radiological health training to State personnel.

AEC pays for the costs of the training courses, travel, and subsistence incurred by State personnel. AEC also allows State personnel to accompany its inspectors when they inspect licensees.

During AEC's 1967 and 1968 annual meetings with the agreement States, AEC's Director, Division of State and Licensee Relations (now the Agreements and Exports Branch), stated that no aspect of a State's regulatory program was more important than the quality of the personnel administering it and that AEC would continue to provide training assistance to the extent needed. However, AEC's expenditures for training State personnel decreased from fiscal year 1969 through 1972, as the table below shows. AEC offered two courses in fiscal year 1972 and five in fiscal year 1973.

AEC TRAINING COURSES

	Fiscal years				
	1969	1970	1971	1972	1973 (note a)
Total cost of training courses	$105,460	$89,280	$86,806	$72,397	[b]$96,500
Courses:					
Orientation course in regulatory practices and procedures	2	2	2	1	1
Health physics and radiation protection	2	1	1	1	1
Radiography	2	2	1	-	-
Medical uses of radioactive materials	-	2	1	-	2
Californium-252	-	-	-	-	1
Total	6	7	5	2	5

[a]Courses which are planned to be or have been conducted.

[b]Estimated.

Radiological health officials from both agreement and nonagreement States told us that AEC's training program had benefited them considerably in preparing for or administering their agreement materials programs. A number of these officials suggested, however, that AEC could improve its training program by offering additional courses and by providing more practical, on-the-job training. Training needs frequently mentioned by State officials included practical training in licensing and inspection techniques and additional courses covering uses of radioactive materials in medical practice. Our review of State licensing and inspection practices, discussed in chapter 4, confirmed that these additions to AEC's training program would be desirable.

AEC told us that it recognized the need to reevaluate its training program and that it planned to identify the specific training needs of the States during its accelerated program to review all agreement-State programs in greater depth. (See p. 23.)

COOPERATION WITH THE STATES TO SOLVE COMMON PROBLEMS

In 1968 the Conference of Radiation Control Program Directors was established to provide a mechanism for the States to discuss, and establish task forces to solve, common radiation control problems and to provide a channel of communication between the States and the Federal Government. The conference is made up of the radiological health directors in all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands.

HEW's Bureau of Radiological Health (BRH) and the Office of Radiation Programs, Environmental Protection Agency (EPA), participate in the annual conference meeting and work with the task forces. They pay for the travel and subsistence costs of the State representatives to attend the annual meeting and to participate in the task forces. The chairman of the conference told us that AEC was asked but declined to formally participate in the conference when it was established.

In July 1972 the conference requested AEC to participate in a task force to study the interface problems among the States, FDA, HEW, and AEC in regulating radiopharmaceuticals. AEC, however, did not respond to this request. In October

1972 we inquired into AEC's reasons for not participating in the activities of the conference. Although no specific reasons were given at that time, AEC subsequently advised us that it was going to participate in the radiopharmaceutical task force as well as in task forces on waste disposal and training.

RECOMMENDATIONS TO THE CHAIRMAN, AEC

We recommend that AEC, to improve its assistance to the States:

--Periodically identify the problems that nonagreement States are encountering, on a State-by-State basis, in consummating agreements with AEC so that it will be better able to assist these States in working toward agreements.

--Periodically identify the training needs of the States and expand its training program to be as responsive to such needs as practicable.

--Actively participate in the activities of the conference, to work with the States in solving common public health and safety problems.

AEC concurred in our recommendations and made the following comments.

--Following the reorganization in April 1972, the periodic identification of nonagreement States' problems in consummating agreements with AEC became part of AEC's program objective, and it is pursuing this objective.

--Most participants consider AEC's training program to be very successful. AEC has based the number and type of subjects on information and suggestions from the States. In addition to continuing this activity, AEC is participating in the conference task force on training to obtain a consensus of agreement and nonagreement States on training needs. In fiscal year 1973, AEC's training funds were increased.

--AEC is represented on the conference task forces on radiopharmaceuticals, waste disposal, and training. In addition, AEC has met on a number of occasions with conference officials to obtain information on problems faced by its members and on ways to assist in resolving the problems. AEC will continue to participate in the conference task forces and will explore a more formal and official relationship with the conference.

CHAPTER 6

FEDERAL FUNDING OF AGREEMENT-STATE PROGRAMS

From our discussions with radiological health officials of various agreement and nonagreement States and the replies we received to our questionnaires, it appears that States need additional financial assistance for their radiation control programs. However, the States' needs relate to their entire radiation control programs, not just to the agreement materials portions. (See p. 49.)

The Joint Committee on Atomic Energy has asked AEC to consider the desirability of providing financial assistance to States in support of the agreement-State programs. The following matters are presented for the consideration of the Joint Committee.

FEDERAL FUNDS AVAILABLE

AEC does not provide funds to the States to administer their agreement materials programs. In its report on section 274 of the Atomic Energy Act, the Joint Committee stated that it did not intend that cash grants be given to the States to pay for the administration of these programs. The legislative history of section 274 points out two apparent reasons for the Joint Committee's decision.

--Section 274 was to provide a mechanism for the States to assume additional responsibility for protecting public health and safety from radiation hazards because States had traditionally had this responsibility.

--It was believed that States which already had comprehensive programs for controlling radiation sources outside AEC's jurisdiction would need only a modest increase in personnel and budgets to assume the additional responsibilities.

Although AEC does not provide funds to the States for administering the agreement portions of their radiation control programs, several Federal agencies provide funds to the States to assist them in administering their programs. The following table shows the Federal agencies authorized to

provide funds, exclusive of research funds, and some of the purposes for which such funds have been authorized. (See app. II for additional details.)

Federal agency	Purpose
HEW	To assist States in providing community, mental, and environmental--including radiological--health services. To reimburse States for inspections of X-ray machines in Medicare facilities. To carry out a cooperative program with the States for regulating radiation emitted from electronic products (e.g., X-ray machines, microwave ovens, color television sets).
EPA	To contract with States to monitor, from offsite locations, effluents released from nuclear facilities.
AEC	To contract with States for monitoring, from various locations, effluents released from nuclear facilities. To contract with States to gather employee exposure data.
Department of Labor	To provide funding support to States for inspections of users of radiation sources, such as radium, accelerator-produced materials, and X-ray machines under OSHA. To provide funds to States to hire personnel to alleviate high unemployment. (See p. 76.)
Defense Civil Preparedness Agency (DCPA)	To assist States in preparing radiological emergency response plans.

