



**POLICY ISSUE**  
(Notation Vote)

April 21, 1987

SECY-87-104

FOR: The Commissioners

FROM: Harold R. Denton, Director  
Office of Governmental and  
Public Affairs

SUBJECT: PROPOSED AGREEMENT BETWEEN THE STATE OF ILLINOIS AND  
U.S. NUCLEAR REGULATORY COMMISSION PURSUANT TO  
SECTION 274 OF THE ATOMIC ENERGY ACT OF 1954, AS  
AMENDED

PURPOSE: To request Commission approval of the proposed  
Agreement with Illinois.

SUMMARY: By letter dated October 2, 1986, Governor Thompson  
of Illinois requested that the Commission enter into  
a Section 274b Agreement with the State. Federal  
Register notices of the NRC staff's assessment of  
the proposed Illinois radiation control program and  
the proposed agreement were published as required by  
Section 274e of the Atomic Energy Act of 1954, as  
amended. The comment period ended February 20,  
1987.

The State's request includes transfer of regulatory  
authority for health and safety over the  
Allied-Chemical UF<sub>6</sub> conversion plant (source  
material), which has been identified by the  
Department of Energy as having common defense and  
security significance. Policy options for dealing  
with such situations were furnished to the  
Commission in SECY-87-59. The Commission's decision  
to retain jurisdiction over the plant has been  
factored into this paper.

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B/b

Two NRC licenses that cover materials that would be transferred to Illinois under the Agreement are currently the subjects of NRC adjudicatory proceedings. (Docket No. 40-2061-SC [ASLRP No. 84-502-01-SC] and Docket No. 27-39-SC [ASLRP No. 78-374-01-OT]). These proceedings relate to Kress Creek and the Sheffield low-level waste disposal site, respectively. Under terms of a Section 274b Agreement, NRC relinquishes and the State asserts its authority over licenses affected by the Agreement. Accordingly, NRC staff plans to request termination of these proceedings upon approval of the proposed Agreement.

DISCUSSION:

In a letter dated October 2, 1986, Governor James R. Thompson of the State of Illinois requested that the Commission enter into an Agreement with the State pursuant to Section 274 of the Atomic Energy Act, as amended. No effective date for the Agreement was proposed but staff discussions with the Illinois Department of Nuclear Safety (IDNS), which will administer the Agreement program, have indicated the State established March 1, 1987 as a target date. Assuming no protracted delays occur the staff believes that an effective date at the end of April, 1987 is practicable. In his letter, the Governor certified that the State of Illinois has a program for control of radiation hazards which is adequate to protect the public health and safety with respect to the materials within the State covered by the proposed Agreement, and that the State of Illinois wishes to assume regulatory responsibility for such materials. The text of the proposed Agreement is shown in Enclosure A.

The specific authority requested is for (1) by-product material as defined in Section 11e.(1) of the Act, (2) source material, (3) special nuclear material in quantities not sufficient to form a critical mass and (4) permanent disposal of low-level waste containing one or more of the foregoing materials but not containing uranium and thorium mill tailings (byproduct material as defined in Section 11e.(2) of the Act). The State does not wish to assume authority over uranium and thorium milling activities. The State, however, reserves



the right to apply at a future date to NRC for an amended Agreement to assume authority in this area.

As required by Section 274 of the Atomic Energy Act, the proposed Agreement and the staff's assessment of the State's proposed radiation control program were published in the Federal Register once a week for four consecutive weeks ending February 11, 1987.<sup>1</sup> Interested persons were invited to submit comments by February 20, 1987.

The proposed Agreement had several unique components.

Regulation of an existing low-level radioactive waste disposal site.

Illinois is the site of an existing low-level radioactive waste disposal site which is no longer accepting waste for disposal (Sheffield). Under the Agreement, jurisdiction will be relinquished by NRC to Illinois. The State of Illinois and the licensee, US Ecology, have been parties to an NRC adjudicatory proceeding on an immediately effective show cause order relating to whether US Ecology could unilaterally terminate its license for activities at Sheffield without Commission action. [Docket No. 27-39-SC (ASLBP No. 78-374-01-OT)]. The State's proposed program

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<sup>1</sup>The proposed agreement and staff's assessment were initially published in the Federal Register December 31, 1986 at 51 FR 47327 and republished January 7, 1987 at 52 FR 618. A comment period ending January 30, 1987 was specified. The December 31st and January 7th publications were determined to have been the subject of Federal Register printing errors. As a result, they were incomplete and also contained errors. A corrected notice was published January 21, 1987 at 52 FR 2309. Since the initial notice was incomplete and also contained significant errors, the 4 consecutive week publication cycle required by the Act was restarted beginning with the January 21, 1987 notice. A revision of the date for public comments was also published at that time (52 FR 2309) changing it to February 20, 1987. The 2nd consecutive weekly notice was published January 28, 1987 at 52 FR 2898. The 3rd consecutive weekly notice was published February 4, 1987 at 52 FR 3503 but printing errors again occurred, this time resulting in the omission of text. A correction notice for this omission was published February 12, 1987 at 52 FR 4569. The 4th consecutive weekly notice was published February 11, 1987 at 52 FR 4436. NRC has requested a change to Section 274e of the Act which would specify one Federal Register publication rather than four. Congress has not acted on this request.

