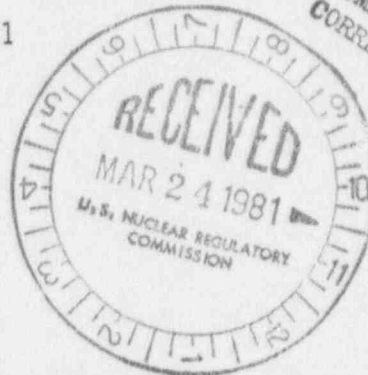




OFFICE OF THE
CHAIRMAN

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

March 13, 1981



The Honorable Victor Atiyeh
Governor of Oregon
Salem, Oregon 97310

Dear Governor Atiyeh:

On July 1, 1965, Oregon became an Agreement State under Section 274 of the Atomic Energy Act of 1954, as amended. Under the provisions of this Act, Oregon assumed, under agreement with the AEC (now NRC), certain regulatory authority over the use of reactor produced isotopes, the source materials uranium and thorium, and small quantities of special nuclear materials.

Under Section 274 of the Atomic Energy Act as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), Agreement States can continue to regulate uranium mills and mill tailings after November 8, 1981, by entering into an amended agreement with the NRC. In UMTRCA, the Congress also provided, for the first time, funds for grants to States to assist them in preparing their revised regulatory program. Oregon applied for and received a grant of \$47,000 under that program, thereby indicating the State's interest in pursuing this additional regulatory authority.

For some time, the NRC staff has been working with Mr. Lynn Frank, Director, Oregon Department of Energy, and his staff so that the amended agreement process may proceed smoothly. The purpose of this letter is to acknowledge the efforts of Mr. Frank and his staff and to identify remaining actions which Oregon must accomplish for a timely amended agreement.

To execute the amendment, the Commission must find not only that the State uranium milling regulatory program provides adequate protection of the public health and safety and is generally compatible with the Commission's program of regulation, but also that the State has adopted standards for the protection of the public health, safety and the environment from radiation hazards associated with uranium mill byproduct material, which are equivalent to, or more stringent than, those of the Commission.

As a result of information exchanged between the NRC and Oregon, in April, 1980, we provided Mr. Frank with our initial assessment of the readiness of Oregon for an amended agreement to regulate uranium mills and tailings. Criteria for this purpose have been developed with Agreement State input and State comments were factored in when consistent with NRC rules and policies (Enclosure 1).

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In a subsequent letter of July 22, 1980, to Mr. Frank, Mr. Robert G. Ryan added a request for documentation of organizational relationships, personnel and measurement capability.

Further detailed comments resulting from our review just completed are contained in Enclosure 2.

Because Oregon does not have an active mill nor an imminent likelihood of an application, we understand that staffing to handle mill licensing and regulation has been deferred.

We cannot, however, complete a finding regarding Oregon's readiness for an amendment to its agreement unless all criteria have been met, including those for staffing. We suggest, therefore, that Oregon continue to work to put into place the necessary framework and define its organizational relationships, staff requirements and procedures to meet the criteria.

In order that all parties can be aware of Oregon's intention to regulate mills and mill tailings in the event a mill is proposed in the State, we propose that if all criteria are met except for staffing the following statement replace the effective date statement at the end of the enclosed proposed model amendment (Enclosure 3):

This amendment to the Agreement shall become effective upon certification by the Governor to the Commission that the personnel meeting the specifications in the State's submissions dated _____ have entered on duty with the State and upon a subsequent finding by the Commission that these personnel meet the criteria and that the State program continues to meet the criteria.

We presume that the State will reliably know of forthcoming applications, will obtain the necessary staff and then request full implementation of the agreement.

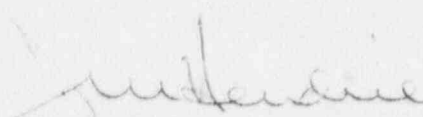
While, in our opinion, Oregon has done much of the work necessary to the amendment, items outlined above need to be set forth. It will be mutually helpful to receive a timetable as early as possible outlining Oregon's actions to resolve all issues. In this timetable, we suggest a target date of July 1, 1981 for formal submission by Oregon of the application for amendment.

The Honorable Victor Atiyeh

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We will continue to work with your staff toward an amended agreement. If you have any questions, please have your staff contact Mr. G. Wayne Kerr, Director of NRC's Office of State Programs (301-492-8170).

Sincerely,



Joseph M. Hendrie
Chairman

Enclosures:
As stated

cc: Lynn Frank, Oregon, w/encls.
Don Godard, Oregon, w/encls.
Marshall Parrott, Oregon, w/encls.

National Advisory Committee on Occupational Safety and Health; Full Committee Meeting and Subgroup Meeting

Notice is hereby given that the National Advisory Committee on Occupational Safety and Health (NACOSH) will meet on February 25-27, 1981 at the Frances Perkins Department of Labor Building, Room N4437, Third Street and Constitution Avenue, N.W., Washington, D.C. The meetings will begin at 9:00 a.m. the public is invited to attend.

The National Advisory Committee was established under Section 7(a) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 656) to advise the Secretary of Labor and the Secretary of Health, Education and Welfare on matters relating to the administration of the Act.

Wednesday, February 25, 1981 will be devoted to Subgroup meetings. The Subgroups will discuss:

1. Reproductive Hazards.
2. Safety and Health Effects of New Energy Technologies.
3. Information Systems for NIOSH/OSHA Priority Setting.

The agenda for February 26 and 27 will include reports on OSHA and NIOSH activities, a discussion of repeat violations, and discussions of other safety and health matters relating to OSHA and NIOSH.

Written data or views concerning these agenda items may be submitted to the Division of Consumer Affairs. Such documents which are received before the scheduled meeting dates, preferably with 20 copies, will be presented to the Committee and included in the official record of the proceedings.

Anyone who wishes to make an oral presentation should notify the Division of Consumer Affairs before the meeting date. The request should include the amount of time desired, the capacity in which the person will appear and a brief outline of the content of the presentation. Oral presentations will be scheduled at the discretion of the chairman of the Committee to the extent which time permits.

For additional information contact: Lawrence Page, Division of Consumer Affairs, Occupational Safety and Health Administration, 3rd Street and Constitution Avenue, N.W., Rm. N3635, Washington, D.C. 20210. Telephone 202/523-8024.

Official records of the meetings will be available for public inspection at the Division of Consumer Affairs.

Signed at Washington, D.C. this 16th day of January 1981.

Eula Bingham.

Assistant Secretary of Labor.

(FR Doc. 81-2835 Filed 1-23-81; 8:43 am)

BILLING CODE 4510-26-01

NUCLEAR REGULATORY COMMISSION

Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement

AGENCY: U.S. Nuclear Regulatory Commission.

ACTION: Statement of Policy.

SUMMARY: The Nuclear Regulatory Commission has revised its statement of policy regarding criteria for guidance of States and NRC in discontinuance of NRC regulatory authority and assumption of regulatory authority by States through agreement. This action is necessary to make editorial changes to update the policy statement, to allow States to enter into agreements for low-level waste only, and to incorporate the provisions and requirements of the Uranium Mill Tailings Radiation Control Act of 1978. Adoption of this policy will allow interested States to enter into agreements with the NRC and regulate low-level waste sites only. Additionally, those States that meet the criteria for the regulation of uranium mills and tailings may exercise regulatory authority over these sources as provided by the Uranium Mill Tailings Radiation Control Act of 1978, as amended.

The revised statement of policy reflects the following principal changes:

1. Modification of Criterion 27 to allow a State to seek an agreement for the regulation of low-level waste as a separate category.

2. Inclusion of additional criteria for States wishing to continue regulating uranium and thorium processors and mill tailings after November 8, 1981.

3. Editorial and clarifying changes to make the statement current.

DATES: This policy statement is effective January 23, 1981.

FOR FURTHER INFORMATION CONTACT: John F. Kendig, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, telephone: 301-492-7767.

SUPPLEMENTARY INFORMATION:

1. These criteria were developed to implement a program, authorized by Pub. L. 95-373 which was enacted in the form of a new section to the Atomic Energy Act (Section 274) and approved by the President on September 23, 1959

and amended by Pub. L. 95-604 approved November 8, 1978. These criteria are intended to indicate factors which the Commission intends to consider in approving new or amended agreements. They are not intended to limit Commission discretion in viewing individual agreements or amendments. In accordance with these statutory provisions, when an agreement between a State and the NRC is effected, the Commission will discontinue its regulatory authority within that State over one or more of the following materials: byproduct material as defined in Section 11e(1) of the Act (radioisotopes), byproduct material as defined in Section 11e(2) of the Act (mill tailings or wastes), source material (uranium and thorium), special nuclear material (uranium 233, uranium 235 and plutonium) in quantities not sufficient to form a critical mass and permanent disposal of low-level waste containing one or more of the materials stated above but not including mill tailings.

2. An agreement may be effected between a State and NRC: (1) upon certification by the Governor that the State has a program for the control of radiation hazards adequate to protect the public health and safety with respect to the materials within the State covered by the proposed agreement and the State desires to assume regulatory responsibility for such materials; and (2) after a finding by the Commission that the State program is in accordance with the requirements of subsection c of section 274 and in all other respects compatible with the Commission's program for the regulation of such materials, and is adequate to protect the public health and safety with respect to the materials covered by the proposed agreement. It is also necessary that the State have enabling legislation authorizing its Governor to enter into such an agreement.

3. The original criteria were published on March 24, 1981 (26 FR 2337) after discussions with various State officials and other State representatives, to provide guidance and assistance to the States and the AEC (now NRC) in developing a regulatory program which would be compatible with that of the NRC. The criteria were circulated among States, Federal agencies, labor and industry, and other interested groups for comment.

4. The criteria require that the State authority consider the total accumulated occupational radiation exposure of individuals. To facilitate such an approach, it is the view of the NRC that an overall radiation protection program is desirable. The maximum scope of

Encl 1

each State's radiation protection program is not, however, a necessary or appropriate subject for coverage in the criteria. Consequently, the criteria are silent on the question of whether a State should have a total regulatory program covering all sources of radiation, including those not subject to control by the NRC under the Atomic Energy Act, such as x-rays, radium, accelerators, etc.

5. These revised criteria provide for entering into an agreement for a separate category of materials, namely, low-level waste material in permanent disposal facilities. They also provide new criteria for States wishing to continue regulating uranium and thorium processing and the wastes resulting therefrom under the provisions of the Uranium Mill Tailings Radiation Control Act of 1978 (Pub. L. 95-604) after November 8, 1981. The revised criteria also contain a number of editorial changes such as changing AEC to NRC where appropriate to conform to present practice and law.

6. Inquiries about details of the criteria or other aspects of the NRC Federal-State Relations Program should be addressed to the Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555.