HEW has been the principal source of Federal funding to the States for administering their radiation control programs.

Between July 1, 1962, and June 30, 1967, BRH awarded categorical grants to all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands for establishing and maintaining radiological health programs. In total these grants averaged about $2.2 million annually from 1963 to 1967. On July 1, 1967, BRH's categorical grant program was replaced by HEW's block grants authorized by section 314(d) of the Public Health Service Act (42 U.S.C. 246).

These block grants were awarded to States for developing and maintaining comprehensive public health programs. Under this program States, with certain restrictions, received matching funds from HEW for community and mental health programs in accordance with State plans showing the intended uses of the funds. Each State, using guidelines prescribed by HEW, could use the funds according to its own priorities.

Between July 1, 1967, and June 30, 1971, HEW grant funds for operating radiological health programs dropped from about $2.5 million to less than $1 million. By fiscal year 1971, 27 States--10 of which were agreement States--and Puerto Rico reported using HEW grant funds for radiological health. The 10 agreement States accounted for about $453,000, or 49 percent, of the $934,000 HEW grant funds used for radiological health.

The chairman, Conference of Radiation Control Program Directors, told us that BRH categorical grants for radiological health provided an incentive for States to enter into agreements with AEC because these funds were earmarked for radiological health and could not be used for other programs. Since July 1, 1967, when the BRH categorical grants were terminated, only seven States have entered into agreements with AEC: two in 1968, three in 1969, one in 1971, and one in 1972.

During its annual appraisals of State programs, AEC has identified some deficiencies in State programs which might be related to insufficient funding. For example, AEC has often commented on

--insufficient staff to fully perform the usual licensing and inspections;

--low salary scales, leading to lower employee quality and frequent personnel turnover; and

--inability to periodically update State regulations to maintain compatibility with AEC's changing regulations.

Radiological health officials from 19 agreement States told us that their radiation control programs were insufficiently funded and that they needed a total of about $2.1 million for equipment and operating expenses to have adequate programs. Of the remaining five agreement States, two said they did not need additional funds and three did not provide us with data on the additional funds necessary for an adequate program, even though the radiological health officials from these three States said that their programs were not adequately funded.

Of the agreement States which expressed concern about the adequacy of the funding to administer their agreement programs, the States' principal concern was insufficient staff to inspect as frequently as they considered necessary. Two States we visited had sizable inspection backlogs. These backlogs, however, consisted mostly of the types of licenses which authorized relatively less hazardous uses of agreement material.

For example, New York had an inspection backlog of 444 licenses at June 30, 1972. Our review of the types of licenses constituting the backlog, however, showed that most were the types which AEC did not require to be periodically reinspected; that is, if the State was not an agreement State and AEC was responsible for inspecting these licenses, they would not have been required to be periodically reinspected. (See p. 15.) Therefore, the question is raised of whether the States are inspecting licenses more frequently than necessary or whether AEC is not inspecting often enough.

In addition, AEC has brought deficiencies in some State programs which might be related to insufficient funding to the attention of the director of the State health department or a comparable official, but not to the Governors of the States, who are responsible for maintaining adequate and compatible radiation control programs.

FUNDING CONCERNS OF THE STATES

In February 1972 the chairman of the Conference of Radiation Control Program Directors requested the Joint Committee to explore the possibility of providing financial support for the agreement States' regulatory programs. The chairman indicated that some agreement States were seriously considering terminating their agreements with AEC and that nonagreement States were becoming more reluctant to enter into such agreements because of the lack of funding.

In March 1972 the Executive Director of the Joint Committee referred the above letter to AEC and requested it to explore the desirability of providing Federal funds to agreement States. In an interim reply to the Executive Director in November 1972, AEC stated:

> "The States have neither defined the level of assistance desired nor established justification for assistance in sufficient detail to support their request. We need information about budget, manpower, program priorities, etc., on a State-by-State basis prior to making specific recommendations regarding financial assistance to the States. We have initiated the State visitation program to obtain this information."

Florida and Nebraska radiological health officials told us that their States had seriously considered terminating their agreements with AEC. Officials of all 24 agreement States, however, told us that their States are not currently considering terminating their agreements. In commenting on our draft report, New York told us:

> "When a statement * * * is made that none of the 24 Agreement States are seriously considering terminating their agreement, it only reflects the current mood. As soon as the struggle for tight budget funds again becomes a reality, the affected State agencies will single out the Agreement States program as one that can be deleted and consequently transferred back to the Federal government."

Although 22 agreement States told us that their radiation control programs were not adequately funded, their

concerns relate to their total radiation control programs and not only to the agreement portions. A State's total radiation control program can be categorized into four principal areas.

--Radioactive materials (both agreement and nonagreement materials).

--X-ray control.

--Environmental surveillance.

--Nonionizing radiation.

The problems and needs in these areas vary among the States. For example, States with nuclear reactors or fuel-processing facilities were more concerned about establishing a comprehensive environmental surveillance program than were States without such facilities.

We asked all 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands in which of their radiological health areas they would place additional funding received for radiation control and asked them to assign priorities to their needs. The following tables show, by radiation control area, the first two priorities of the agreement and nonagreement States.

AGREEMENT STATES

Radiation control area	Priority I	Priority II
Expand or improve:		
X-ray control	15	3
Radioactive materials	5	11
Environmental surveillance	2	6
Other	2	4
Total	24	24

NONAGREEMENT STATES (note a)

Radiation control area	Priority I	Priority II
Increase inspection of users of X-ray machines and nonagreement material	16	6
Obtain resources to enter into an agreement with AEC	5	4
Establish or improve environmental surveillance	3	5
Establish or improve nonionizing radiation control	-	4
Other	3	10
Total	27	27

[a]One State did not respond to the questionnaire, and another State did not assign priorities to its needs.

As the tables show, one of the principal concerns of the States was their X-ray control programs. The National Academy of Sciences, in a report published in November 1972 after a 2-year analysis of ionizing radiation health risks, stated that

--medical diagnostic X-rays account for at least 90 percent of the total manmade radiation dose to which the U.S. population is exposed and

--present levels of diagnostic X-ray exposure in the United States are "unnecessarily high" and "can and should be reduced considerably."

The States appear to be experiencing problems in inspecting X-ray machines as frequently as is desirable. To illustrate, BRH has developed an informal guide which describes a desired inspection frequency for X-ray machines. Using this guide and data obtained from BRH, we estimated that, to meet this inspection frequency, the States would have to devote about 1 man-year of effort for every 638 X-ray machines. Data obtained from the 24 agreement States showed that they were devoting, on the average, 1 man-year of effort for every 1,130 X-ray machines.