for regulation of the land disposal of waste received from other persons has been determined by the staff to meet applicable criteria in the NRC Policy Statement, "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof by States Through Agreement" (46 FR 7540, 46 FR 36969 and 48 FR 33376). The Federal Register notice stated that the staff would request termination of the Sheffield proceeding when the proposed Agreement became effective. After the notice appeared, the ASLB on March 10, 1987 issued an order concluding the proceeding after having ruled against the licensee on two legal issues: (1) whether the licensee possessed the buried low-level waste, and (2) whether the licensee could unilaterally terminate the license. On March 16, 1987, the Board's order was appealed by US Ecology which asked for expedited Appeal Board consideration. On March 19, 1987, the Appeal Board denied US Ecology's motion for expedited consideration. The staff is committed to ask the Appeal Board to terminate the proceeding if the Agreement is signed before the Appeal Board acts on US Ecology's appeal. Upon the effective date of the Agreement the requirements of the Commission's order will become Illinois' requirements until superseded by the results of Illinois' own proceeding.

Regulation of a new regional low-level waste disposal facility.

Illinois is a member of the Central Midwest Interstate Low-Level Radioactive Waste Compact (the other member State is the Commonwealth of Kentucky). Illinois has been designated the host State. As noted above, the State's proposed program for regulating in this area has been determined by the staff to meet applicable NRC criteria referred to in the preceding paragraph.

Regulation of the Allied Chemical U<sub>6</sub> Conversion Plant.

The Allied Chemical plant is one of two plants in the United States licensed to convert uranium "yellowcake" to U<sub>6</sub>. (The other plant is Kerr-McGee's Sequoyah plant in Oklahoma).

The Allied Chemical plant has been identified by DOE as having a potential common defense and



security significance. Section 274m of the Atomic Energy Act, as amended, provides that:

"No agreement entered into under subsection b., ... shall affect the authority of the Commission under subsection 161b. or f. to issue rules, regulations, or orders to protect the common defense and security..."

NRC staff prepared a policy option paper for the Commission for establishment of Commission policy regarding licenses subject to Section 274b Agreements which have common defense and security significance (SECY-87-59). The Commission decision on the policy option paper was to retain regulatory authority over such plants based on common defense and security considerations. A draft order to effectuate this policy with respect to the Allied Chemical plant has been prepared for Commission approval (enclosure G). The order should become effective at the same time as the proposed section 274b Agreement. No modification of the Agreement is necessary since such an action would be independent of the Agreement and taken under the separate authority of Section 274m. As discussed in SECY 87-59 the staff will notify DOE of the Commission decision in this matter.

The Kerr-McGee West Chicago Rare Earths Facility.

The Kerr-McGee West Chicago Rare Earths Facility is a site where thorium processing and recovery operations were conducted under an AEC/NRC license. The radioactive mill tailings that resulted from operations at the site have been determined by the NRC staff to be byproduct material as defined by Section 11e.(2) of the Act. Illinois has not requested authority to regulate Section 11e.(2) byproduct material under the proposed agreement and thus jurisdiction over these materials will remain with NRC. The disposition of these tailings is the subject of an ASLB proceeding [Docket 40-2061-ML (ASLBP No. 83-495-01-ML)].

Thorium-bearing materials in off-site areas in and around West Chicago that are attributed to the site activities have been characterized by NRC staff as source material (see Enclosure C, staff response to Comment 4). Jurisdiction

over these materials will be transferred to Illinois under the proposed agreement. These materials include (a) thorium bearing materials now stored at the Kerr-McGee West Chicago Rare Earths Facility site that have been recovered from off-site residential properties and from the sewage treatment plant in West Chicago and (b) uranium and thorium contaminated materials in Kress Creek and the West Branch of the DuPage River, and Reed-Keppler Park, West Chicago. The Kress Creek-DuPage River material is the subject of an NRC adjudicatory proceeding [Docket No. 40-2061-SC (ASLBP No. 84-502-01-SC)]. In this proceeding, in which Kerr-McGee and the People of the State of Illinois are parties, the ASLB found that the presence of this material in Kress Creek and the West Branch of the DuPage River probably resulted from the conduct of an NRC (and AEC) licensed activity at the West Chicago Rare Earths Facility. The ASLB, however, declined to require clean-up of the Creek and the River based upon its analysis of the hazard posed by the radiologically contaminated material. The NRC staff has appealed that decision to the Atomic Safety and Licensing Appeal Board, but a decision on appeal has not yet been issued. The Appeal Board has determined to suspend further consideration of this matter until the question of the State Agreement is resolved. Since jurisdiction over source material in Kress Creek and the West Branch of the DuPage River will be relinquished to Illinois when the Agreement becomes effective, the NRC staff will request termination of the NRC adjudicatory proceeding. At this point it will be up to Illinois to initiate further proceedings. Jurisdiction over the source material in Reed-Keppler Park will also be relinquished to Illinois when the Agreement becomes effective.

Five written comments on the proposed Agreement and NRC staff assessment were received prior to the end of the comment period on February 20, 1987.<sup>2</sup> Three

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<sup>2</sup> Additionally, on February 4, 1987, the Commission received a request to suspend the license issued to Chem Nuclear Systems, Inc. which authorizes waste storage and which is the subject of an amendment to operate a waste compactor near Channahon, IL. NRC staff have acknowledged the letter in accordance with 10 CFR 2.206. The request  
(Footnote Continued)



comment letters were submitted by Conner and Wetterhahn, P.C., counsel for US Ecology which holds the license for the Sheffield site. One comment letter was received from A. Eugene Rennels, the Mayor of the City of West Chicago. One comment letter was received from Covington and Burling, counsel representing Kerr-McGee. Several supplementary comments were filed by Conner & Wetterhahn after the end of the comment period. Summaries of the public comments<sup>3</sup> and NRC staff responses are set out in Enclosure C.