Criteria¹

Objectives

1. *Protection.* A State regulatory program shall be designed to protect the health and safety of the people against radiation hazards.

Radiation Protection Standards²

2. *Standards.* The State regulatory program shall adopt a set of standards for protection against radiation, which shall apply to byproduct, source and special nuclear materials in quantities not sufficient to form a critical mass.

3. *Uniformity in Radiation Standards.* It is important to strive for uniformity in technical definitions and terminology, particularly as related to such things as units of measurement and radiation dose. There shall be uniformity on maximum permissible doses and levels of radiation and concentrations of radioactivity, as fixed by Part 20 of the NRC regulations based on officially approved radiation protection guides.

4. *Total Occupational Radiation Exposure.* The regulatory authority shall consider the total occupational radiation

exposure of individuals, including that from sources which are not regulated by it.

5. *Surveys, Monitoring.* Appropriate surveys and personnel monitoring under the close supervision of technically competent people are essential in achieving radiological protection and shall be made in determining compliance with safety regulations.

6. *Labels, Signs, Symbols.* It is desirable to achieve uniformity in labels, signs and symbols, and the posting thereof. However, it is essential that there be uniformity in labels, signs, and symbols affixed to radioactive products which are transferred from person to person.

7. *Instruction.* Persons working in or frequenting restricted areas³ shall be instructed with respect to the health risks associated with exposure to radioactive materials and in precautions to minimize exposure. Workers shall have the right to request regulatory authority inspections as per 10 CFR 19, section 19.16 and to be represented during inspections as specified in section 19.14 of 10 CFR 19.

8. *Storage.* Licensed radioactive material in storage shall be secured against unauthorized removal.

9. *Waste Disposal.* The standards for the disposal of radioactive materials into the air, water, and sewers, and burial in the soil shall be in accordance with Part 20. Holders of radioactive material desiring to release or dispose of quantities in excess of the prescribed limits shall be required to obtain special permission from the appropriate regulatory authority.

10. *Regulations Governing Shipment of Radioactive Materials.* The State shall to the extent of its jurisdiction promulgate regulations applicable to the shipment of radioactive materials, such regulations to be compatible with those established by the U.S. Department of Transportation and other agencies of the United States whose jurisdiction over interstate shipment of such materials necessarily continues. State regulations regarding transportation of radioactive materials must be compatible with 10 CFR Part 71.

11. *Records and Reports.* The State regulatory program shall require that holders and users of radioactive materials (a) maintain records covering personnel radiation exposures, radiation

surveys, and disposals of materials; (b) keep records of the receipt and transfer of the materials; (c) report significant incidents involving the materials, as prescribed by the regulatory authority; (d) make available upon request of a former employee a report of the employee's exposure to radiation; (e) at request of an employee advise the employee of his or her annual radiation exposure; and (f) inform each employee in writing when the employee has received radiation exposure in excess of the prescribed limits.

12. *Additional Requirements and Exemptions.* Consistent with the overall criteria here enumerated and to accommodate special cases or circumstances, the State regulatory authority shall be authorized in individual cases to impose additional requirements to protect health and safety, or to grant necessary exemptions which will not jeopardize health and safety.

Prior Evaluation of Uses of Radioactive Materials

13. *Prior Evaluation of Hazards and Uses, Exceptions.* In the present state of knowledge, it is necessary in regulating the possession and use of byproduct, source and special nuclear materials that the State regulatory authority require the submission of information on, and evaluation of, the potential hazards and the capability of the user or possessor prior to his receipt of the materials. This criterion is subject to certain exceptions and to continuing reappraisal as knowledge and experience in the atomic energy field increase. Frequently there are, and increasingly in the future there may be, categories of materials and uses as to which there is sufficient knowledge to permit possession and use without prior evaluation of the hazards and the capability of the possessor and user. These categories fall into two groups—those materials and uses which may be completely exempt from regulatory controls, and those materials and uses in which sanctions for misuse are maintained without pre-evaluation of the individual possession or use. In authorizing research and development or other activities involving multiple uses of radioactive materials, where an institution has people with extensive training and experience, the State regulatory authority may wish to provide a means for authorizing broad use of materials without evaluating each specific use.

14. *Evaluation Criteria.* In evaluating a proposal to use radioactive materials, the regulatory authority shall determine the adequacy of the applicant's facilities

¹ The criteria were first adopted in February 1961 (36 FR 2507, March 24, 1961, and amended in November 1963 (30 FR 15044, December 4, 1965). Minor editorial changes were made in June 1966 to reflect the authority of the U.S. Department of Transportation and Organization change in NCRP.

² Suggested State regulations and State legislation will give content to all criteria enumerated.

³ "Restricted area" means any area access to which is controlled by the licensee for the purpose of radiation protection of individuals from exposure to radiation and radioactive materials. "Restricted area" shall not include any area used as residential quarters, although a separate room or rooms in a residential building may be set apart as a restricted area.

and safety equipment, his training and experience in the use of the materials for the purpose requested, and his proposed administrative controls. States should develop guidance documents for use by license applicants; this guidance should be consistent with NRC licensing and regulatory guides for various categories of licensed activities.

14. Human Use. The use of radioactive materials and radiation on or in humans shall not be permitted except by properly qualified persons (normally licensed physicians) possessing prescribed minimum experience in the use of radioisotopes or radiation.

Inspection

15. Purpose, Frequency. The possession and use of radioactive materials shall be subject to inspection by the regulatory authority and shall be subject to the performance of tests as required by the regulatory authority. Inspection and testing is conducted to determine, and to assist in obtaining, compliance with regulatory requirements.

Frequency of inspection shall be related directly to the amount and kind of material and type of operation licensed, and it shall be adequate to insure compliance.

17. Inspections Compulsory. Licensees shall be under obligation by law to provide access to inspectors.

18. Notification of Results of Inspection. Licensees are entitled to be advised of the results of inspections and to notice as to whether or not they are in compliance.

Enforcement

19. Enforcement. Possession and use of radioactive materials should be amenable to enforcement through legal sanctions, and the regulatory authority shall be equipped or assisted by law with the necessary powers for prompt enforcement. This may include, as appropriate, administrative remedies looking toward issuance of orders requiring affirmative action or suspension or revocation of the right to possess and use materials, and the impounding of materials, the obtaining of injunctive relief, and the imposing of civil or criminal penalties.

Personnel

20. Qualifications of Regulatory and Inspection Personnel. The regulatory agency shall be staffed with sufficient trained personnel. Prior evaluation of applications for licenses or authorizations and inspection of licensees must be conducted by persons possessing the training and experience relevant to the type and level of

radioactivity in the proposed use to be evaluated and inspected. This requires competency to evaluate various potential radiological hazards associated with the many uses of radioactive material and includes concentrations of radioactive materials in air and water, conditions of shielding, the making of radiation measurements, knowledge of radiation instruments—their selection, use and calibration—laboratory design, contamination control, other general principles and practices of radiation protection, and use of management controls in assuring adherence to safety procedures. In order to evaluate some complex cases, the State regulatory staff may need to be supplemented by consultants or other State agencies with expertise in geology, hydrology, water quality, radiobiology and engineering disciplines.

To perform the functions involved in evaluation and inspection, it is desirable that there be personnel educated and trained in the physical and/or life sciences, including biology, chemistry, physics and engineering, and that the personnel have had training and experience in radiation protection. For example, the person who will be responsible for the actual performance of evaluation and inspection of all of the various uses of byproduct, source and special nuclear material which might come to the regulatory body should have substantial training and extensive experience in the field of radiation protection. It is desirable that such a person have a bachelor's degree or equivalent in the physical or life sciences, and specific training-radiation protection.

It is recognized that there will also be persons in the program performing a more limited function in evaluation and inspection. These persons will perform the day-to-day work of the regulatory program and deal with both routine situations as well as some which will be out of the ordinary. These persons should have a bachelor's degree or equivalent in the physical or life sciences, training in health physics, and approximately two years of actual work experience in the field of radiation protection.

The foregoing are considered desirable qualifications for the staff who will be responsible for the actual performance of evaluation and inspection. In addition, there will probably be trainees associated with the regulatory program who will have an academic background in the physical or life sciences as well as varying amounts of specific training in radiation protection but little or no actual work

experience in this field. The background and specific training of these persons will indicate to some extent their potential role in the regulatory program. These trainees, of course, could be used initially to evaluate and inspect those applications of radioactive materials which are considered routine or more standardized from the radiation safety standpoint, for example, inspection of industrial gauges, small research programs, and diagnostic medical programs. As they gain experience and competence in the field, trainees could be used progressively to deal with the more complex or difficult types of radioactive material applications. It is desirable that such trainees have a bachelor's degree or equivalent in the physical or life sciences and specific training in radiation protection. In determining the requirement for academic training of individuals in all of the foregoing categories proper consideration should be given to equivalent competency which has been gained by appropriate technical and radiation protection experience.

It is recognized that radioactive materials and their uses are so varied that the evaluation and inspection functions will require skills and experience in the different disciplines which will not always reside in one person. The regulatory authority should have the composite of such skills either in its employ or at its command, not only for routine functions, but also for emergency cases.

Special Nuclear Material, Source Material and Tritium

21. Conditions Applicable to Special Nuclear Material, Source Material and Tritium. Nothing in the State's regulatory program shall interfere with the duties imposed on the holder of the materials by the NRC, for example, the duty to report to the NRC, on NRC prescribed forms (1) transfers of special nuclear material, source material and tritium, and (2) periodic inventory data.

22. Special Nuclear Material Defined. Special nuclear material, in quantities not sufficient to form a critical mass, for present purposes means uranium enriched in the isotope U-235 in quantities not exceeding 350 grams of contained U-235; uranium 233 in quantities not exceeding 200 grams; plutonium in quantities not exceeding 200 grams; or any combination of them in accordance with the following formula: For each kind of special nuclear material, determine the ratio between the quantity of that special nuclear material and the quantity specified above for the same kind of special nuclear material. The sum of

such ratios for all of the kinds of special nuclear material in combination should not exceed "1" (i.e., unity). For example,

$$\frac{175 \text{ (grams contained U-235)}}{350} + \frac{50 \text{ (grams U-233)}}{200} + \frac{50 \text{ (grams Pu)}}{200} = 1$$

(This definition is subject to change by future Commission rule or regulation.)

Administration

23. State practices for assuring the fair and impartial administration of regulatory law, including provision for public participation where appropriate, should be incorporated in procedures for:

- a. Formulation of rules of general applicability;
- b. Approving or denying applications for licenses or authorization to possess and use radioactive materials; and
- c. Taking disciplinary actions against licensees.

Arrangements For Discontinuing NRC Jurisdiction

24. *State Agency Designation.* The State should indicate which agency or agencies will have authority for carrying on the program and should provide the NRC with a summary of that legal authority. There should be assurances against duplicate regulation and licensing by State and local authorities, and it may be desirable that there be a single or central regulatory authority.