On the other hand, the States appear to be devoting close to the man-years of effort AEC considers necessary to operate their radioactive materials programs. AEC has developed an informal guide which suggests 1 man-year of effort for every 100 radioactive materials licenses. The licenses regulated by the 24 agreement States for each man-year of effort are shown below.

Licenses for each man-year of effort	States
0 to 100	17
101 to 200	6
Over 200	1
	24

The radiation control program director from one agreement State, North Carolina, which was devoting 1 man-year of effort for every 218 licenses, explained his situation as follows:

--As of June 30, 1972, his State was responsible for about 300 radioactive materials licenses and only one staff member was inspecting full time.

--He needs one more person to handle licensing functions.

--He must evaluate and issue all radioactive materials licenses, and his workload does not permit him to review all license applications in the detail required.

--When he compares his radioactive materials program needs with the needs of the other radiological health program areas and with the principal areas of concern of the citizens in his State, the radioactive materials program needs have a lower priority.

To illustrate, the program director stated that there was a great deal of public concern over the large nuclear facilities (reactors and fuel facilities) in the State and unnecessary X-ray exposures; therefore, the highest priorities of the State were (1) developing and maintaining nuclear facility emergency response plans, (2) improving the State's environmental surveillance program, and (3) expanding the X-ray control program. He stated that, therefore, the State legislature is much more likely to authorize additional funds for these areas rather than the radioactive materials program.

Of the 29 nonagreement States, 24 told us that the lack of funds had hindered or would hinder their progress toward becoming agreement States. Radiological health officials from the four nonagreement States we visited said that they would not reduce their efforts toward regulating such items as X-ray machines, radium, and accelerator-produced radioactive materials to assume the regulatory responsibility for agreement materials. They said that they would first want additional resources (funds and personnel), either from

within their State or from a Federal agency, so that both their present program and the agreement materials program would be adequately funded and staffed.

One source of funds which could have an impact on the funding situation of State radiation control programs is the Department of Labor. OSHA authorizes the Department to pay the States up to 50 percent of the costs of their programs for inspecting workplaces, to insure that employers are protecting employees from ionizing radiation, except for agreement materials, which were excluded from coverage under OSHA. As of December 31, 1972, the Department told us that it had provided funds for only one State's occupational safety and health program. At the time of our review, radiological health personnel from the five States whose programs we reviewed could not tell us what impact OSHA funds would have on their radiation control programs.

In a letter dated July 7, 1972, to the chairman of the Conference of Radiation Control Program Directors (see app. III), EPA suggested establishing a task force to study radiation control and set forth certain steps which should be taken to assume adequate protection of public health from radiation hazards. In our opinion, these steps (which follow) will facilitate the assessment of the financial concerns of the States.

> "1. Determine the radiation protection responsibilities and the legislative mandates of the States and the Federal Government, and their interface. This would encompass all responsibilities including regulation and enforcement.
>
> "2. Determine the short and long-term realistic resources needed to exercise these responsibilities in terms of manpower, equipment, training, etc.
>
> "3. Develop effective strategies to maximize resource availability through State legislatures.
>
> "4. Determine the proper and adequate Federal role in providing resources and technical assistance to the States.

"5. Develop funding requests for the State legislatures and Federal Government for the required resource and submit them.

"6. Determine effective mechanisms for the allocation of Federal assistance.

"The first step of this strategy is the determination of realistic needs. The second is to acquire the resources required to fulfill these needs. Along with this it is necessary to develop adequate mechanisms for assuring that the transfer of funds between the Federal Government and the States is done in an effective manner compatible with the needs of both the States and the Federal Government."

On January 30, 1973, the chairman of the Conference of Radiation Control Program Directors told us that the executive committee of the conference was attempting to define the necessary components of a total radiation control program as the first step in determining the needs of the States. The chairman of the conference said that EPA was working with the conference's executive committee on the project.

LICENSE FEES

AEC charges license fees to help recover the cost of its licensing and inspection programs. Only four agreement States--California, New Hampshire, Oregon, and South Carolina--and New York City charge fees to help defray their program expenses. The fee systems imposed by the four States were recovering, or were estimated to be recovering, between 10 and 40 percent of the costs of the radioactive materials programs. New York City's fee schedule was revised effective October 1, 1972, and is expected to provide full cost recovery.

AEC's fee system is based on a sliding scale which considers the regulatory effort required for each type of license. AEC officials told us that AEC's license fees are based on recovery of licensing and inspection costs, including overhead. AEC, however, has exempted certain types of licensees, including educational institutions and medical

users, from the fee requirement. Although some States do not require nonprofit organizations to pay license fees, all States' fee schedules impose fees on medical licensees. On February 12, 1973, AEC published a proposed amendment to its regulations in the Federal Register to change the amount of the fees charged for various types of licenses and the types of licenses subject to license fees. For example, the amendment would provide for assessing fees on medical licensees.

The States' fee schedules varied considerably. One State charged a flat rate for all radioactive materials licenses, and the other three States and New York City had fee systems based on a sliding scale. The sliding scale is based on such matters as:

--Number of authorized users.

--Degree of hazard associated with the proposed uses.

--Amount of material authorized.

States not imposing fees on radioactive materials licenses provided the following reasons for not doing so.

--Lack of legislative authority.

--Belief that costs of administering such systems would be too high compared with the revenues received.

--Belief that fees would hinder the State's efforts to promote the use of radioactive materials.

--Lack of assurance that revenues received would be allocated to the radiation control program.

CONCLUSIONS

It appears that the States need additional financial assistance for their radiation control programs; however, their needs are for their entire radiation control programs and not just the agreement materials portions. AEC has stated that before deciding on providing financial assistance to the States, information is necessary on a State-by-State basis about budgets, manpower, and program priorities. (See p. 49.)

We believe that one approach which could be used to obtain the necessary information would be a task force study, such as that suggested by EPA. (See app. III.)

RECOMMENDATIONS TO THE CHAIRMAN, AEC

To provide a basis for appraising and to help alleviate the financial needs of agreement States, we recommend that AEC

--develop criteria on the minimum inspection frequency considered necessary for each type of license,

--notify the Governor of each State when funding problems apparently adversely affect the adequacy of the State's radiation control program,

--consider the possible inequities which may be created by providing Federal funds to States which do not charge licensee fees while AEC and some States charge such fees, and

--consider the impact OSHA funding will have on State radiation control programs.

AEC concurred in our recommendations.