The staff's conclusion with respect to the proposed Illinois program was stated in the Federal Register notices:

"... the State of Illinois meets the requirements of Section 274 of the Act. The State's statutes, regulations, personnel, licensing, inspection and administrative procedures are compatible with those of the Commission and adequate to protect the public health and safety with respect to the materials covered by the proposed agreement. Since the State is not seeking authority over uranium milling activities, subsection o, is not applicable to the proposed Illinois agreement."<sup>4</sup>

Briefly, the comments related to:

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(Footnote Continued)

for an amendment to operate a waste compactor which precipitated this request is under review by NRC staff and includes preparation of an environmental assessment. If the proposed agreement is approved by the Commission prior to a final decision by NRC staff on the amendment request, the request will be included with the license which will be transferred to Illinois.

<sup>3</sup>Copies of the public comments are available for public inspection in the Commission's public document room at 1717 H Street NW, Washington DC and the Commission's Region III Office, 799 Roosevelt Road, Building No. 4, Glen Ellyn, Illinois.

<sup>4</sup>While the term "uranium milling" was used, subsection o applies to "the licensing and regulation of byproduct material, as defined in Section 11e.(2) of this Act, or of any activity which results in the production of byproduct material as so defined under an agreement entered pursuant to subsection b." Illinois did not request inclusion in the Agreement of Section 11e.(2) byproduct material and subsection o does not therefore apply.

- o Unavailability in the NRC H Street PDR of documents referenced in the Federal Register (Conner and Wetterhahn).
- o Request to extend the comment period from 30 to 60 days (Conner and Wetterhahn).
- o Request for reconsideration by NRC of the classification of radioactive materials at the Kerr-McGee Rare Earths Facility in West Chicago (Eugene A. Rennels).
- o Request that Illinois be required to assume regulatory jurisdiction over all the radioactive materials at the Kerr-McGee Rare Earths Facility in West Chicago (i.e., byproduct material as defined in Section 11e.(2) of the Act) (Eugene A. Rennels).
- o Request that NRC adopt as policy certain resolutions of the City of West Chicago concerning the radioactive materials at the Kerr-McGee Rare Earths Facility (Eugene A. Rennels).
- o Objections to the planned requests by NRC staff to terminate the NRC adjudicatory proceedings on Sheffield and Kress Creek if the proposed Agreement is approved (Conner and Wetterhahn, Covington and Burling).
- o Objection to NRC staff plan to transfer to Illinois under the Agreement jurisdiction over certain thorium contaminated materials associated with the Kerr-McGee West Chicago facility (Covington and Burling).
- o Objection to NRC staff views that transfers of authority under Section 274b. Agreements may be made by categories of materials only (Conner and Wetterhahn).
- o Requests for an opportunity to present oral views to the Commission (Conner and Wetterhahn, Covington and Burling).

The staff carefully considered the comments that were submitted. The principal purposes of the comments are to request relief from the provisions of the proposed Agreement and to request an opportunity to orally present arguments to the



Commission. The applicable tests to be applied to a proposed Section 274b Agreement are the requirements of Section 274 of the Act, as amended, and the previously referenced implementing Commission Policy Statement (see p.4., supra) which specifies criteria to be met by States requesting approval to enter into Section 274b Agreements. None of the comments received within the comment period disputed the staff's assessment and conclusion with respect to the adequacy and compatibility of the proposed Illinois program. Following expiration of the comment period, one commenter (Conner and Wetterhahn) continued to file comments by means of supplementary letters (now numbering 5 as of the date of preparation of this paper) including a comment taking issue with the staff's finding of compatibility for the low-level waste program. The NRC staff has found the comment on compatibility to be without merit (see Enclosure C, comment no. 5 p.8, footnote 2, infra). The staff, after consideration of the comments, finds no basis to alter its conclusions. Since the other public comments did not substantively dispute the staff's assessment and were, in the main, limited to legal and procedural matters outside the scope of the assessment, the staff sees no reason to suggest consideration by the Commission of the requests by the commenters to present oral arguments on these matters.

The proposed program will be administered by the Illinois Department of Nuclear Safety, a cabinet level State agency. Approximately 800 licenses will be transferred to the State. NRC staff has worked out the details of the transfer with Illinois to assure a smooth transition. In October, 1986 the Department held a public meeting for NRC materials licensees in Illinois to explain the arrangements under the Agreement and introduce Department staff. OSP and Region III staffs participated.

It should be noted that the NRC staff conducts an extensive post agreement program with each Agreement State following execution of a 274b agreement. This program consists of exchange of information, technical assistance, training, and periodic on-site reviews of the radiation control programs. Exchange of information covers incidents, enforcement actions, policies, regulations and program statistics. Technical assistance includes help with statutes, regulations, licenses and inspections that are unusual or technically complex, and enforcement actions. Training includes a variety of courses designed to enhance staff proficiency in health

physics, radiation engineering, licensing, inspection procedures, transportation, radiography and medical applications. Periodic program reviews are made at 12-18 month intervals to determine program adequacy and compatibility using Commission approved guidelines. Communications are frequent with a new agreement State during the "start up" period and an on-site visit is made in about three months to see if there are any problem areas needing assistance.