25. *Existing NRC Licenses and Pending Applications.* In effecting the discontinuance of jurisdiction, appropriate arrangements will be made by NRC and the State to ensure that there will be no interference with or interruption of licensed activities or the processing of license applications, by reason of the transfer. For example, one approach might be that the State, in assuming jurisdiction, could recognize and continue in effect, for an appropriate period of time under State law, existing NRC licenses, including licenses for which timely applications for renewal have been filed, except where good cause warrants the earlier reexamination or termination of the license.

26. *Relations With Federal Government and Other States.* There should be an interchange of Federal and State information and assistance in connection with the issuance of regulations and licenses or authorizations, inspection of licensees, reporting of incidents and violations, and training and education problems.

27. *Coverage, Amendments, Reciprocity.* An agreement providing for

the following quantities in combination would not exceed the limitation and are within the formula, as follows:

discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State may relate to any one or more of the following categories of materials within the State, as contemplated by Public Law 86-373 and Public Law 95-604:

- a. Byproduct materials as defined in section 11e(1) of the Act.
- b. Byproduct materials as defined in section 11e(2) of the Act.
- c. Source materials.
- d. Special nuclear materials in quantities not sufficient to form a critical mass.
- e. Low-level wastes in permanent disposal facilities, as defined by statute or Commission rules or regulations containing one or more of the materials stated in a, c, and d above but not including byproduct material as defined in Section 11e(2) of the Act; but must relate to the whole of such category or categories and not to a part of any category.* If less than the five categories are included in any discontinuance of jurisdiction, discontinuance of NRC regulatory authority and the assumption of regulatory authority by the State of the others may be accomplished subsequently by an amendment or by a later agreement.

The agreement may incorporate by reference provisions of other documents, including these criteria, and the agreement shall be deemed to incorporate without specific reference the provisions of Pub. L. 86-373 and Pub. L. 95-604 and the related provisions of the Atomic Energy Act.

Arrangements should be made for the reciprocal recognition of State licenses and Federal licenses in connection with out-of-the-jurisdiction operations by a State or Federal licensee.

28. *NRC and Department of Energy Contractors.* The State should provide exemptions for NRC and DOE contractors which are substantially equivalent to the following exemptions:

- a. Prime contractors performing work

*A State which does not wish to continue regulation of uranium and thorium processors and byproduct material, as defined in Section 11e(2) of the Atomic Energy Act as amended, after November 8, 1981 pursuant to Pub. L. 95-604 may obtain authority over all source material licenses within the State except for uranium or thorium processors.

for the DOE at U.S. Government-owned or controlled sites:

- b. Prime contractors performing research in, or development, manufacture, storage, testing, or transportation of, atomic weapons or components thereof;

- c. Prime contractors using or operating nuclear reactors or other nuclear devices in a U.S. Government-owned vehicle or vessel; and

- d. Any other prime contractor or subcontractor of DOE or NRC when the State and the NRC jointly determine (i) that, under the terms of the contract or subcontract, there is adequate assurance that the work thereunder can be accomplished without undue risk to the public health and safety and (ii) that the exemption of such contractor or subcontractor is authorized by law.

Additional Criteria for States Regulating Uranium or Thorium Processors and Wastes Resulting Therefrom After November 8, 1981

Statutes

29. State statutes or duly promulgated regulations should be enacted, if not already in place, to make clear State authority to carry out the requirements of Public Law 95-604, Uranium Mill Tailings Radiation Control Act (UMTRCA) as follows:

- a. Authority to regulate the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

- b. That an adequate surety (under terms established by regulation) will be provided by the licensee to assure the completion of all requirements established by the (cite appropriate State agency) for the decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with the generation or disposal of such byproduct material.

- c. If in the States' licensing and regulation of byproduct material or of any activity which produces byproduct material, the State collects funds from the licensee or its surety for long-term surveillance and maintenance of such material, the total amount of the funds collected by the State shall be transferred to the U.S. if custody of the byproduct material and its disposal site is transferred to the Federal Government upon termination of the State license. (See 10 CFR 150.32.) If no default has occurred and the reclamation or other bonded activity has been performed, funds for the purpose

are not to be transferred to the Federal Government. The funds collected by the State shall be sufficient to ensure compliance with the regulations the Commission establishes pursuant to Section 162X of the Atomic Energy Act.

d. In the issuances of licenses, an opportunity for written comments, public hearing (with transcript) and cross examination is required.

e. In the issuances of licenses, a written determination of the action to be taken based upon evidence presented during the public comment period and which is subject to judicial review is required.

f. A ban on major construction prior to completion of the aforementioned stipulations.

g. An opportunity shall be provided for public participation through written comments, public hearings, and judicial review of rules.

30. In the enactment of any supporting legislation, the State should take into account the reservations of authority to the U.S. in UMTRCA as stated in 10 CFR 150.15a and summarized by the following:

a. The establishment of minimum standards governing reclamation, long-term surveillance or maintenance, and ownership of the byproduct material.

b. The determination that prior to the termination of a license, the licensee has complied with decontamination, decommissioning and reclamation standards, and ownership requirements for sites at which byproduct material is present.

c. The requirement that prior to termination of any license for byproduct material, as defined in Section 11a.(2), of the Atomic Energy Act or for any activity that results in the production of such material, title to such byproduct material and the disposal site be transferred to the Federal Government or State at the option of the State, provided such option is exercised prior to termination of the license.

d. The authority to require such monitoring, maintenance, and emergency measures after the license is terminated as necessary to protect the public health and safety for those materials and property for which the State has assumed custody pursuant to Pub. L. 95-604.

e. The authority to permit use of the surface or subsurface estate, or both of the land transferred to the United States or State pursuant under provision of the Uranium Mill Radiation Tailings Control Act.

f. The authority to exempt land ownership transfer requirements of Section E3(b)(1)(A).

31. It is preferable that State statutes contain the provisions of Section 6 of the Model Act. But the following may be accomplished by adoption of either procedures by regulation or technical criteria. In any case, authority for their implementation should be adequately supported by statute, regulation or case law as determined by the State Attorney General.

In the licensing and regulation of ores processed primarily for their source material content and for the disposal of byproduct material, procedures shall be established which provide a written analysis of the impact on the environment of the licensing activity. This analysis shall be available to the public before commencement of hearings and shall include:⁴

a. An assessment of the radiological and nonradiological public health impacts;

b. An assessment of any impact on any body of water or groundwater;

c. Consideration of alternatives to the licensed activities; and

d. Consideration of long-term impacts of licensed activities (see Item 36b.(1)).

Regulations

32. State regulations should be reviewed for regulatory requirements, and where necessary incorporate regulatory language which is equivalent to the extent practicable or more stringent than regulations and standards adopted and enforced by the Commission, as required by Section 274c (see 10 CFR 40 and 10 CFR 150.31(b)).

Organizational Relationships Within the States

33. Organizational relationships should be established which will provide for an effective regulatory program for uranium mills and mill tailings.

a. Charts should be developed which show the management organization and lines of authority. This chart should define the specific lines of supervision from program management within the radiation control group and any other department within the State responsible for contributing to the regulation of uranium processing and disposal of tailings. When other State agencies or regional offices are utilized, the lines of communication and administrative control between the agencies and/or regions and the Program Director should be clearly drawn.

b. Those States that will utilize personnel from other State Departments

⁴It is strongly recommended that a 30-day period be provided for public review.

or Federal agencies in preparing the environmental assessment should designate a lead agency for supervising and coordinating preparation of this environmental assessment. It is normally expected that the radiation control agency in Agreement States will be the lead agency. The basic premise is that the lead agency is required to prepare the environmental assessment. Utilization of an applicant's environmental report in lieu of a lead agency assessment of the proposed project is not adequate or appropriate. However, the lead agency may prepare an environmental assessment based upon an applicant's environmental report. Other credible information may be utilized by the State as long as such information is verified and documented by the State.

c. When a lead agency is designated, that agency should coordinate preparation of the statement. The other agencies involved should provide assistance with respect to their areas of jurisdiction and expertise. Factors relevant in obtaining assistance from other agencies include the applicable statutory authority, the time sequence in which the agencies become involved, the magnitude of their involvement, and relative expertise with respect to the project's environmental effects.

In order to bring an environmental assessment to a satisfactory conclusion, it is highly recommended that an initial scoping document be developed which clearly delineates the area and scope of work to be performed by each agency, within a given time constraint.

d. For those areas in the environmental assessment where the State cannot identify a State agency having sufficient expertise to adequately evaluate the proposal or prepare an assessment, the State should have provisions for obtaining outside consulting services. In those instances where non-governmental consultants are utilized, procedures should be established to avoid conflict of interest consistent with State law and administrative procedures.

Medical consultants recognized for their expertise in emergency medical matters, such as the Oak Ridge and Hanford National Laboratories, relating to the intake of uranium and its diagnosis thereof associated with uranium mining and milling should be identified and available to the State for advice and direct assistance.

During the budget preparation, the State should allow for funding costs incurred by the use of consultants. In addition, consultants should be available for any emergencies which

may occur and for which their expertise would be needed immediately.

Personnel

34. Personnel needed in the processing of the license application can be identified or grouped according to the following skills: Technical; Administrative; and Support.

a. Administrative personnel are those persons who will provide internal guides, policy memoranda, reviews and managerial services necessary to assure completion of the licensing action. Support personnel are those persons who provide secretarial, clerical support, legal, and laboratory services. Technical personnel are those individuals who have the training and experience in radiation protection necessary to evaluate the engineering and radiological safety aspects of a uranium concentrator. Current indications are that 2 to 2.75 total professional person years' effort is needed to process a new conventional mill license, in situ license, or major renewal, to meet the requirements of UMTRCA. This number includes the effort for the environmental assessment and the in-plant safety review. It also includes the use of consultants. Heap leach applications may take less time and is expected to take 1.0 to 1.5 professional staff years' effort, depending on the circumstances encountered. Current indications are that the person years effort for support and legal services should be one secretary for approximately 2 conventional mills and $\frac{1}{2}$ staff years for legal services for each noncontested mill case. The impact on environmental monitoring laboratory support services is difficult to estimate but should be added into the personnel requirements.

In addition, consideration should be given to various miscellaneous post-licensing ongoing activities including the issuance of minor amendments, inspections, and environmental surveillance. It is estimated that these activities may require about 0.5 to 1 person years effort per licensed facility per year, the latter being the case for a major facility. These figures do not include manpower for Title I activities of UMTRCA.

b. In evaluating license applications the State shall have access to necessary specialties, e.g., radiological safety, hydrology, geology and dam construction and operation.