CHAPTER 7

OTHER CONCERNS AND PROBLEMS OF STATES

Radiological health officials from several States believe that the Federal Government needs a more structured and coordinated approach in its programs for protecting the public from radiation hazards. Radiological health officials from 22 agreement States and 13 nonagreement States and the chairman, Conference of Radiation Control Program Directors, expressed concern about the problems created by having to deal with a number of Federal agencies in administering their radiation control programs. These problems included

--overlapping Federal responsibilities,

--confusion about the Federal agency having primary responsibility for certain aspects of radiation control,

--lack of coordination among the Federal agencies, and

--lack of regulation for certain users of radioactive materials.

As the chart on page 58 shows, at least seven Federal agencies have had some involvement in radiation control. For example, at least

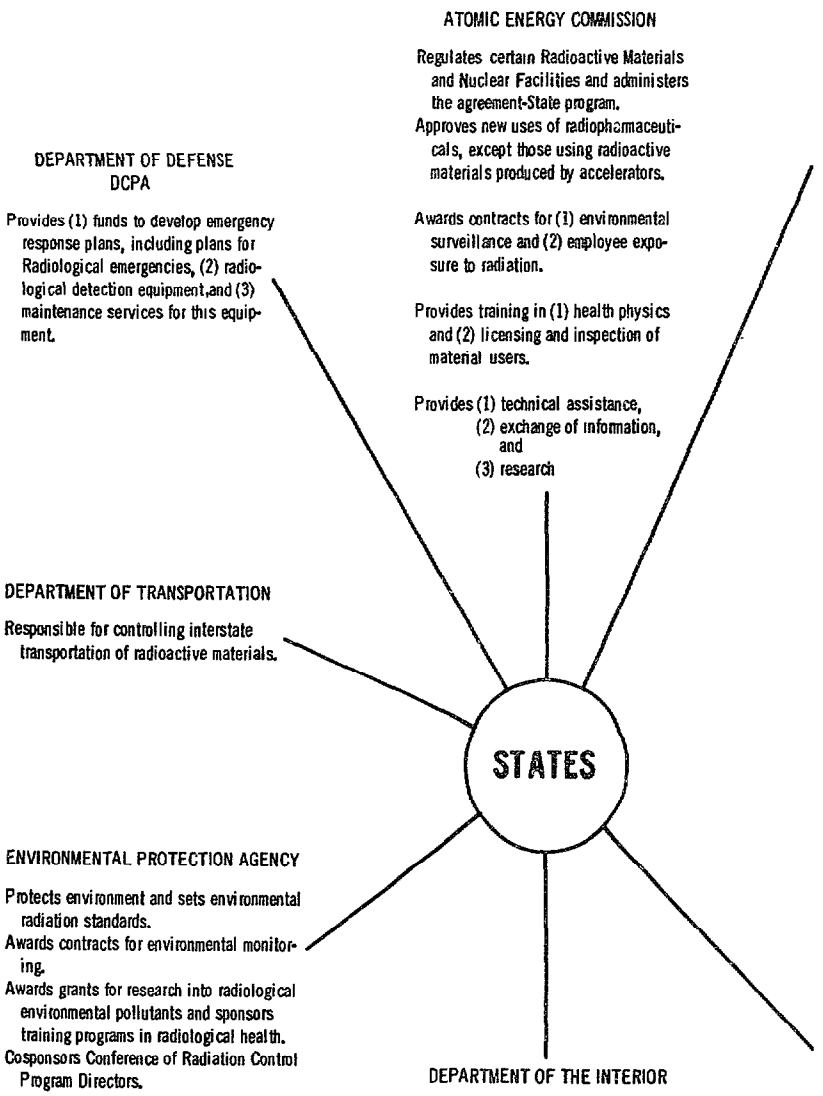
--six Federal agencies have regulatory programs covering various aspects of radiation safety, and at least five of these are authorized to enter into cooperative arrangements with the States for protecting the public from radiation hazards;

--five Federal agencies are authorized to provide funds to the States for operating various aspects of their radiological health programs;

--three Federal agencies are authorized to conduct or sponsor radiation research; and

--three Federal agencies are authorized to conduct or sponsor radiological health training.

FEDERAL INVOLVEMENT IN RADIATION CONTROL



ABBREVIATIONS

DCPA – Defense Civil Preparedness Agency
FDA – Food and Drug Administration
HSMHA– Health Services and Mental Health Administration
SSA – Social Security Administration
NIOSH– National Institute for Occupational Safety and Health
OSHA – Occupational Safety and Health Act
EEA – Emergency Employment Act

A brief discussion of each agency's involvement in the radiation areas is described in appendix II.

We did not evaluate the specific involvement of each agency or the specific problems experienced by States. However, since the Joint Committee asked us to consider the problems States were encountering in administering their radioactive materials regulatory programs, we are presenting the following information which may help the Joint Committee assess the States' concerns regarding the Federal-State relationship in radiation control.

CONCERNS OF THE STATES ON FEDERAL-STATE RELATIONSHIPS

The following comments, provided to us by the radiation control program directors of three States, indicate the problems expressed by many of the States.

Louisiana

"The main problem is that so many different Federal agencies are involved in certain aspects of the total program, namely AEC, EPA, BRH, FDA, DOT, OSHA, NIOSH and OEP.[1] * * * The split in responsibility results in the lack of an effective total radiation program at the Federal level, which compounds the difficulty of administering a state program."

Idaho

"too many federal agencies working in same general area (AEC, EPA, HEW and OSHA)--this [the State's radiation control] small 2-man office can almost daily be in contact with 14 separate regional and headquarters offices representing 4 separate Federal agencies with 4 differing philosophies. Too, in-office visits from these agencies can become a nuisance and too often one will come on the heels of the last one."

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[1]Office of Emergency Preparedness. The functions of OEP referred to by this official were recently assumed by DCPA. (See app. II.)

Kansas

"There is, at least on paper, a woeful confusion as to who has authority over what. Most glaring is the matter of naturally occurring and accelerator-produced isotopes. AEC disavows jurisdiction; * * * EPA apparently wants no part of the radiation problem short of setting standards, albeit that agency is apparently underwriting a limited number of surveillance programs. Without power reactors or nuclear facilities under cognizance of the AEC, a state such as * * * has virtually no interaction with EPA. The lack of delineation of responsibility between DOT and AEC is also confusing. Finally, with the Department of Labor imposing itself on radiation programs via the OSHA, the program director finds himself at the very ultimate of confusion..... uncertainty as to whether he has a legally constituted program which has not been superseded by OSHA and, if so, to whom he owes his prime allegiance.