If approved by the Commission, Illinois will become the 29th Agreement State and the second such State in Region III.

RECOMMENDATION:

That the Commission:

Find:

1. That the proposed Illinois program for control of radiation hazards with respect to byproduct materials as defined in Section 11e.(1) of the Atomic Energy Act, source materials, and special nuclear materials in quantities not sufficient to form a critical mass, and permanent disposal of low-level waste containing one or more of the foregoing materials but not containing uranium and thorium mill tailings (byproduct material as defined in Section 11e.(2) of the Act) is compatible with the Commission's program for the regulation of like materials; and
2. That the proposed Illinois program is adequate to protect the public health and safety with respect to the materials within the State covered by the proposed Section 274b Agreement.
3. That authority to regulate the Allied-Chemical  $UF_6$  conversion plant shall be retained by the Commission consistent with its decision on policy for licenses subject to Section 274b Agreements which have common defense and security significance (SECY-87-59).

Approve:

1. The proposed Section 274b Agreement set forth in Enclosure A between the State of Illinois and the Nuclear Regulatory Commission.



2. The proposed Order to Allied-Chemical placing its conversion plant under continued NRC regulatory authority for health and safety as provided by Section 274m of the Act, as amended.

Note:

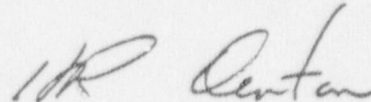
1. That the Commission's decision on Policy for licensees whose activities have a potential common defense and security significance has been applied to the Allied Chemical  $UF_6$  conversion plant in Illinois. The staff will prepare correspondence notifying DOE of this decision as specified in SECY 87-09 and will prepare proposed revisions to the NRC Policy Statement to incorporate this decision.
2. That the Section 274b Agreement will be published in the Federal Register within thirty days after signature of both parties as required by the Act.
3. That the staff has been informed by Dr. Lash, Director of the Illinois Department of Nuclear Safety that the State does not desire a formal signing ceremony. Staff will prepare the Agreement documents for the Chairman's signature and make appropriate arrangements for the execution of the Agreement by correspondence.
4. That the Subcommittee on Nuclear Regulation of the Senate Committee on Environment and Public Works, the Subcommittee on Energy and the Environment of the House Committee on Interior and Insular Affairs, and the Subcommittee on Energy and Power of the House Committee on Energy and Commerce will be informed by a letter similar to Enclosure D.
5. That a Public Announcement such as Enclosure E will be issued on filing of the notice with the Office of the Federal Register.
6. That a letter to Governor Thompson similar to Enclosure F will be sent if the Commission approves the proposed Agreement.

COORDINATION:

The Office of the General Counsel has reviewed the Commission paper and enclosures and has no legal objection. The Executive Director for Operations has concurred in it.

SCHEDULING:

In his request, Governor Thompson did not specify an effective date for the Agreement. Staff discussions with Dr. Lash, Director of the Illinois Department of Nuclear Safety indicate that a target date of March 1, 1987 was planned for. The staff believes an effective date of at least two weeks after approval would permit time for the State to sign the Agreement and allow for completion of an orderly transfer of files prior to the effective date. Therefore the staff recommends Commission action by May 6, 1987.



Harold R. Denton, Director  
Office of Governmental and  
Public Affairs

Enclosures:

- A. Proposed Agreement
- B. Federal Register Notice  
with NRC staff assessment
- C. Summaries of public comments  
and NRC staff responses
- D. Proposed letters to Congressional  
Committees
- E. Proposed Public Announcement
- F. Proposed letter to Governor of Illinois
- G. Proposed Order to Allied-Chemical



Commissioners' comments or consent should be provided directly to the Office of the Secretary by c.o.b. Tuesday, May 5, 1987.

Commission Staff Office comments, if any, should be submitted to the Commissioners NLT Tuesday, April 28, 1987, with an information copy to the Office of the Secretary. If the paper is of such a nature that it requires additional time for analytical review and comment, the Commissioners and the Secretariat should be apprised of when comments may be expected.

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ENCLOSURE A



Enclosure A

AGREEMENT  
BETWEEN THE  
UNITED STATES NUCLEAR REGULATORY COMMISSION  
AND THE  
STATE OF ILLINOIS  
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 Nuclear Regulatory Commission (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 by-product materials as defined in Sections 11e.(1) and (2) of the Act, source materials, and special nuclear materials in quantities not sufficient to form a critical mass; and,

WHEREAS, the Governor of the State of Illinois is authorized under Illinois Revised Statutes, 1985, ch. 111  $\frac{1}{2}$ , par. 216b and ch. 111  $\frac{1}{2}$ , par. 241-19, to enter into this Agreement with the Commission; and,

WHEREAS, the Governor of the State of Illinois certified on October 2, 1986, that the State of Illinois (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,

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,

WHEREAS, the Commission and the State recognize the desirability of reciprocal recognition of licenses and exemptions 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 in behalf of the State, as follows:

## ARTICLE I

Subject to the exceptions provided in Articles II, IV and V, 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:

- A. Byproduct material as defined in Section 11e.(1) of the Act;
- B. Source materials;
- C. Special nuclear materials in quantities not sufficient to form a critical mass; and,
- D. The land disposal of source, byproduct and special nuclear material received from other persons.