In addition to the personnel qualifications listed in the "Guide for Evaluation of State Radiation Control Programs," Revision 3, February 1, 1980, the regulatory staff involved in the regulatory process (Radiation) should

have additional training in Uranium Mill Health Physics and Environmental Assessments.

c. Personnel in agencies other than the lead agency are included in these total person year numbers. If other agencies are counted in these numbers then it shall be demonstrated that these personnel will be available on a routine and continuing basis to a degree claimed as necessary to successfully comply with the requirements of UMTRCA and these criteria. The arrangements for making such resources available shall be documented, such as an interagency memorandum of understanding and confirmed by budgetary cost centers.

Functions To Be Covered

35. The States should develop procedures for licensing, inspection, and preparation of environmental assessments.

a. Licensing

(1) Licensing evaluations or assessments should include in-plant radiological safety aspects in occupational or restricted areas and environmental impacts to populations in unrestricted areas from the plant.

(2) It is expected that the State will review, evaluate and provide documentation of these evaluations. Items which should be evaluated are:

- (a) Proposed activities;
- (b) Scope of proposed action;
- (c) Specific activities to be conducted;
- (d) Administrative procedures;
- (e) Facility organization and

radiological safety responsibilities, authorities, and personnel qualifications;

(f) Licensee audits and inspections;

(g) Radiation safety training programs for workers;

(h) Radiation safety program, control and monitoring;

(i) Restricted area markings and access control;

(j) At existing mills, review of monitoring data, exposure records, licensee audit and inspection records, and other records applicable to existing mills;

(k) Environmental monitoring;

(l) Emergency procedures, radiological;

(m) Product transportation; and

(n) Site and physical decommissioning procedures, other than tailings.

(o) Employee exposure data and bioassay programs.

b. Environmental Assessment

(1) The environmental evaluation should consist of a detailed and documented evaluation of the following items:

(a) Topography;

(b) Geology;

(c) Hydrology and water quality;

(d) Meteorology;

(e) Background radiation;

(f) Tailings retention system;

(g) Interim stabilization, reclamation, and Site Decommissioning Program;

(h) Radiological Dose Assessment;

(1) Source terms

(2) Exposure pathway

(3) Dose commitment to individuals

(4) Dose commitment to populations

(5) Evaluation of radiological impacts to the public to include a determination of compliance with State and Federal regulations and comparisons with background values

(6) Occupational dose

(7) Radiological impact to biota other than man

(8) Radiological monitoring programs, pre-occupational and operational

(i) Impacts to surface and groundwater, both quality and quantity;

(j) Environmental effects of accidents; and

(k) Evaluation of tailings management alternatives in terms of regulations.

(2) The States are encouraged to examine the need to expand the scope of the assessment into other areas such as:

(a) Ecology;

(b) Environmental effects of site preparation and facility construction on environment and biota;

(c) Environmental effects of use and discharge of chemicals and fuels; and

(d) Economic and social effects.

c. Inspections

(1) As a minimum, items which should be inspected or included during the inspection of a uranium mill should adhere to the items evaluated in the in-plant safety review. The principal items recommended for inspection are:

(a) Administration;

(b) Mill circuit, including any additions, deletions, or circuit changes;

(c) Accidents/incidents;

(d) Part 19 or equivalent requirements of the State;

(e) Action taken on previous findings;

(f) A mill tour to determine compliance with regulations, and license conditions;

(g) Tailings waste management in accordance with regulations and license conditions (see NRC Reg. Guide 3.11.1);

(h) Records;

(i) Respiratory protection in accordance with license conditions or 10 CFR Part 20.

(j) Effluent and environmental monitoring;

(k) Training programs;

(l) Transportation and shipping;

(m) Internal review and audit by management

(n) Exit interview; and
(o) Final written report documenting the results of the inspection and findings on each item.

(2) In addition, the inspector should perform the following:

(a) Independent surveys and sampling.

(3) Additional guidance is contained in appropriate NRC regulatory and inspection guides. A complete inspection should be performed at least once per year.

C. Operational Data Review

(1) In addition to the reporting requirements required by the regulations or license conditions, the licensee will submit in writing to the regulatory agency within 60 days after January 1 and July 1 of each year, reports specifying the quantity of each of the principal radionuclides released to unrestricted areas in liquid and in gaseous effluents during the previous six months of operation. This data shall be reported in a manner that will permit the regulatory agency to confirm the potential annual radiation doses to the public.

(2) All data from the radiological and non-radiological environmental monitoring program will also be submitted for the same time periods and frequency. The data will be reported in a manner that will allow the regulatory agency to conform the dose to receptors.

Instrumentation

36. The State should have available both field and laboratory instrumentation sufficient to ensure the licensee's control of materials and to validate the licensee's measurements.

a. The State will submit its list of instrumentation to the NRC for review. Arrangements should be made for calibrating such equipment.

b. Laboratory-type instrumentation should be available in a State agency or through a commercial service which has the capability for quantitative and qualitative analysis of radionuclides associated with natural uranium and its decay chain, primarily U-238, Re-226, Th-230, Pb-210, and Rn-222, in a variety of sample media such as will be encountered from an environmental sampling program.

Analysis and data reduction from laboratory analytical facilities should be available to the licensing and inspection authorities in a timely manner. Normally, the data should be available within 30 days of submittal. State acceptability of quality assurance (QA) programs should also be established for the analytical laboratories.

c. Arrangements should also be completed so that a large number of

samples in a variety of sample media resulting from a major accident can be analyzed in a time frame that will allow timely decisions to be made regarding public health and safety.

d. Arrangements should be made to participate in the Environmental Protection Agency quality assurance program for laboratory performance.

Dated Washington, D.C. this 16th day of January, 1981.

For the Nuclear Regulatory Commission,
John C. Hoyle,
Assistant Secretary of the Commission.

(FR Doc. 81-3425 Filed 1-22-81; 8:45 am)
BILLING CODE 7580-01-M

Advisory Committee on Reactor Safeguards; Proposed Meetings

In order to provide advance information regarding proposed meetings of the ACRS Subcommittees and Working Groups, and of the full Committee, the following preliminary schedule reflects the current situation, taking into account additional meetings which have been scheduled and meetings which have been postponed or cancelled since the last list of proposed meetings published Dec. 22, 1980 (45 FR 84182). Those meetings which are definitely scheduled have had, or will have, an individual notice published in the Federal Register approximately 15 days (or more) prior to the meeting. Those Subcommittee and Working Group meetings for which it is anticipated that there will be a portion or all of the meeting open to the public are indicated by an asterisk (*). It is expected that the sessions of the full Committee meeting designated by an asterisk (*) will be open in whole or in part to the public. ACRS full Committee meetings begin at 8:30 a.m. and Subcommittee and Working Group meetings usually begin at 8:30 a.m. The time when items listed on the agenda will be discussed during full Committee meetings and when Subcommittee and Working Group meetings will start will be published prior to each meeting. Information as to whether a meeting has been firmly scheduled, cancelled, or rescheduled, or whether changes have been made in the agenda for the February 1981 ACRS full Committee meeting can be obtained by a prepaid telephone call to the Office of the Executive Director of the Committee (telephone 202/634-3267, ATTN: Mary E. Vanderholt) between 8:15 a.m. and 5:00 p.m., Eastern Time.

ACRS Subcommittee Meetings

*Fort St. Vrain, January 27, 1981, at site, near Longmont, CO. The

Subcommittee will review operating experience, degree of success in eliminating the core power fluctuations, core performance (fuel and structural), plans for testing and operation at levels above 70% of rated power and plans for future operations, modifications, refueling, and shift manning requirements. Notice of this meeting was published Jan. 12.

**Safety Philosophy, Technology and Criteria*, January 28, 1981, Los Angeles, CA. The Subcommittee will discuss requirements for new (beyond Near-Term Construction Permit) reactor plants. Notice of this meeting was published Jan. 14.

**Extreme External Phenomena*, January 29-30, 1981, Los Angeles, CA. The Subcommittee will discuss the status of the Seismic Safety Margins Program. Notice of this meeting was published Jan. 14.

**San Onofre 2 and 3*, January 31, 1981, Los Angeles, CA. The Subcommittee will meet to review the seismology and geology related items for San Onofre Units 2 and 3 for an Operating License. Notice of this meeting was published Jan. 15.

**Regulatory Activities*, February 3, 1981, Washington, DC. The Subcommittee will discuss proposed Regulatory Guides and Regulations. Notice of this meeting was published Jan. 19.

**Plant Features Important to Safety*, February 3, 1981, Washington, DC. The Subcommittee will discuss the NRC definitions of the terms "safety grade", "safety related" and "important to safety" as developed for testimony related to the Three Mile Island Unit 1 restart, as well as review the generic implications of the use of these definitions in the licensing process. Notice of this meeting was published Jan. 19.

**NRC Safety Research Program*, February 4, 1981, Washington, DC. The Subcommittee will discuss NRC's long-range safety research plan and ACRS comments on the Office of Nuclear Regulatory Research response to ACRS recommendations in NUREG-0699. Notice of this meeting was published Jan. 21.

**Safety Philosophy, Technology and Criteria*, February 4, 1981, Washington, DC. The Subcommittee will discuss the proposed Near-Term Construction Permit. Notice of this meeting was published Jan. 21.

**Reactor Radiological Effects*, February 5, 1981, (1:00 p.m.), Washington, DC. The Subcommittee is to review and comment on the NRC Staff's paper to the NRC Commissioners on the current status of thinking and

OREGON

Regulations

It is noted that the Uranium Mill Tailings Radiation Control Act (UMTRCA) requires that Agreement States have, as of November 1981, regulations which are equivalent to the extent practicable, or more stringent than Commission regulations on uranium milling. The Commission considers that its recently promulgated regulations are practicable to implement in Agreement States as they are based upon the analysis in the final GEIS which addressed operations in both Agreement and non-Agreement States. The Commission regulations constitute minimum national standards (10 CFR §150.31).

In connection with this, the staff has reviewed Oregon's regulations. Although the State's regulations address many of the significant issues, they do not adequately cover all of the points in Appendix A to 10 CFR 40 and 10 CFR §150.31(b) (which, as indicated above, constitute minimum national standards concerning technical, financial and institutional control aspects of uranium mill tailings disposal). Comments on the specific provisions of the State's regulations in terms of their equivalency to minimum national standards are contained in later sections of this enclosure.

In connection with developing these regulations, the State should recognize that the UMTRCA states that duplication of proceedings conducted by the Commission is not necessary (last sentence of Section 274o of the AEA, as amended). Since the Commission developed the substantive regulations (45 FR 65521) on uranium mills through a full and public rulemaking proceeding (NUREG-0706), the State may wish to incorporate the record developed by the NRC as a part of any rulemaking that may be necessary under State law. In fact, the simplest approach might be for the State to adopt language identical to that contained in the NRC regulations.