"There apparently is not only 'lack of good working relationships among the various Federal Agencies' but an out-and-out avoidance of contacting each other on matters of mutual interest. Each seems to be jealously guarding its own remnant of the now highly fragmented radiation program. The proposal to create a Federal Radiation Protection Agency, bringing all responsibilities for ionizing radiation protection under one roof is, of course, so logical that it cannot possibly come about."

In addition, responding to a letter dated July 7, 1972, from EPA concerning steps which could be taken to enhance regulatory controls over radiation users (see p. 78), the chairman of the Conference of Radiation Control Program Directors stated:

"The Conference feels that the item to be given the major priority in order to accomplish the basic steps necessary to achieve the goals you have set forth is a clear-cut determination of

functional responsibility at the Federal level between EPA, FDA, the AEC and Department of Labor. We feel that we would be inconsistent in attempting to pursue a credible program plan such as that you outlined until this delineation of responsibility is made concisely clear. Therefore, we recommend that you take steps at the Federal level to pursue this clarification of responsibilities at the earliest possible opportunity."

In commenting on our draft report in a letter dated February 26, 1973, HEW stated:

"We do not believe that overlapping exists in specific program areas and State support activities between HEW/FDA programs and others as discussed in this chapter."

The following examples set forth two specific concerns of the States regarding the Federal Government's approach to controlling radiation hazards.

TRANSPORTATION OF RADIOACTIVE MATERIALS

Several States have expressed concern about the lack of a Federal surveillance program for transporting radioactive materials. AEC and the Department of Transportation (DOT) have overlapping statutory authority for regulating the transportation of source, byproduct, and special nuclear materials; however, neither agency established an active inspection program to insure compliance with regulatory requirements until October 1972.

In March 1966 AEC and the Interstate Commerce Commission[1] entered into an agreement to avoid duplicative regulatory controls. According to this agreement

---

[1]Before the establishment of DOT in October 1966, the Interstate Commerce Commission was responsible for regulating the interstate shipment of radioactive materials.

--AEC is responsible for insuring that packaging requirements are met by shippers of more hazardous types and quantities of radioactive materials,

--DOT is responsible for insuring that packaging requirements are met for less hazardous shipments of radioactive materials, and

--DOT is responsible for all carrier safety requirements and transportation requirements for all shipments of radioactive materials.

In a July 17, 1970, letter the Director, Office of Hazardous Materials, DOT, told AEC that "We [DOT] have no field force or enforcement program at the present time that has technical expertise in radioactive materials, and it is not likely that we will ever have such a capability." On November 6, 1972, officials from the Office of Hazardous Materials told us that this situation had not changed and that DOT had therefore not been routinely inspecting carriers of radioactive materials.

Officials from the Office of Hazardous Materials advised us that as a result of a recent incident involving a leaking radioactive materials package which resulted in widespread contamination of low levels of radioactivity, DOT headquarters had initiated a limited program to inspect major shippers of certain radioactive materials. According to these officials, as of November 5, 1972, 12 major shippers of radioactive materials had been inspected and the results of these inspections demonstrated the need to more closely monitor such shipments.

An AEC official told us that until October 1972 AEC, during its inspections, did not routinely evaluate its licensees' compliance with AEC and DOT transportation requirements. AEC, however, has begun to make such evaluations and has issued guidelines instructing its field inspectors to inspect industrial radiographers and fuel processors against transportation requirements. We were also told that AEC was developing such guidelines for inspecting other types of licensees.

DOT estimates that about 800,000 shipments of radioactive materials are made annually. Most involve interstate commerce and consist of small or intermediate quantities

of radioactive materials in relatively small packages intended for medical diagnostic or therapeutic applications by thousands of doctors and hospitals throughout the country.

In view of (1) the large number of shipments of radioactive materials and (2) the increased public attention to the safe transportation of such materials, the agreement States expressed concern over the lack of a Federal surveillance program for transporting such materials at their October 1972 annual meeting at AEC headquarters. One agreement-State official told us that he had found a number of radioactive materials shipments which did not comply with DOT regulations and had brought these violations to DOT's attention. Another State official stated:

> "We've established contact with the local DOT office & they're very interested in having this area periodically watchdogged--especially as they admit to a local lack of capability for this type of inspection."

Because of the lack of a Federal surveillance program, several States have expressed a desire to inspect the transportation of radioactive materials. They have been unable, however, to obtain clarification from the Federal Government concerning their jurisdiction in transportation matters, since most of these shipments involve interstate commerce.

DOT has said that State safety requirements for transporting radioactive materials are not preempted by Federal regulations unless (1) the State's regulations conflict with the Federal regulations or (2) compliance with the State's regulations tends to undermine the Federal regulations' safety objectives.

In commenting on our draft report, DOT stated that:

> "A greater effort should be expended toward the enforcement and surveillance of shippers of radioactive materials. In this area, adequate and trained manpower resources are not available in either Headquarters or in the regional offices of the Department's modal administrations. We agree that a great potential exists within the Radiological Health Programs and Organizations of the States as well as the AEC Regulatory

Operations Offices to assist in surveillance and enforcement of shippers of radioactive materials, with respect to compliance with the DOT regulations. As is pointed out in the report, however, many legal and jurisdictional questions exist, such that the implementation of a cooperative program is difficult."

In March 1973, AEC and DOT entered into a new agreement to more clearly define their roles in insuring the safe transportation of radioactive materials. The new agreement supersedes the March 1966 agreement between the Interstate Commerce Commission and AEC. It provides, in part, that each agency will conduct an inspection and enforcement program within its jurisdiction to insure compliance with its regulations.

AEC informed us that it would discuss the problems relating to surveillance over interstate shipments of radioactive materials with DOT and State officials in an effort to resolve the problems.

LACK OF UNIFORM CONTROLS OVER RADIOACTIVE MATERIAL

A number of States expressed concern about the lack of comprehensive Federal controls--or uniform and compatible State controls--over naturally occurring radioactive materials (such as radium) and accelerator-produced radioactive materials. No Federal agency has comprehensive jurisdiction over users of such materials, even though their hazards are similar to those of reactor-produced radioactive materials. In fact, according to AEC and HEW, radium is more hazardous than most manmade radioactive materials.

All agreement States have developed comprehensive regulatory programs; they regulate both agreement and nonagreement materials. AEC has regulatory responsibility for the possession and use of agreement materials in nonagreement States. AEC has no responsibility, however, for other radioactive materials (radium and accelerator-produced isotopes) users, and agreement States have been concerned about the extent to which nonagreement States regulate such users. In addition, although the Department of Labor has responsibility under OSHA for regulating radium and accelerator-produced materials as they affect the health and safety of employees, the Department does not have responsibility for regulating other aspects of the manufacture and use of these materials.