## ARTICLE II

This Agreement does not provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of:

- A. The construction and operation of any production or utilization facility;
- B. The export from or import into the United States of byproduct, source, or special nuclear material, or of any production or utilization facility;
- C. The disposal into the ocean or sea of byproduct, source or special nuclear waste materials as defined in regulations or orders of the Commission;
- D. 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; and,
- E. The extraction or concentration of source material from source material ore and the management and disposal of the resulting byproduct material.

## ARTICLE III

This Agreement may be amended, upon application by the State and approval by the Commission, to include the additional area specified in Article II, paragraph E, whereby the State can exert regulatory control over the materials stated therein.

## ARTICLE IV

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 shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

#### ARTICLE V

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 VI

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 VII

The Commission and the State agree that it is desirable to provide 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 VIII

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 may also, pursuant to Section 274j of the Act, temporarily suspend all or part of this Agreement if, in the judgment of the Commission, an emergency situation exists requiring immediate action to protect public health and safety and the State has failed to take necessary steps. The Commission shall periodically review this Agreement and actions taken by the State under this Agreement to ensure compliance with Section 274 of the Act.

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 VIII.

Done at \_\_\_\_\_, in triplicate, this \_\_\_\_\_ day of \_\_\_\_\_.

FOR THE UNITED STATES  
NUCLEAR REGULATORY COMMISSION

\_\_\_\_\_, Chairman

FOR THE STATE OF ILLINOIS

\_\_\_\_\_  
\_\_\_\_\_  
Governor



ENCLOSURE B

**SUMMARY:** Notice is hereby given that the U.S. Nuclear Regulatory Commission is publishing for public comment the NRC staff assessment of a proposed agreement received from the Governor of the State of Illinois for the assumption of certain of the Commission's regulatory authority pursuant to section 274 of the Atomic Energy Act of 1954, as amended. Comments are requested on the public health and safety aspects of the proposal.

A staff assessment of the State's proposed program for control over sources of radiation is set forth below as supplementary information to this notice. A copy of the proposed agreement, program narrative, including the referenced appendices, applicable State legislation and Illinois regulations, is available for public inspection in the Commission's public document room at 1717 H Street N.W., Washington, DC, the Commission's Region III Office, 799 Roosevelt Road, Building No. 4, Glen Ellyn, Illinois, and the Illinois Department of Nuclear Safety, 1035 Outer Park Drive, Springfield, Illinois. Exemptions from the Commission's regulatory authority, which would implement this proposed agreement, have been published in the Federal Register and codified as Part 150 of the Commission's regulations in Title 10 of the Code of Federal Regulations.

**DATE:** Comments must be received on or before January 30, 1987.

**ADDRESSES:** Written comments may be submitted to the Rules and Procedures Branch, Division of Rules and Records, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Comments may also be delivered to Room 4000, Maryland National Bank Building, Bethesda, Maryland from 8:15 a.m. to 5:00 p.m. Monday through Friday. Copies of comments received may be examined at the NRC Public Document Room, 1717 H Street N.W., Washington DC.

**FOR FURTHER INFORMATION CONTACT:** Joel O. Lubenau, Office of State Programs, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone: 301-492-8887.

**SUPPLEMENTARY INFORMATION:** Assessment of Proposed Illinois Program to Regulate Certain Radioactive Materials Pursuant to section 274 of the Atomic Energy Act of 1954, as amended.

The Commission has received a proposal from the Governor of Illinois for the State to enter into an agreement with the NRC whereby the NRC would

relinquish and the State would assume certain regulatory authority pursuant to section 274 of the Atomic Energy Act of 1954, as amended.

Section 274e of the Atomic Energy Act of 1954, as amended, requires that the terms of the proposed agreement be published for public comment once each week for four consecutive weeks. Accordingly, this notice will be published four times in the Federal Register.

#### I. Background

A. Section 274 of the Atomic Energy Act of 1954, as amended, provides a mechanism whereby the NRC may transfer to the States certain regulatory authority over agreement materials<sup>1</sup> when a State desires to assume this authority and the Governor certifies that the State has an adequate regulatory program, and when the Commission finds that the State's program is compatible with that of the NRC and is adequate to protect the public health and safety. Section 274g directs the Commission to cooperate with the States in the formulation of standards for protection against radiation hazards to assure that State and Commission programs for radiation protection will be coordinated and compatible. Further, section 274j provides that the Commission shall periodically review such agreements and actions taken by the States under the agreements to ensure compliance with the provisions of this section.

B. In a letter dated October 2, 1986, Governor James P. Thompson of the State of Illinois requested that the Commission enter into an agreement with the State pursuant to section 274 of the Atomic Energy Act of 1954, as amended. The Governor certified that the State of Illinois has a program for control of radiation hazards which is adequate to protect the public health and safety with respect to the materials within the State covered by the proposed agreement, and that the State of Illinois desires to assume regulatory responsibility for such materials. The text of the proposed agreement is shown in Appendix A.