A detailed review of the Oregon regulations is attached.

Written Environmental Assessments

Oregon regulations contain no requirement for a written environmental analysis to be prepared by the State, as required by Section 274o(3)(c) of the Atomic Energy Act, as amended (AEA). Although Mr. Frank's January 30, 1980, letter to G. Wayne Kerr indicates that the Energy Facility Siting Council anticipates the preparation of a document reviewing the environmental impacts of a proposed uranium mill project, the requirement must be an explicit programmatic requirement. Such assessments should be prepared for all licensing actions having significant impact on the human environment, i.e., new licensing actions, renewals, and major amendments. All aspects of the assessment, required by AEA 274o(3)(c) (including those conducted by other State agencies), must be included in the documented analysis. Further, documented procedures should be provided which assure that this assessment will be made available for public review and comment some reasonable amount of time before proceedings on issuance of the license begin.

Pre-Licensing Construction

The Oregon regulations (ORS 469.320) permit on-site construction activity, prior to issuance of the State's environmental assessment, up to \$250,000 and also provide for an exclusion of exploratory work. Such pre-licensing construction is prohibited by AEA, Section 274o(3)(D) and 10 CFR 150.31(b)(3)(iii)(D).

ATTACHMENT

DETAILED REVIEW OF OREGON REGULATIONS
IN TERMS OF APPENDIX A, 10 CFR 40

Our review was conducted by comparing the Oregon regulations with Appendix A, 10 CFR 40. A mark-up of Appendix A is included and each point which the State regulations must cover in an equivalent manner has been annotated ("A", "A-1", "B-1", etc.). The results of our review are summarized in the following table where we indicate those points that were adequately covered or not covered in the present Oregon regulations. Following the table, we have provided clarifying comments.

ANNOTATED POINTS OF APPENDIX A

<u>Section</u>	<u>Not Covered Adequately</u>	<u>Covered</u>
Introduction	B, C	A ORS-469.350 92-110 ⁺
Criterion 1	A, A-2, B, C, D	A-1 92-031(1) A-3 92-031(2)
Criterion 2	A	
Criterion 3	A, C, D	B 92-031(2)
Criterion 4	A, B, C, C-1, C-2, C-3, E, F G, G-1, G-2, G-3, G-4, G-5, H, I, J, K*, L,	D* 95-120(4)
Criterion 5	B*, C-2, C-3, E, E-1, E-2, E-3, E-4, F, G, H, I, J, K, K-1, K-3, K-4, L	A 92-040(2) C-1* 95-120(6) D 92-050 K-2 92-031(2) K-5 92-031(2) K-6 92-031(2)
Criterion 6	B, D, E, F	A 95-120(2) C 92-031(7)

+ Section of the Oregon regulations where the identified item from NRC regulations is covered. Unless otherwise stated, the citation of Oregon regulations is in abbreviated form and applies to Section OAR-345 (for example, Section OAR-345-92-110 is cited as 92-110).

* Clarifying comments are made on this item following the table.

<u>Section</u>	<u>Not Covered Adequately</u>	<u>Covered</u>
Criterion 7	A*	B- 95-100
Criterion 8	B, C, C-1, C-2, C-3, C-4, C-5, C-6, D*, E*, F*	A 92-040(1) 95-070(5)
Criterion 8a		A 95-060(2) B 95-115
Criterion 9	D, E*, G, H, I, J, K	A-1, A-2, B-1 95-150(1) B-2, B-3, C* 95-150(1) F 95-150(4)
Criterion 10	A, B, C	
Criterion 11*	A, B, C, D, E	
Criterion 12	A, B, C	

CLARIFYING COMMENTS

Introduction:

None

Criterion 1:

None

Criterion 2:

None

Criterion 3:

None

Criterion 4:

1. Item D requires that during reclamation a full self sustaining vegetative cover be established or rock cover employed to reduce erosion to negligible levels. Although Section 95-120(4) of the

* Clarifying comments are made on this item following the table.

Oregon regulations address this issue, it is recommended that the wording of this requirement be carefully considered since it may necessitate rip rap where this might not be necessary to control erosion.

2. Item K - Consideration of earthquake potential is addressed in the Oregon regulations, Section 92-031(8); however, the requirement needs to be more specific in terms of defining capable fault and maximum credible earthquake.

Criterion 5:

1. Item B indicates that any seepage which occurs does not result in the deterioration of existing groundwater supplies from their current or potential uses. Section 92-040(4) addresses water quality protection; however, it appears that protection is limited to drinking water supplies. It is necessary for the requirement to be more broad; i.e., prevent deterioration of any water supplies from their current or potential uses.
2. Item C-1 requires consideration of the installation of low permeability liners. It is recognized that this is addressed in Section 95-120(6) where it is required that all tailings disposal sites be lined with low permeability natural materials. It is recommended that the language of this requirement be carefully reviewed since it appears to prohibit the use of synthetic liners which may be adequate or superior in some situations.

Criterion 6:

None

Criterion 7:

1. Item A requires one full year of preoperational monitoring to collect baseline data. Section 95-100(1) of the Oregon regulations establishes a requirement for a monitoring program to be initiated at the conclusion of the preoperational program. Therefore, it is clearly intended that baseline environmental data will be collected during the preoperational stage; however, it is unclear how long this preoperational monitoring program must be conducted.

Criterion 8:

Items D, E, and F establish specific requirements for controlling dusting from diffuse large area sources. Although Sections 95-060(3) and 95-070(5) address this matter, the specific mitigating measures required, or required to be considered by Items D and E are not addressed. Further, there is no requirement, similar to Item F, that written operating procedures to control dusting be developed.

Criterion 8a:

None

Criterion 9:

1. Item C- requires that the surety cover the payment of the charge for long term surveillance and control. Section 95-150(1) requires a surety mechanism sufficient to provide for long term monitoring and maintenance (in addition to providing for decommissioning and reclamation. Although the provision for covering the long term surveillance charge is adequate, discussion of long term maintenance is inappropriate.
2. Item E - indicates that consolidated sureties would be acceptable only if the arrangements provide equivalent protection and the funds committed to full decommissioning, reclamation and the provision of the long term charge are clearly identified. Although Section 95-150(4) permits consolidated sureties, the provisions under which they would be acceptable are not specified.

Criterion 10:

None

Criterion 11:

1. None of the specifics concerning the land ownership requirements of the Uranium Mill Tailings Radiation Control Act and Criterion 11 of 10 CFR 40 Appendix A are contained in the Oregon regulations. There appears to be adequate authority for the State to take custody of a tailings site, should it choose, and Section 95-150(2) seems to imply that land ownership transfer is being assumed by the State; however, no specific requirements for title transfer are contained in the State regulations.

Other Comments:

1. Section 95-120(1) discusses secondary dams and requires that they must be capable of containing the maximum quantity of tailings which would be released in the case of primary containment failure. It is stated elsewhere in the regulations (Section 95-040(7)) that all tailings dams shall be constructed in accordance with the procedures specified in USNRC Regulatory Guide 3.11. Therefore, it should be made clear in Section 95-120(1) that use of a secondary dam does not lead to a relaxation in the standards governing the design and construction integrity of the primary dam.

2. The NRC staff will review amended Oregon regulations to determine that the items identified in the above Table are fully covered in the amended regulations. However, in itemizing Appendix A Criteria as shown in Attachment 2, some of the "fine points" in the Appendix A Criteria are not brought out. The final wording of Appendix A criteria was carefully worked out after considering numerous public comments on the draft criteria (see Appendix A to NUREG-0706). As a result, in revising its regulations, the State should carefully consider the wording of each of the Appendix A Criteria noted as "covered" in the Table, and where different words are used in State regulations to determine that it is not significant. An example of this is Item A of Criterion 3. The definition of below grade is not included in Oregon regulations; this definition was added for clarification to NRC regulations following many comments on the matter in the draft NRC regulations.

Appendix A to Part 40

Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailings or Wastes Produced by the Extraction or Concentration of Source Material From Ores Processed Primarily for Their Source Material Content.

(A) Introduction. Every applicant for a license to possess and use source material in conjunction with uranium or thorium milling or byproduct material at sites formerly associated with such milling is required by the provisions of § 40.71(g) to include in a license application proposed specifications relating to milling operations and the disposition of tailings or waste resulting from such milling activities. This appendix establishes technical, financial, ownership, and long term site surveillance criteria relating to the siting, operation, decontamination, decommissioning, and reclamation of mills and tailings or waste systems and sites at which such mills and systems are located. As used in this appendix, the term "as low as is reasonably achievable" has the same meaning as in paragraph 20.1(c) of 10 CFR 20 of this Chapter.

(B) In many cases, flexibility is provided in the criteria to allow achieving an optimum tailings disposal program on a site specific basis. However, in such cases the objectives, technical alternatives, and concerns which must be taken into account in developing a tailings program are identified. As provided by the provisions of § 40.31(g), applications for licenses must clearly demonstrate how the criteria have been addressed.

(C) The specifications shall be developed considering the expected full capacity of tailings or waste systems and the lifetime of mill operations. Where later expansions of systems or operations may be likely (for example, where large quantities of ore now marginally uneconomical may be stockpiled), the amendability of the disposal system to accommodate increased capacities without degradation in long term stability and other performance factors shall be evaluated.

(D) Detailed programs meeting the technical and financial criteria in this Appendix, including appropriate supporting data, analyses, and alternatives, shall be developed by existing uranium milling licensees and filed with the Director of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, in connection with license renewal applications or within nine months from the effective date of this Appendix, whichever occurs first.

THIS REQUIREMENT WAS
EFFECTIVE FOLLOWING
GAO REPORTING REQUIREMENT
CLEARANCE IN JAN '81.

1. Technical Criteria

Criterion 1--In selecting among alternative tailings disposal sites or judging the adequacy of existing tailings sites, the following site features, which will determine the extent to which a program meets the broad objective of isolating the tailings and associated contaminants from man and the environment during operations and for thousands of years thereafter without requiring active maintenance, shall be considered:

- remoteness from populated areas
- hydrologic and other natural conditions as they contribute to continued immobilization and isolation of contaminants from usable groundwater sources, and
- potential for minimizing erosion, disturbance, and dispersion by natural forces over the long term.

The site selection process shall be an optimization to the maximum extent reasonably achievable in terms of these factors:

In the selection of disposal sites, primary emphasis shall be given to isolation of tailings or wastes, a matter having long term impacts, as opposed to consideration only of short term convenience or benefits, such as minimization of transportation or land acquisition costs. While isolation of tailings will be a function of both site and engineering design, overriding consideration shall be given to siting features given the long term nature of the tailings hazards.

Tailings shall be disposed of in a manner that no active maintenance is required to preserve conditions of the site.