Several agreement-State program directors expressed concern to us about the lack of uniform and compatible controls over devices containing radium which are manufactured in nonagreement States and distributed throughout the United States. In addition, these officials stated that competent regulatory authorities need to evaluate and control the design, construction, and testing of such devices to insure that proper radiological safety requirements are met. To illustrate the importance of this problem, in 1971 two-thirds of the companies which sold devices containing radium were located in nonagreement States and accounted for 91 percent of the total devices sold.

The following comments made by radiation control officials of three agreement States in response to our questionnaires illustrate the concerns of the States.

Kansas

"A considerable amount of time has been spent in this state locating, evaluating, and correcting problems caused by the receipt and use of 'non-licensed' radioactive materials. Such devices have in some cases entered the surplus market and been responsible for contamination incidents; some have been sold to persons unfamiliar with radiation safety and used without proper authorization. Some are quite likely being sold in the state at this time and this office is unaware of the nature of the device, its use, and degree of hazard, if any."

Maryland

"* * * density gauges and the * * * fire detectors containing radium have given considerable administrative problems since their home base is in a non agreement state, and we cannot rely on an agency to assure continued regulatory control over the manufacture of the devices. There is a definite need for a single agency having jurisdiction to do an evaluation and provide regulatory control for non agreement state manufacturers. We could then rely on the agency findings in our licensing actions."

North Carolina

"Evaluation and control of devices and device manufacture by competent authorities having regulatory jurisdiction provide needed assurance of initial and continued device safety and quality control. Non-agreement material from non-agreement states is not adequately controlled to provide the same safety assurance as in the case of agreement material and non-agreement material from agreement states.

"Devices of foreign manufacture present similar problems."

Agreement-State officials said they would like to have some assurance that all States are evaluating and controlling manufacturers of such devices adequately.

The Commissioner of FDA has concurred in the States' concern. In a March 13, 1972, letter to the chairman of the Conference of Radiation Control Program Directors, he stated

> "I concur in your evaluation that the control over radium and accelerator-produced material is not uniform and compatible with that exercised by the Atomic Energy Commission over material under their authority. This lack of uniform Federal/State control does pose problems regarding the design and safety of products manufactured without regulatory review and control and sold to individuals in the licensing and nonlicensing States. In addition, there is the problem of uniform qualification and control of users since only 22 Agreement States, New Jersey, and Pennsylvania license radium users."

In December 1972 a BRH official told us that, to assist the States, BRH had initiated an informal program for evaluating, upon request by an agreement State, the radiation safety aspects of manufacturers' products in nonagreement States. He said that BRH and radiological health personnel from the nonagreement State evaluate these products at the manufacturer's plant. He also said that this program is only voluntary because BRH does not have statutory authority to inspect manufacturers of products containing radioactive materials.

In commenting on our draft report, the Department of Labor told us that, although OSHA covers radium and accelerator-produced materials as they affect the health and safety of employees, it believes that further regulation is needed in product design and manufacture.

CHAPTER 8

SCOPE

We evaluated:

--AEC's policies, procedures, and practices for determining the adequacy and compatibility of State regulatory programs for agreement materials and the appropriateness of the bases for these determinations.

--Problems encountered by agreement States in administering their radioactive materials regulatory programs.

--The extent and adequacy of AEC's assistance to agreement States.

--AEC's efforts and problems in bringing additional States into the program.

We conducted the review at AEC's regulatory offices in Bethesda, Maryland, and in five agreement States--California, New York, Oregon, Texas, and Washington. These States accounted for about 50 percent of the materials licenses issued by the agreement States at June 30, 1972. We interviewed directors of radiological health programs from five nonagreement States--Illinois, New Mexico, Pennsylvania, Virginia, and Wyoming--to ascertain the problems these States were experiencing in becoming agreement States. In addition, we obtained information on funding and administrative problems by questionnaires from 19 agreement States and 25 nonagreement States, the District of Columbia, Puerto Rico, and the Virgin Islands.

We also met with the chairman of the Conference of Radiation Control Program Directors and the chairman of the Western Interstate Nuclear Board to obtain their views on AEC's administration of its agreement-State program.

AEC and the five agreement States we visited were provided draft copies of our report for comment. HEW, DOT, the Department of Labor, and EPA were provided excerpts from our draft report on matters pertaining to their activities. Where appropriate, we have included the comments received from these Federal agencies and the States.

Congress of the United States

JOINT COMMITTEE ON ATOMIC ENERGY

WASHINGTON, D.C. 20510

June 23, 1972

The Honorable Elmer B. Staats
Comptroller General of the United States
U. S. General Accounting Office
Washington, D. C. 20548

Dear Mr. Staats:

The Joint Committee requests the assistance of your office for the performance of a review of the Atomic Energy Commission's Agreement State program.

Under section 274 of the Atomic Energy Act of 1954, as amended, AEC is authorized to delegate certain of its regulatory authority over the uses of source, byproduct, and small quantities of special nuclear materials to the States. As of June 1, 1972, AEC had entered into appropriate agreements with 24 States under this authority.

Several months ago, the Chairman of the Conference of Radiation Control Program Directors, which has representatives from each of the 50 States, advised the Joint Committee that it appeared that some Agreement States were seriously considering the possibility of terminating their agreements with AEC and that nonagreement States were becoming more reluctant to enter into such agreements. Reasons given were the increase in materials licensing workload in recent years, the reduction in available State and local resources, a more critical attitude of the public toward radiation hazards, and AEC's dissatisfaction with the manner in which several States have been conducting their regulatory programs. The Conference requested the Joint Committee to consider this dilemma, and explore the possibility of providing Federal financial support for Agreement States' licensing and regulatory programs.

The Joint Committee staff recently met with members of your staff at which time we were apprised that your office had performed some preliminary work in AEC's Agreement State program. In addition,

our staff has met with AEC staff on this matter. Copies of appropriate correspondence are enclosed for your information. The Joint Committee would like your office to perform a review of this program including consideration of the following areas:

1. AEC's policies, procedures, and practices for making initial and subsequent determination of the adequacy and compatibility of state regulatory programs for radioactive materials and the appropriateness of the bases for these determinations.

2. Problems encountered by Agreement States in administering their radioactive materials regulatory programs, including funding problems.