The specific authority requested is for (1) byproduct material as defined in section 11e(1) of the Act, (2) source material, (3) special nuclear material in quantities not sufficient to form a critical mass and (4) permanent disposal of low-level waste containing one or

more of the foregoing materials but not containing uranium and thorium mill tailings (byproduct material as defined in section 11e(2) of the Act. The State does not wish to assume authority over uranium recovery activities. The State, however, reserves the right to apply at a future date to NRC for an amended agreement to assume authority in this area. The nine articles of the proposed agreement cover the following areas:

I. Lists the materials covered by the agreement.

II. Lists the Commission's continued authority and responsibility for certain activities.

III. Allows for future amendment of the agreement.

IV. Allows for certain regulatory changes by the Commission.

V. References the continued authority of the Commission for common defense and security for safeguard purposes.

VI. Pledges the best efforts of the Commission and the State to achieve coordinated and compatible programs.

VII. Recognizes reciprocity of licenses issued by the respective agencies.

VIII. Sets forth criteria for termination or suspension of the agreement.

IX. Specifies the effective date of the agreement.

C. Ill. Rev. Stat. 1985, ch. 127, par. 63b17, the enabling statute for the Illinois Department of Nuclear Safety authorizes the Department to issue licenses to, and perform inspections of, users of radioactive materials under the proposed agreement and otherwise carry out a total radiation control program. Illinois regulations for radiation protection were adopted on September 25, 1986 under authority of the enabling statute and provide standards, licensing, inspection, enforcement and administrative procedures for agreement and non-agreement materials. Pursuant to § 330.380 the regulations will apply to agreement materials on the effective date of the agreement. The regulations provide for the State to license and inspect users of naturally-occurring and accelerator-produced radioactive materials.

D. Illinois is one of two States with a cabinet-level agency devoted exclusively to radiation safety and control. Illinois' role in radiation safety is traceable to 1955 when the Illinois General Assembly created the Atomic Power Investigating Commission. The Illinois Department of Nuclear Safety Program provides a comprehensive program encompassing radiation

<sup>1</sup> A. Byproduct materials as defined in 11e(1)

B. Byproduct materials as defined in 11e(2)

C. Source materials, and

D. Special nuclear materials in quantities not sufficient to form a critical mass

\* See the preceding document in which the Nuclear Regulatory Commission reviews the comment deadline.



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.

The Illinois regulation contains requirements for instruction and notices to workers that are uniform with those of 10 CFR Part 19.

Reference: 32 ILL. ADM. CODE Part 400.

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

The Illinois regulations contain a requirement for security of stored radioactive material.

Reference: 32 ILL. ADM. CODE 340.2060.

9. *Radioactive Waste Disposal.* (a) Waste disposal by material users. The standards for the disposal of radioactive materials into the air, water and sewer, and burial in the soil shall be in accordance with 10 CFR Part 20. Holders of radioactive material desiring to release or dispose of quantities or concentrations of radioactive materials in excess of prescribed limits shall be required to obtain special permission from the appropriate regulatory authority.

Requirements for transfer of waste for the purpose of ultimate disposal at a land disposal facility (waste transfer and manifest system) shall be in accordance with 10 CFR Part 20.

The waste disposal standards shall include a waste classification scheme and provisions for waste form, applicable to waste generators, that is equivalent to that contained in 10 CFR Part 61.

(b) Land Disposal of waste received from other persons. The State shall promulgate regulations containing licensing requirements for land disposal of radioactive waste received from other persons which are compatible with the applicable technical definitions, performance objectives, technical requirements and applicable supporting sections set forth in 10 CFR Part 61. Adequate financial arrangements (under terms established by regulation) shall be required of each waste disposal site licensee to ensure sufficient funds for decontamination, closure and stabilization of a disposal site. In addition, Agreement State financial arrangements for long-term monitoring and maintenance of a specific site must be reviewed and approved by the Commission prior to relieving the site operator of licensed responsibility (section 151(a)(2), Pub. L. 97-425).

The Illinois regulations contain provisions relating to the disposal of radioactive materials into the air, water and sewer and burial in soil which are

essentially uniform with those of 10 CFR Part 20. Waste transfer and manifest system requirements for transfer of waste for ultimate disposal at a land disposal facility are included in the Illinois regulations. The waste disposal requirements include a waste classification scheme and provisions for waste form equivalent to that in 10 CFR Part 61.

The Illinois regulations provide for land disposal of low-level radioactive waste received from other persons which are compatible with the applicable technical definitions, performance objectives, technical requirements and supporting sections set out in 10 CFR Part 61. The Illinois regulations include provisions for financial arrangements for decontamination, closure and stabilization. Under the Nuclear Waste Policy Act of 1982 (Pub. L. 97-425) the financial arrangements for long-term monitoring and maintenance at specific sites in Illinois will be subject to Commission review and approval prior to Illinois relieving the site operator of licensed responsibility.

References: 32 ILL. ADM. CODE 340.1060, 340.3010 to 340.3110, Part 601; Section 151(a)(2), Pub. L. 97-425.

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.

The Illinois regulations are uniform with those contained in NRC regulations 10 CFR Part 71.

References: 32 ILL. ADM. CODE Part 341.

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.

The Illinois regulations require the following records and reports licensees and registrants:

(a) Records covering personnel radiation exposures, radiation surveys, and disposals of materials.

(b) Records of receipt and transfer of materials.

(c) Reports concerning incidents involving radioactive materials.

(d) Reports to former employees of their radiation exposure.

(e) Reports to employees of their annual radiation exposure.