Criterion 2--To avoid proliferation of small waste disposal sites and thereby reduce perpetual surveillance obligations, byproduct material from in situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations shall be disposed of at existing large mill tailings disposal sites; unless, considering the nature of the wastes, such as their volume and specific activity, and the costs and environmental impacts of transporting the wastes to a large disposal site, such offsite disposal is demonstrated to be impracticable or the advantages of onsite burial clearly outweigh the benefits of reducing the perpetual surveillance obligations.

Criterion 3—The "prime option" for disposal of tailings is placement below grade, either in mines or specially excavated pits (that is, where the need for any specially constructed retention structure is eliminated).

The evaluation of alternative sites and disposal methods performed by mill operators in support of their proposed tailings disposal program (provided in applicants' environmental reports) shall reflect serious consideration of this disposal mode. In some instances, below grade disposal may not be the most environmentally sound approach, such as might be the case if a high quality groundwater formation is relatively close to the surface or not very well isolated by overlying soils and rock. Also, geologic and topographic conditions might make full below grade burial impracticable; for example, bedrock may be sufficiently near the surface that blasting would be required to excavate a disposal pit at excessive cost, and more suitable alternate sites are not available.

Where full below grade burial is not practicable, the size of retention structures and size and steepness of slopes of associated exposed embankments shall be minimized by excavation to the maximum extent reasonably achievable or appropriate given the geologic and hydrologic conditions at a site. In these cases, it must be demonstrated that an above grade disposal program will provide reasonably equivalent isolation of the tailings from natural erosional forces.

Criterion 4—The following site and design criteria shall be adhered to whenever tailings or wastes are disposed of above or below grade.

(a) Upstream rainfall catchment areas must be minimized to decrease erosion potential and the size of the maximum possible flood which could erode or wash out sections of the tailings disposal area.

(b) Topographic features should provide good wind protection.

(c) Embankment and cover slopes shall be relatively flat after final stabilization to minimize erosion potential and to provide conservative factors of safety assuring long term stability. The broad objective should be to contour final slopes to grades which are as close as possible to those which would be provided if tailings were disposed of below grade; this could, for example, lead to slopes of about 10 horizontal to 1 vertical (10H:1V) or less steep. In general, slopes should not be steeper than about 5H:1V. Where steeper slopes are proposed, reasons why a slope less steep than 5H:1V would be impracticable should be provided, and compensating factors and conditions which make such slopes acceptable should be identified.

(d) 2. Self-sustaining vegetative cover shall be established or rock cover employed to reduce wind and water erosion to negligible levels.

Where a full vegetative cover is not likely to be self-sustaining due to climatic or other conditions, such as in semi-arid and arid regions, rock cover shall be employed on slopes of the impoundment system. The NRC will consider relaxing this requirement for extremely gentle slopes such as those which may exist on the top of the pile.

The following factors shall be considered in establishing the final rock cover design to avoid displacement of rock particles by human and animal traffic or by natural processes, and to preclude undercutting and piping:

- shape, size, composition, and gradation of rock particles (excepting bedding material) average particle size shall be at least cobble size or greater.

- rock cover thickness and zoning of particles by size and

- steepness of underlying slopes.

Individual rock fragments shall be dense, sound, and resistant to abrasion, and shall be free from cracks, seams, and other defects that would tend to unduly increase their destruction by water and frost actions. Weak, friable, or laminated aggregate shall not be used. Shale, rock laminated with shale, and chert shall not be used.

Rock covering of slopes may not be required where top covers are very thick (on the order of 10m or greater), impoundment slopes are very gentle (on the order of 10:1 or less), bulk cover materials have inherently favorable erosion resistance characteristics, and there is negligible drainage catchment area upstream of the pile and good wind protection as described in points (a) and (b) of this Criterion.

Furthermore, all impoundment surfaces shall be contoured to avoid areas of concentrated surface runoff or abrupt or sharp changes in slope gradient. In addition to rock cover on slopes, areas toward which surface runoff might be directed shall be well protected with substantial rock cover (in rip) in addition to providing for stability of the impoundment system itself, overall stability/erosion potential, and geomorphology of surrounding terrain shall be evaluated to assure that there are not ongoing or potential processes such as gully erosion, which would lead to impoundment instability.

(e) The impoundment shall not be located near a capable fault that could cause a maximum credible earthquake larger than that which the impoundment could reasonably be expected to withstand. As used in this criterion, the term "capable fault" has the same meaning as defined in § III(g) of Appendix A of 10 CFR 100. The term "maximum credible earthquake" means that earthquake which would cause the maximum vibratory ground motion based upon an evaluation of earthquake potential considering the regional and local geology and seismology and specific characteristics of local subsurface materials.

(f) The impoundment, where feasible, should be designed to incorporate features which will promote deposition. For example, design features which promote deposition of sediment suspended in any runoff which flows into the impoundment area might be utilized. The object of such a design feature would be to enhance the thickness of cover over time.

NRC PRACTICE IS
TO USE 1000
YEAR EARTHQUAKE

Criterion 5—Steps shall be taken to reduce seepage of toxic materials into groundwater to the maximum extent reasonably achievable. Any seepage which does occur shall not result in deterioration of existing groundwater resources from their current or potential uses. The following shall be considered in order to accomplish this objective:

• Installation of low permeability bottom liners. Where synthetic liners are used, a leakage detection system shall be installed immediately below the liner to ensure major failures are detected if they occur. This is in addition to the groundwater monitoring program conducted as provided in Criterion 1. Where clay liners are proposed or relatively thin in-situ clay soils are to be relied upon for seepage control, tests shall be conducted with representative tailings solutions and clay materials to confirm that no significant deterioration of permeability or stability properties will occur with continuous exposure of clay to tailings solutions. Tests shall be run for a sufficient period of time to reveal any effects if they are going to occur (in some cases, deterioration has been observed to occur rather rapidly after about nine months of exposure).

• Mill process designs which provide the maximum practicable recycle of solutions and conservation of water to reduce the net input of liquid to the tailings impoundment.

• Dewatering of tailings by process devices and/or in-situ drainage systems. At new sites, tailings shall be dewatered by a drainage system installed at the bottom of the impoundment to lower the phreatic surface and reduce the driving head for seepage, unless tests show tailings are not amenable to such a system. Where in-situ dewatering is to be conducted, the impoundment bottom shall be graded to assure that the drains are at a low point. The drains shall be protected by suitable filter materials to assure that drains remain free running. The drainage system shall also be adequately sized to assure good drainage.

• Neutralization to promote immobilization of toxic substances.

Where groundwater impacts are occurring at an existing site due to seepage, action shall be taken to alleviate conditions that lead to excessive seepage impacts and restore groundwater quality to its potential use before milling operations began to the maximum extent practicable. The specific seepage control and groundwater protection method, or combination of methods, to be used must be worked out on a site-specific basis. Technical specifications shall be prepared to control installation of seepage control systems. A quality assurance, testing, and inspection program, which includes supervision by a qualified engineer or scientist, shall be established to assure the specifications are met.

J While the primary method of protecting groundwater shall be isolation of tailings and tailings solutions, disposal involving contact with groundwater will be considered provided supporting tests and analyses are presented demonstrating that the proposed disposal and treatment methods will not degrade groundwater from current or potential uses.

In support of a tailings disposal system proposal, the applicant/operator shall supply information concerning the following:

- K-1
- * The chemical and radioactive characteristics of the waste solutions.
 - * The characteristics of the underlying soil and geologic formations particularly as they will control transport of contaminants and solutions. This shall include detailed information concerning extent, thickness, uniformity, shape, and orientation of underlying strata. Hydraulic gradients and conductivities of the various formations shall be determined.

K-2

This information shall be gathered from borings and field survey methods taken within the proposed impoundment area and in surrounding areas where contaminants might migrate to usable groundwater. The information gathered on boreholes shall include both geologic and geophysical logs in sufficient number and degree of sophistication to allow determining significant discontinuities, fractures, and channelled deposits of high hydraulic conductivity. If field survey methods are used, they should be in addition to and calibrated with borehole logging. Hydrologic parameters such as permeability shall not be determined on the basis of laboratory analysis of samples alone; a sufficient amount of field testing (e.g., pump tests) shall be conducted to assure actual field properties are adequately understood. Testing shall be conducted to allow estimating chemi-sorption attenuation properties of underlying soil and rock.

K-3

K-4

- * Location, extent, quality, capacity and current uses of any groundwater at and near the site.

K-5

K-6

L

Furthermore, steps shall be taken during stockpiling of ore to minimize penetration of radionuclides into underlying soils; suitable methods include lining and/or compaction of ore storage areas.

Criterion 8—Sufficient earth cover, but not less than three meters, shall be placed over tailings or wastes at the end of milling operations to result in a calculated reduction in surface exhalation of radon emanating from the tailings or wastes to less than two picocuries per square meter per second. In computing required tailings cover

thicknesses, moisture in soils in excess of amounts found normally in similar soils in similar circumstances shall not be considered. Direct gamma exposure from the tailings or wastes should be reduced to background levels. The effects of any thin synthetic layer shall not be taken into account in determining the calculated radon exhalation level. If non-soiled materials are

proposed to reduce tailings covers to less than three meters, it must be demonstrated that such materials will not crack or degrade by differential settlement, weathering, or other mechanism over long term time intervals. Near surface cover materials (i.e., within the top three meters) shall not include mine waste or rock that contains elevated levels of radium; soils used for near surface cover must be essentially the same, as far as radioactivity is concerned, as that of surrounding surface soils. This is to ensure that surface radon exhalation is not significantly above background because of the cover material itself.

E-1

E-2

④ Criterion 7—At least one full year prior to any major site construction, a preoperational monitoring program shall be conducted to provide complete baseline data on a milling site and its environs throughout the construction and operating phases of the mill. an operational monitoring program shall be conducted to measure or evaluate compliance with applicable standards and regulations; to evaluate performance of control systems and procedures; to evaluate environmental impacts of operation; and to detect potential long term effects.

⑤ Criterion 8A—Daily inspections of tailings or waste retention systems shall be conducted by a qualified engineer or scientist and documented. The appropriate NRC regional office as indicated in Appendix D of 10 CFR Part 20, or the Director, Office of Inspection and Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, shall be immediately notified of any failure in a tailings or waste retention system which results in a release of tailings or waste into unrestricted areas, and/or of any unusual conditions (conditions not contemplated in the design of the retention system) which if not corrected could indicate the potential or lead to failure of the system and result in a release of tailings or waste into unrestricted areas.

(A) Criterion 8—~~Mill~~ing operations shall be conducted so that all airborne effluent releases are reduced to levels as low as is reasonably achievable. The primary means of accomplishing this shall be by means of emission controls. Institutional controls, such as extending the site boundary and exclusion area, may be employed to ensure that offsite exposure limits are met, but only after all practicable measures have been taken to control emissions at the source.