3. The extent and adequacy of the assistance provided to Agreement States by AEC, and

4. AEC's efforts and problems encountered in bringing additional states into the program.

We would appreciate receiving a report on this important matter as soon as possible. Thank you for your assistance and cooperation.

Sincerely yours,

John O. Pastore
Chairman

Enclosures
JCAE to AEC, 3/13/72, w/encl
AEC to JCAE, 6/9/72, interim response

SUMMARY OF FEDERAL AGENCIES' INVOLVEMENT IN CONTROLLING RADIATION HAZARDS

AEC

AEC provides no direct financial assistance to agreement States for administering their agreement materials programs. AEC

- --is responsible for regulating source, byproduct, and special nuclear materials and nuclear facilities and for determining that States which have assumed regulatory responsibility for agreement materials maintain programs adequate and compatible with AEC's program;
- --as of September 18, 1972, had entered into 3-year contracts totaling about $225,000 with seven States for conducting environmental surveillance activities at nuclear facility sites;
- --entered into contracts totaling $22,542 with five States for fiscal year 1972 to supply data on employee exposure to radiation; and
- --provides training to agreement and nonagreement State personnel in basic health physics and in licensing and inspecting techniques associated with regulating agreement materials.

EPA

EPA is responsible for protecting the environment and establishing generally applicable environmental radiation standards. EPA is also responsible for issuing guidance to Federal agencies and the States on all radiation matters involving health. EPA conducts a national monitoring program for measuring radiation levels in the environment.

EPA has awarded a total of about $136,800 in 1-year contracts to nine States for fiscal year 1973 to monitor, from offsite locations, releases of effluents from nuclear facilities. EPA told us that it did not plan to continue these contracts after fiscal year 1973 but that it was now emphasizing the proper use of surveillance data. Contracts

will be negotiated with States to conduct specific tasks needed to meet program objectives.

During fiscal year 1972 EPA conducted 20 short-term radiological health courses for about 500 students from State, local, and Federal government agencies and private industry. These courses were offered at no cost and were intended to upgrade the skills of radiation protection personnel. EPA told us that these courses would not be offered again in fiscal year 1973 but that it would provide technical assistance to States by means of regional workshops and seminars to meet specific radiation training needs established by regional training committees.

EPA also

--provides grants, which during fiscal year 1972 totaled about $800,000, to educational institutions primarily for graduate-level training in radiological health sciences with emphasis on environmental radiation control;

--provides grants, which totaled $304,000 in fiscal year 1971 and which were expected to total about $696,000 in each of fiscal years 1972 and 1973, for supporting research programs on the impact and control of radiological environmental pollutants; and

--provides funds to the Conference of Radiation Control Program Directors.

EPA told us that although it does not have a State assignee program, it would consider placing an assignee in a State if it believed that the assignment would contribute greatly to a particular problem area.

HEW

FDA

BRH

BRH's national program is designed to control unnecessary exposure to, and insure the safe and efficacious use of, potentially hazardous radiation sources. It conducts an

electronic product radiation control program through developing and administering performance standards and is authorized to cooperate with and provide financial assistance to the States to implement and enforce these standards. BRH conducts radiation research; develops criteria on radiation use and exposure; and provides technical and scientific support and assistance, including training and training grants, to agencies having radiological health responsibilities.

BRH also:

--Provides funds, which in fiscal year 1972 totaled over $1 million, to institutions to provide students with graduate- and technician-level training in radiological health.

--Conducts an in-house radiological health training program designed to upgrade and maintain the competence of State and local personnel responsible for controlling radiation. Between July 1, 1968, and June 30, 1972, about 969 State and local persons were provided training in this program.

--Provides radiation research grants to persons and organizations for investigating radiation hazards. The amount of such grants was about $1 million in fiscal year 1971.

--Has loaned 85 percent of the States radiological monitoring kits on a long-term basis. These kits include all the radiation detection equipment necessary to make a complete inspection of an X-ray installation and include one survey meter which can also be used for radioactive materials regulatory programs.

As discussed on page 47, BRH formerly awarded categorical grants to States for their radiological health programs. Beginning in fiscal year 1968, these grants were replaced by block grants to the States for establishing and maintaining adequate community, mental, and environmental public health services. The Health Services and Mental Health Administration within HEW administers these grants.

BRH also has loaned personnel to the States to assist them in administering their radiological health programs.

According to HEW, from 1959 through 1972 BRH loaned 121 persons (for a total of 240 man-years) to 44 States, the District of Columbia, and Puerto Rico for full-time work in their radiological health programs. However, the number of such personnel has decreased considerably in recent years. During fiscal year 1972, only two BRH employees were assigned to the States, and at the beginning of fiscal year 1973, only one BRH employee was assigned to a State.

One FDA official told us that the assignee program had been cut back because of a lack of funds. He expressed the belief that the assignee program benefited the States and BRH because, in addition to providing additional manpower to the States, it gave BRH and the States an opportunity to gain an appreciation of each other's work and problems. The chairman of the Conference of Radiation Control Program Directors expressed similar views and said that several States would like to see the assignee program revived.

BRH also provides funding support to the conference.

Bureau of Drugs

The Bureau of Drugs is responsible for approving new uses of radiopharmaceuticals containing accelerator-produced materials. (AEC has been approving new uses of reactor-produced material used in pharmaceuticals.)

Bureau of Foods

The Bureau of Foods is responsible for insuring the safe use of radiation in food processing.

Office of Medical Devices

Under the authority of the Food, Drug, and Cosmetic Act (21 U.S.C. 301), the Office of Medical Devices, in cooperation with BRH, is responsible for administering a program covering the safety, efficacy, and labeling of radioactive medical devices and component parts and accessories. FDA has authority to remove hazardous products from the market and to prescribe certain labeling which these products must have for their safe use. The Office of Medical Devices is implementing this authority by developing standards for safety of such products.

Bureau of Product Safety

HEW told us:

"* * * under the authority of the Federal Hazardous Substances Act, the Bureau of Product Safety has the authority to regulate or control consumer products sold for home use or which involve children, where these products contain radium or accelerator produced materials (i.e. radioactive materials not regulated by the Atomic Energy Commission). The Bureau of Radiological Health has been cooperating with the Bureau of Product Safety in the development of the first regulation to be promulgated concerning radioactive consumer products. This regulation will basically discourage and control the use of radium in luminous timepieces. Based on information available to the Bureau, the use of radium in self-luminous timepieces involves the largest source of exposure to the public of any of the uses of radioactive materials which are not regulated by the Atomic Energy Commission. While the States have noted difficulties in the regulation of products containing radium that are manufactured in Nonagreement States, their concern has been directed largely at industrial products which do not represent a significant exposure to the public based on available data. Essentially all the States have exempted radium luminous time-pieces from the regulation and have not expressed any concern with this source of exposure."