(f) Reports to employees of radiation exposure in excess of prescribed limits.

Reference: 32 ILL. ADM. CODE 310.40, 340.4010, 340.4030, 340.4050 and 400.130.

12. *Additional Requirements and Exemptions.* Consistent with the overall criteria here enumerated and to accommodate special cases and 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.

The Illinois Department of Nuclear Safety is authorized to impose upon any licensee or registrant by rule, regulation, or order such requirements in addition to those established in the regulations as it deems appropriate or necessary to minimize danger to public health and safety or property.

Reference: 32 ILL. ADM. CODE 310.70.

The Department may also grant such exemptions from the requirements of the regulations as it determines are authorized by law and will not result in undue hazard to public health and safety or property.

Reference: 32 ILL. ADM. CODE 310.30.

*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.

Prior to the issuance of a specific license for the use of radioactive materials, the Illinois Department of Nuclear Safety will require the submission of information on, and will make an evaluation of, the potential hazards of such uses, and the capability of the applicant.

References: 32 ILL. ADM. CODE 330.240 to 330.340 and Part 601; Illinois Program Statement, Sections II.B.1.(a)(1) "Licensing," II.C.1.(a)(3) "Regulating Low-Level Waste Disposal" and III.B. "Licensing."

Provision is made for the issuance of general licenses for byproduct, source and special nuclear materials in situations where prior evaluation of the licensee's qualifications, facilities, equipment and procedures are not required. The regulations grant general licenses under the same circumstances as those under which general licenses are granted in the Commission's regulations.

References: 32 ILL. ADM. CODE 330.210 and 330.220.

Provision is made for exemption of certain source and other radioactive materials and devices containing radioactive materials. The exemptions for materials covered by the Agreement are the same as those granted by NRC regulations.

References: 32 ILL. ADM. CODE 330.30 and 330.40.

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

In evaluating a proposal to use agreement materials, the Illinois Department of Nuclear Safety will determine that:

(1) The applicant is qualified by reason of training and experience to use the material in question for the purpose requested in accordance with the regulations in such a manner as to minimize danger to public health and safety or property;

(2) The applicant's proposed equipment, facilities, and procedures are adequate to minimize danger to public health and safety or property; and

(3) The issuance of the license will not be inimical to the health and safety of the public.

Other special requirements for the issuance of specific licenses are contained in the regulations.

References: 32 ILL. ADM. CODE 330.250 to 330.280 and Part 601; Illinois Program Statement, Sections II.B.1.(a)(1) "Licensing," II.C.1.(a) "Low-Level Radioactive Waste Management" and III.B. "Licensing."

**15. 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.

The Illinois regulations require that the use of radioactive materials (including sealed sources) on or in humans shall be by a physician having substantial experience in the handling and administration of radioactive material and, where applicable, the clinical management of radioactive patients.

Reference: 32 ILL. ADM. CODE 330.280(a), (b), and (c).

#### *Inspection*

**16. 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.

Illinois materials licensees will be subject to inspection by the Department of Nuclear Safety. Upon instruction from the Department, licensees shall perform or permit the Department to perform such reasonable tests and surveys as the Department deems appropriate or necessary. The frequency of inspections

is dependent upon the type and scope of the licensed activities and will be at least as frequent as inspections of similar licensees by NRC. Generally, inspections will be unannounced.

References: 32 ILL. ADM. CODE 310.50, 310.60, 310.70 and 400.140(a); Illinois Program Statement, Section II.B.1.(a)(2) "Inspection and Compliance," Section III.C. "Inspection and Enforcement" and Section IV.C., "Division of Responsibilities."

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

Illinois regulations state that licensees shall afford the Department at all reasonable times opportunity to inspect sources of radiation and the premises and facilities wherein such sources of radiation are used or stored.

Reference: 32 ILL. ADM. CODE 310.50.

**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.

Following Department inspections, each licensee will be notified in writing of the results of the inspection. The letters and written notices indicate if the licensee is in compliance and if not, list the areas of noncompliance.

Reference: Illinois Program Statement, Section II.B.1.(a)(2) "Inspection and Compliance," Section III.C. "Inspection and Enforcement" and Section IV.C., "Division of Responsibilities."

#### *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.

The Illinois Department of Nuclear Safety is equipped with the necessary powers for prompt enforcement of the regulations. Where conditions exist that create a clear presence of a hazard to the public health that requires immediate action to protect human health and safety, the Department may issue orders to reduce, discontinue or eliminate such conditions. The department actions may also include impounding of radioactive material, imposition of a civil penalty, revocation