(B) Notwithstanding the existence of individual dose standards, strict control of emissions is necessary to assure that population exposures are reduced to the maximum extent reasonably achievable and to avoid site contamination. The greatest potential sources of offsite radiation exposure (aside from radon exposure) are dusting from dry surfaces of the tailings disposal area not covered by tailings solution and emissions from yellowcake drying and packaging operations.

(C-1) Checks shall be made and logged hourly of all parameters (e.g., differential pressures and scrubber water flow rates) which determine the efficiency of yellowcake stack emission control equipment operation. It shall be determined whether or not conditions are within a range prescribed to ensure that the equipment is operating consistently near peak efficiency; corrective action shall be taken when performance is outside of prescribed ranges. Effluent control devices shall be operative at all times during drying and packaging operations and whenever air is exhausting from the yellowcake stack.

(C-2) Drying and packaging operations shall terminate when controls are inoperative. When checks indicate the equipment is not operating within the range prescribed for peak efficiency, actions shall be taken to restore parameters to the prescribed range.

(C-3) When this cannot be done without shutdown and repairs, drying and packaging operations shall cease as soon as practicable. Operations may not be re-started after cessation due to off-normal performance until needed corrective actions have been identified and implemented. All such cessations, corrective actions, and re-starts shall be reported to the appropriate NRC regional office as indicated in Criterion 8A, in writing, within 10 days of the subsequent restart.

(C-4) To control dusting from tailings, that portion not covered by standing liquids shall be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if tailings are effectively sheltered from wind, such as may be the case where they are disposed of below grade and the tailings surface is not exposed to wind. Consideration shall be given in planning tailings disposal programs to methods which would allow phased covering and reclamation of tailings impoundments since this will help in controlling particulate and radon emissions during operation. To control dusting from diffuse sources, such as tailings and ore pads where automatic controls do not apply, operators shall develop written operating procedures specifying the methods of control which will be utilized.

(D) To control dusting from tailings, that portion not covered by standing liquids shall be wetted or chemically stabilized to prevent or minimize blowing and dusting to the maximum extent reasonably achievable. This requirement may be relaxed if tailings are effectively sheltered from wind, such as may be the case where they are disposed of below grade and the tailings surface is not exposed to wind. Consideration shall be given in planning tailings disposal programs to methods which would allow phased covering and reclamation of tailings impoundments since this will help in controlling particulate and radon emissions during operation. To control dusting from diffuse sources, such as tailings and ore pads where automatic controls do not apply, operators shall develop written operating procedures specifying the methods of control which will be utilized.

(E)

(F)

Proof of forfeitures must not be necessary to cancel the surety so that in the event that the licensee could not provide an acceptable replacement surety within the required time, the surety shall be automatically collected prior to its expiration. The conditions described above would have to be clearly stated on any surety instrument which is not open-ended, and must be agreed to by all parties. Financial surety arrangements

generally acceptable to the Commission are:

- (a) Surety bonds
- (b) Cash deposits
- (c) Certificates of deposit
- (d) Deposits of government securities
- (e) Irrevocable letters of credit and
- (f) Combinations of the above or such other types of arrangements as may be approved by the Commission. However, self insurance, or any arrangement which essentially constitutes self insurance (e.g., a contract with a state or federal agency), will not satisfy the surety requirement since this provides no additional assurance other than that which already exists through licensee requirements.

(I)

(J)

(K)

Criterion 10—A minimum charge of \$150,000 (1978 dollars) to cover the costs of long term surveillance shall be paid by each mill operator to the general treasury of the United States or to an appropriate State agency prior to the termination of a uranium or thorium mill license.

If site surveillance or control requirements at a particular site are determined, on the basis of a site-specific evaluation, to be significantly greater than those specified in Criterion 12, (e.g., if fencing is determined to be necessary) variance in funding requirements may be specified by the Commission. In any case, the total charge to cover the costs of long term surveillance shall be such that, with and assumed 1 percent annual real interest rate, the collected funds will yield interest in an amount sufficient to cover the annual costs of site surveillance. The total charge will be adjusted annually prior to a final payment to recognize inflation. The inflation rate to be used is that indicated by the change in the Consumer Price Index published by the U.S. Department of Labor, Bureau of Labor Statistics.

(A)

(B)

(C)

MINIMUM CHARGE OF MORE
AS DETERMINED BY THE COMMISSION
IN THE DETERMINATION MADE
PURSUANT TO § 274(C)(4).

Criteria. - These criteria relating to ownership of tailings, and their disposal sites become effective on November 8, 1981, and apply to all licenses terminated, issued, or renewed after that date.

E. Any uranium or thorium milling license or tailings license shall contain such terms and conditions as the Commission determines necessary to assure that prior to termination of the license, the licensee will comply with ownership requirements of this criterion for sites used for tailings disposal.

C. Title to the byproduct material licensed under this Part and land, including any interests therein (other than land owned by the United States or by a State) which is used for the disposal of any such byproduct material, or is essential to ensure the long term stability of such disposal site, shall be transferred to the United States or the State in which such land is located, at the option of such State. In view of the fact that physical legislation must be the primary means of long term control, and Government land

ownership is a desirable supplementary measure, ownership of certain severable subsurface interests (for example, mineral rights) may be determined to be unnecessary to protect the public health and safety and the environment. In any case, however, the applicant/operator must demonstrate a serious effort to obtain such subsurface rights, and must, in the event that certain rights cannot be obtained, provide notification in local public land records of the fact that the land is being used for the disposal of radioactive material and is subject to either an NRC general or specific license prohibiting the disruption and disturbance of the tailings. In some rare cases, such as may occur with deep burial where no ongoing site surveillance will be required, surface land ownership transfer requirements may be waived. For licenses issued before November 8, 1981, the Commission may take into account the status of the ownership of such land, and interests therein, and the ability of a licensee to transfer title and custody thereof to the United States or a State.

D. If the Commission subsequent to title transfer determines that use of the surface or subsurface estates, or both, of the land transferred to the United States or to a State will not endanger the public health, safety, welfare, or environment, the Commission may permit the use of the surface or subsurface estates, or both, of such land in a manner consistent with the provisions provided in these criteria. If the Commission permits such use of such land, it will provide the person who transferred such land with the right of first refusal with respect to such use of such land.

E. Material and land transferred to the United States or a State in accordance with this Criterion shall be transferred without cost to the United States or a State other than administrative and legal costs incurred in carrying out such transfer.

F. The provisions of this Part respecting transfer of title and custody to land and tailings and wastes shall not apply in the case of lands held in trust by the United States for any Indian tribe or lands owned by such Indian tribe subject to a restriction against alienation imposed by the United States. In the case of such lands which are used for the disposal of byproduct material, as defined in this Part, the licensee shall enter into arrangements with the Commission as may be appropriate to assure the long term surveillance of such lands by the United States.

* RESERVED FEDERAL
AUTHORITY (E.E.S.(b)
OF ATOMIC ENERGY
ACT)

IV. Long-Term Site Surveillance

Criterion 12--The final disposition of tailings or wastes at milling sites should be such that ongoing active maintenance is not necessary to preserve isolation. At a minimum, annual site inspections shall be conducted by the government agency retaining ultimate custody of the site where tailings or wastes are stored to confirm the integrity of the stabilized tailings or waste systems and to determine the need, if any, for maintenance and/or monitoring. Results of the inspection shall be reported to the Commission within 60 days following each inspection. The Commission may require more frequent site inspections if, on the basis of a site-specific evaluation, such a need appears necessary due to the features of a particular tailings or waste disposal system.

AMENDMENT TO
AGREEMENT BETWEEN THE
UNITED STATES NUCLEAR REGULATORY COMMISSION
AND THE
STATE OF
FOR
DISCONTINUANCE OF CERTAIN COMMISSION REGULATORY AUTHORITY
AND
RESPONSIBILITY WITHIN THE STATE PURSUANT TO
SECTION 274 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED

WHEREAS, the United States Atomic Energy Commission^{1/} (hereinafter referred to as the Commission) entered into an Agreement (hereinafter referred to as the Agreement of (date)) with the State of under section 274 of the Atomic Energy Act of 1954, as amended (hereinafter referred to as the Act), which Agreement became effective on and provided for discontinuance of the regulatory authority of the Commission within the State under Chapters 6, 7, and 8, and Section 161 of the Act with respect to byproduct materials as defined in section 11e.(1) of the Act, source materials, and special nuclear materials in quantities not sufficient to form a critical mass; and

WHEREAS, it is necessary to enter into this amendment in order to implement new requirements of section 274 of the Act which become fully effective on November 8, 1981; and

^{1/} Under the provisions of the Energy Reorganization Act of 1974, the regulatory functions formerly carried out by the Atomic Energy Commission are now carried out by the Nuclear Regulatory Commission as of January 19, 1975.

Encl. 3

WHEREAS, the Commission found on _____ that the program of the State for the regulation of materials covered by this amendment is in accordance with the requirements of section 274o. of the Act and in all other respects compatible with the Commission's program for the regulation of such materials and is adequate to protect the public health and safety; and

WHEREAS, this amendment is entered into pursuant to the provisions of the Atomic Energy Act of 1954, as amended;

NOW, THEREFORE, it is hereby agreed between the Commission and the Governor of the State, acting on behalf of the State, as follows:

Section 1. ARTICLE I of the Agreement of (date) is amended by adding "as defined in section 11e.(1) of the Act;" after the words "byproduct materials" in paragraph A., by redesignating paragraphs B. and C. as paragraphs C. and D., and by inserting the following new paragraph immediately after paragraph A.:

"B. Byproduct materials as defined in section 11e.(2) of the Act;".

Section 2. ARTICLE II of the Agreement of (date) is amended by inserting "A." before the words "This Agreement," by redesignating paragraphs A. through D. as subparagraphs 1. through 4., and by adding the following at the end thereof:

"B. Notwithstanding this Agreement, the Commission retains the following authorities pertaining to byproduct materials as defined in section 11e.(2) of the Act:

"1. Prior to the termination of a State license for such byproduct material, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.

"2. The Commission reserves the authority to establish minimum standards governing reclamation, long term surveillance or maintenance, and ownership of such byproduct material. Such reserved authority includes:

"a. The authority to establish terms and conditions as the Commission determines necessary to assure that, prior to termination of any license for such byproduct material, or for any activity that results in the production of such material, the licensee shall comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission; and with ownership requirements for such materials and its disposal site;

"b. The authority to require that prior to termination of any license for such byproduct material or for any activity that results in the production of such material, title to such byproduct material and its disposal site be transferred to the United States or the State at the option of the State (provided such option is exercised prior to termination of the license);

"c. The authority to permit use of surface or subsurface estates, or both, of the land transferred to the United States or the State pursuant to subparagraph B.2.b. of this Article;

"d. The authority to require the Secretary of the Department of Energy, other Federal agency, or State, whichever has custody of such

byproduct material and its disposal site, to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety, and other actions as the Commission deems necessary; and

"e. The authority to enter into arrangements as may be appropriate to assure Federal long term surveillance or maintenance of such byproduct material and its disposal site on land held in trust by the United States for any Indian tribe or land owned by an Indian tribe and subject to a restriction against alienation imposed by the United States."