Social Security Administration

The Social Security Administration is responsible for administering the Medicare program, which includes using State health agencies to determine whether hospitals and other health-care units meet minimal conditions of services for participation in Medicare. This determination includes reviewing the radiation sources found in hospital environments and the radiation emitted from electronic products.

The Administration reimburses some States for their costs for inspecting and training inspectors of X-ray machines in Medicare facilities.

National Institute of Occupational Safety and Health

The Institute is responsible for reviewing and developing occupational safety and health standards, and it sponsors research and training in occupational health areas. At the time of our review, the Institute's involvement in the radiation area had been very limited.

DEPARTMENT OF LABOR

Under OSHA the Department is responsible for protecting employees from all radiation hazards, except those regulated by AEC and the agreement States under section 274 of the Atomic Energy Act. OSHA does not specifically provide for the protection of employers or the public from radiation hazards. For example, radiation safety regulations issued under OSHA do not provide for minimizing unnecessary radiation exposure to patients from the use of X-ray machines for medical diagnostic purposes.

The Department is authorized to cooperate with the States in implementing OSHA and is permitted to transfer its enforcement functions to the States and to fund the States for up to 50 percent of their costs in assuming this responsibility. Although agreement materials are specifically exempted from coverage under OSHA, other ionizing radiation sources, such as X-ray machines, radium, and accelerator-produced materials, are covered under OSHA. The Department can transfer to the States its enforcement responsibilities under OSHA for these radiation sources.

Under the Emergency Employment Act of 1971 (42 U.S.C. 4871), the Secretary of Labor is authorized under certain conditions to provide funds to enable State and local government agencies and certain other eligible applicants to hire the unemployed for jobs which provide needed public services. Two States told us that they used such funds to employ personnel in their radiological health programs.

DEPARTMENT OF THE INTERIOR

Bureau of Mines

The Bureau of Mines is responsible for controlling the radiation health hazards associated with mining and related industries. The principal area of concern is uranium mining.

DOT

This agency is responsible for regulating interstate transportation of radioactive materials.

DEPARTMENT OF DEFENSE

DCPA

This agency provides financial assistance to States to develop emergency response plans, which may include plans for radiological emergencies. It also provides radiological detection equipment and applicable maintenance services to State and local government agencies. The equipment is authorized for use in radiological emergencies, although some States are using the equipment for other purposes. For example, an inspector in one of the five States whose programs we reviewed told us that this equipment in his State would be used for routine inspections when he believed that an independent radiation measurement should be made.

ENVIRONMENTAL PROTECTION AGENCY
RADIATION OFFICE
ROCKVILLE, MARYLAND 20852

JUL 7 1972

Mr. Donald C. Gilbert
Chairman, National Council
on Radiation Control
Arizona Atomic Energy Commission
1601 West Jefferson Street
Phoenix, Arizona 85007

Dear Don:

The proliferation of sources of ionizing and non-ionizing radiation requires increased attention by the Federal Government, including the Environmental Protection Agency, as well as the States and territories to assure adequate protection of the health of individuals, the population, and the environment. A part of this increased attention is the resource needs for trained manpower, equipment and knowledge to provide this radiation protection capability. As the Federal Government, through the Environmental Protection Agency, the HEW Bureau of Radiological Health, and the Atomic Energy Commission, becomes increasingly more active in radiation protection, there will be increasing requirements for the States to respond, not only to their own needs, but to new Federal initiatives. The States, both individually and collectively, must determine their resource needs for equipment and trained manpower to meet this challenge

Resources are required for increased enforcement and regulatory activities including monitoring, inspections, and field studies; training for State, municipal, local, and other radiation protection personnel, and the establishment of various expert technical capabilities. Generally, the funding for these resources must come through one of two sources -- either directly through the States or through assistance from the Federal Government. It is necessary that planning take place now to ensure that these resources

2-Mr. Donald C. Gilbert

will be available as needed. Further, it is necessary to determine what funds can be expected through State resources and what Federal resources might be available to fill gaps if they exist.

There are several steps necessary to accomplish this plan, they are as follows:

1. Determine the radiation protection responsibilities and the legislative mandates of the States and the Federal Government, and their interface. This would encompass all responsibilities including regulation and enforcement.

2. Determine the short and long-term realistic resources needed to exercise these responsibilities in terms of manpower, equipment, (training, etc.)

3. Develop effective strategies to maximize resource availability ~~through~~ ~~State~~ legislatures.

4. Determine the proper and adequate Federal role in providing resources and technical assistance to the States.

5. Develop funding requests for the State legislatures and Federal Government for the required resource and submit them.

6. Determine effective mechanisms for the allocation of Federal assistance.

The first step of this strategy is the determination of realistic needs. The second is to acquire the resources required to fulfill these needs. Along with this it is necessary to develop adequate mechanisms for assuring that the transfer of funds between the Federal Government and the States is done in an effective manner compatible with the needs of both the States and the Federal Government.

I believe a task force of State radiation control personnel under the jurisdiction of the Radiation Control Directors Conference can constitute an appropriate mechanism for the development of the strategies and programs

3-Mr. Donald C. Gilbert

necessary to accomplish these objectives. The initial task force objective should be to define the realistic needs of the States, and proceed to meet the needs by proper funding through State legislatures. If the overall State priorities are such that adequate funding for a comprehensive radiation protection program cannot be achieved in this manner, then supplemental requests should next proceed through the executive branch of the Federal Government. EPA, the Bureau of Radiological Health, and perhaps the AEC would be involved. Should the Federal priorities be such that adequate Federal assistance cannot be achieved in this manner, the State Radiation Control Directors might pursue Federal assistance from other paths.

I think we should begin whatever actions are necessary to define the States' needs and determine the proper means for providing technical assistance to the States. Once this assessment has been initiated we can continue to improve it as the State and Federal radiation programs and the radiation protection needs evolve.

I believe this matter is of enough critical importance to require that a task force of top level people from the States and Federal Government act immediately on the problem. EPA will support this activity in terms of travel arrangements for the five task force members and providing participants from our programs. If you agree with the scope as presented, I think we should get under way as soon as possible.

Since I anticipate that recommendations from the task force will have a significant affect on the Office of Radiation Programs activities, I am suspending further contracts to States until preliminary results have been obtained from the task force.

Sincerely,

W. D. Rowe
Deputy Assistant Administrator
for Radiation Programs

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