Section 3. ARTICLE III of the Agreement of (date) is amended by inserting "otherwise licensable by the State under Article I of this Agreement" after the words "special nuclear material."

Section 4. ARTICLE VII of the Agreement of (date) is amended by inserting "all or part of" after the words "terminate or suspend," by inserting "(1)" after the words "finds that," and by adding at the end before the period the following:

", or (2) the State has not complied with one or more of the requirements of section 274 of the Act. The Commission shall periodically review this Agreement and actions taken by the State under this Agreement to ensure compliance with the provisions of section 274 of the Act."

Section 5. ARTICLE VIII of the Agreement of (date) is amended by redesignating it Article IX and by inserting a new Article VIII as follows:

"In the licensing and regulation of byproduct material as defined in section 11e.(2) of the Act, or of any activity which results in production of such material, the State shall comply with the provisions of section 274o. of the Act. If, in such licensing and regulation, the State requires financial surety arrangements for the reclamation or long term surveillance or maintenance of such material,

"A. The total amount of funds the State collects for such purposes shall be transferred to the United States if custody of such material and its disposal site is transferred to the United States upon termination of the State license for such material or any activity which results in the production of such material. Such funds include, but are not limited to, sums collected for long term surveillance or maintenance. Such funds do not, however, include monies held as surety where no default has occurred and the reclamation or other bonded activity has been performed; and

"B. Such State surety or other financial requirements must be sufficient to ensure compliance with those standards established by the Commission pertaining to bonds, sureties, and financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal site."

This amendment shall become effective on

Done at , State of , in triplicate,
this day of

FOR THE STATE OF

_____, Governor

Done at Washington, D.C., in triplicate, this day of

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION

AMENDED AGREEMENT BETWEEN
THE UNITED STATES ATOMIC ENERGY COMMISSION
AND THE STATE OF _____
FOR DISCONTINUANCE OF
CERTAIN COMMISSION REGULATORY AUTHORITY AND RESPONSIBILITY
WITHIN THE STATE PURSUANT TO SECTION 274 OF THE
ATOMIC ENERGY ACT OF 1954, AS AMENDED

WHEREAS, The United States Atomic Energy Commission^{1/} (hereinafter referred to as the Commission) is authorized under Section 274 of the Atomic Energy Act of 1954, as amended (hereinafter referred to as the Act) to enter into agreements with the Governor of any State providing for discontinuance of the regulatory authority of the Commission within the State under Chapters 6, 7, and 8 and Section 161 of the Act with respect to byproduct materials, source materials, and special nuclear materials in quantities not sufficient to form a critical mass; and

WHEREAS, The Governor of the State of _____ is authorized under to enter into this Agreement with the Commission; and

WHEREAS, The Governor of the State of _____ certified on that the State of _____ (hereinafter referred to as the State) has a program for the control of radiation hazards adequate to protect the public health and safety with respect to the materials within the State covered by this Agreement, and that the State desires to assume regulatory responsibility for such materials; and

WHEREAS, The Commission found on _____ that the program of the State for the regulation of the materials covered by this Agreement is compatible with the Commission's program for the regulation of such materials and is adequate to protect the public health and safety; and^{2/}

WHEREAS, The State and the Commission recognize the desirability and importance of cooperation between the Commission and the State in the formulation of standards for protection against hazards of radiation and in assuring that State and Commission programs for protection against hazards of radiation will be coordinated and compatible; and

1/ Under the provisions of the Energy Reorganization Act of 1974, the regulatory functions formerly carried out by the Atomic Energy Commission are now carried out by the Nuclear Regulatory Commission as of January 19, 1975.

2/ The amendment to this Agreement pertaining to byproduct material as defined in section 11e.(2) of the Act contained the following clause:

WHEREAS, the Commission found on _____ that the program of the State for the regulation of materials covered by this amendment is in accordance with the requirements of section 274c. of the Act and in all other respects compatible with the Commission's program for the regulation of such materials and is adequate to protect the public health and safety;

WHEREAS, The Commission and the State recognize the desirability of reciprocal recognition of licenses and exemption from licensing of those materials subject to this Agreement; and

WHEREAS, This agreement is entered into pursuant to the provisions of the Atomic Energy Act of 1954, as amended;

NOW, THEREFORE, it is hereby agreed between the Commission and the Governor of the State, acting on behalf of the State, as follows:

ARTICLE I

Subject to the exceptions provided in Articles II, III, and IV, the Commission shall discontinue, as of the effective date of this Agreement, the regulatory authority of the Commission in the State under Chapters 6, 7, and 8, and Section 161 of the Act with respect to the following materials:

- A. Byproduct materials as defined in section 11e.(1) of the Act;
- B. Byproduct materials as defined in section 11e.(2) of the Act;
- B. C. Source materials; and
- B. D. Special nuclear materials in quantities not sufficient to form a critical mass.

ARTICLE II

- A. This Agreement does not provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of:
 - A. 1. The construction and operation of any production or utilization facility;
 - B. 2. The export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility;
 - B. 3. The disposal into the ocean or sea of byproduct, source, or special nuclear waste materials as defined in regulations or orders of the Commission;
 - B. 4. The disposal of such other byproduct, source, or special nuclear material as the Commission from time to time determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission.

B. Notwithstanding this Agreement, the Commission retains the following authorities pertaining to byproduct materials as defined in section 11e.(2) of the Act:

1. Prior to the termination of a State license for such byproduct material, or for any activity that results in the production of such material, the Commission shall have made a determination that all applicable standards and requirements pertaining to such material have been met.
2. The Commission reserves the authority to establish minimum standards governing reclamation, long term surveillance or maintenance, and ownership of such byproduct material. Such reserved authority includes:
 - a. The authority to establish terms and conditions as the Commission determines necessary to assure that, prior to termination of any license for such byproduct material, or for any activity that results in the production of such material, the licensee shall comply with decontamination, decommissioning, and reclamation standards prescribed by the Commission; and with ownership requirements for such materials and its disposal site;
 - b. The authority to require that prior to termination of any license for such byproduct material or for any activity that results in the production of such material, title to such byproduct material and its disposal site be transferred to the United States or the State at the option of the State (provided such option is exercised prior to termination of the license);
 - c. The authority to permit use of surface or subsurface estates, or both, of the land transferred to the United States or the State pursuant to subparagraph 8.2.b of this Article;
 - d. The authority to require the Secretary of the Department of Energy, other Federal agency, or State, whichever has custody of such byproduct material and its disposal site, to undertake such monitoring, maintenance, and emergency measures as are necessary to protect the public health and safety, and other actions as the Commission deems necessary; and
 - e. The authority to enter into arrangements as may be appropriate to assure Federal long term surveillance or maintenance of such byproduct material and its disposal site on land held in trust by the United States for any Indian tribe or land owned by an Indian tribe and subject to a restriction against alienation imposed by the United States.

ARTICLE III

Notwithstanding this Agreement, the Commission may from time to time by rule, regulation, or order, require that the manufacturer, processor, or producer of any equipment, device, commodity, or other product containing source, byproduct, or special nuclear material otherwise licensable by the State under Article I of this Agreement shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

ARTICLE IV

This Agreement shall not affect the authority of the Commission under subsection 161 b. or i. of the Act to issue rules, regulations, or orders to protect the common defense and security, to protect restricted data or to guard against the loss or diversion of special nuclear material.

ARTICLE V

The Commission will use its best efforts to cooperate with the State and other agreement States in the formulation of standards and regulatory programs of the State and the Commission for protection against hazards of radiation and to assure that State and Commission programs for protection against hazards of radiation will be coordinated and compatible. The State will use its best efforts to cooperate with the Commission and other agreement States in the formulation of standards and regulatory programs of the State and the Commission for protection against hazards of radiation and to assure that the State's program will continue to be compatible with the program of the Commission for the regulation of like materials. The State and the Commission will use their best efforts to keep each other informed of proposed changes in their respective rules and regulations and licensing, inspection and enforcement policies and criteria, and to obtain the comments and assistance of the other party thereon.

ARTICLE VI

The Commission and the State agree that it is desirable to provide for reciprocal recognition of licenses for the materials listed in Article I licensed by the other party or by any agreement state. Accordingly, the Commission and the State agree to use their best efforts to develop appropriate rules, regulations, and procedures by which such reciprocity will be accorded.

ARTICLE VII

The Commission, upon its own initiative after reasonable notice and opportunity for hearing to the State, or upon request of the Governor of the State, may terminate or suspend all or part of this Agreement and reassert the licensing and regulatory authority vested in it under the

Act if the Commission finds that (1) such termination or suspension is required to protect the public health and safety, or (2) the State has not complied with one or more of the requirements of section 274 of the Act. The Commission shall periodically review this Agreement and actions taken by the State under this Agreement to ensure compliance with provisions of section 274 of the Act.

ARTICLE VIII

In the licensing and regulation of byproduct material as defined in section 11e.(2) of the Act, or of any activity which results in production of such material, the State shall comply with the provisions of section 274b. of the Act. If, in such licensing and regulation, the State requires financial surety arrangements for the reclamation or long term surveillance or maintenance of such material,

- A. The total amount of funds the State collects for such purposes shall be transferred to the United States if custody of such material and its disposal site is transferred to the United States upon termination of the State license for such material or any activity which results in the production of such material. Such funds include, but are not limited to, sums collected for long term surveillance or maintenance. Such funds do not, however, include monies held as surety where no default has occurred and the reclamation or other bonded activity has been performed; and
- B. Such State surety or other financial requirements must be sufficient to ensure compliance with those standards established by the Commission pertaining to bonds, sureties, and financial arrangements to ensure adequate reclamation and long term management of such byproduct material and its disposal site.

- 6 -

ARTICLE IX

This Agreement shall become effective on _____ and shall remain in effect unless and until such time as it is terminated pursuant to Article VII.

Done at _____ State of _____ in triplicate, this _____ day of _____.

FOR THE UNITED STATES ATOMIC
ENERGY COMMISSION

FOR THE STATE OF _____

3/ The amendment to this Agreement pertaining to byproduct material as defined in section 11e.(2) of the Act became effective on _____. It was signed at _____, State of _____, in triplicate on _____ by _____ for the State of _____ and signed at Washington, D.C., in triplicate, on _____ by _____ for the United States Nuclear Regulatory Commission.