"Health Physics in Radiation Accidents." Oak Ridge Associated Universities, Tennessee (1979)  
 "Laser Safety Seminar." US Food and Drug Admin., Wisconsin (1979)  
 "Radiological Response Operations Training Course." US NRC, Nevada (1978)  
 "Radiopharmacies—Problems and Solutions." Univ. of Southern California, California (1978)  
 "Radiological Emergency Response Planning Course." US NRC, Minnesota (1977)  
 "Health Physics and Radiation Protection." US NRC, Tennessee (1977)  
 "Fundamentals of Non-Ionizing Radiation Protection." U.S. Food and Drug Administration, Maryland (1973)  
 "Licensing Course—Byproduct, Source, and Special Nuclear Materials." US NRC, Maryland (1972)  
**Experience:**  
 1980—Present: Illinois Department of Nuclear Safety  
 1971—1980: Illinois Department of Public Health, Division of Radiological Health  
 1970—1971: University of Iowa Radiation Protection Office  
*Michael Ewan: Chief, Division of Nuclear Materials. Manages the Division including supervision of staff and establishment of program objectives.*  
**Training:**  
 M.A.—Sangamon State University, IL (1980)  
 —Business Administration  
 B.S.—University of Iowa (1971)  
 —General Science/Nuclear Medicine Technology  
 "Uranium and Thorium: A Perspective on the Hazard." Radiation Safety Associates, Inc., Springfield, Illinois (1986)  
 "Special Topics in Licensing: Contingency Plans." US NRC, San Francisco, CA (1986)  
 "Incineration Basics." Univ. of California, Irvine, Charlotte, N.C. (1986)  
 "Basic Supervision." Key Productivity Center, Springfield, Illinois (1986)  
 "Impact of Proposed Changes to 10 CFR 20." Technical Management Services, Inc., Gaithersburg, Maryland (1986)  
 "Transportation of Radioactive Materials." US DOE, Illinois (1985)  
 "Technical Writing." Richmond Staff Development, Illinois (1985)  
 "Health Physics and Radiation Protection." Oak Ridge Associated Universities, Tennessee (1985)  
 "Gas and Oil Well Logging." US NRC, Texas (1984)  
 "Licensing Practices and Procedures." US NRC, Maryland (1984)

"Transportation of Radioactive Materials." US NRC, Illinois (1983)  
 "Current Applications of Nuclear Imaging." Siemens Gammasonics, Inc., Illinois (1981)  
 "Nuclear Cardiology." Univ. of Wisconsin, Wisconsin (1980)  
**Experience:**  
 1982—Present: Illinois Department of Nuclear Safety  
 1973—1982: St. John's Hospital, Springfield, Illinois  
 1981: Lincoln Land Community College, Springfield, Illinois (Instructor)  
 1973—1977: Nuclear Medicine Institute, Ohio (Affiliate Instructor)  
 1971—1973: Wesley Medical Center, Kansas  
*Jou-Guang (Joe) Hwang: Licensing Section Head, Division of Nuclear Materials. Responsible for supervising the review of radioactive material license applications.*  
**Training:**  
 Ph.D.—Purdue University (1985)  
 —Health Physics  
 MSPH—University of South Carolina (1981)  
 —Industrial Hygiene and Environmental Quality Assessment  
 B.S.—National Taiwan University (1978)  
 —Pharmacy  
 "Uranium and Thorium: A Perspective on the Hazard." Radiation Safety Associates, Inc., Springfield, Illinois (1986)  
 "External Dosimetry." Health Physics Society, State College, Pennsylvania (1986)  
 "Introduction to Licensing Practices and Procedures." US NRC, Bethesda, Maryland (1986)  
 "Medical Uses of Radionuclides for State Regulatory Personnel." US NRC, Oak Ridge Tennessee (1986)  
**Experience:**  
 1986—Present: Illinois Department of Nuclear Safety  
 1983—1986: Purdue University, Graduate Teaching Instructor, School of Pharmacy, Nursing and Health Sciences  
 1980—1982: Purdue University, Graduate Research Instructor, School of Health Sciences  
 1980—1981: University of South Carolina, Graduate Teaching Assistant, Department of Environmental Health Sciences  
 1970—1980: University of South Carolina, Graduate Research Assistant, Department of Environmental Health Sciences  
 1978—1979: The Church of Taipei, Minister, Taipei, Taiwan  
 1976—1979: Yun-Fu Pharmaceutical Ltd., Pharmacist, Taipei, Taiwan

1977—1977: National Taiwan University, Hospital, Pharmacy Intern, Taipei, Taiwan  
 1977—1977: Pfizer Pharmaceutical Company, Assistant Pharmacist (Intern), Tan-Shui, Taiwan ROC  
*Y. David La Touche: Radioactive Materials License Reviewer, Division of Nuclear Materials. Performs reviews of radioactive material license applications and performs inspections of radioactive materials licensees.*  
**Training:**  
 Ph.D.—Oregon State University (1981)  
 —Radiation Biology  
 M.S.—Oregon State University (1978)  
 —Biological Science  
 B.S.—Concordia University, Montreal, Canada (1976)  
 —Biology  
 "Special Topics in Licensing: Contingency Plans." US NRC, San Francisco, CA (1986)  
 "Health Physics and Radiation Protection." US NRC, Oak Ridge, Tennessee (1986)  
 "Uranium and Thorium: A Perspective on the Hazard." Radiation Safety Associates, Inc., Springfield, Illinois (1986)  
 "Introduction to Licensing Practices and Procedures." US NRC, Bethesda, Maryland (1986)  
**Experience:**  
 1986—Present: Illinois Department of Nuclear Safety  
 1982—1986: Oregon State University, Corvallis, Oregon Research Associate  
 1979—1981: Oregon State University, Corvallis, Oregon Graduate Research Associate  
 1977—1979: Oregon State University, Corvallis, Oregon Graduate, Teaching Assistant  
*Yu-Ann Stephen Hsu: Radioactive Materials License Reviewer, Division of Nuclear Materials. Performs reviews of radioactive material license applications and performs inspections of radioactive materials licensees.*  
**Training:**  
 M.S.—Old Dominion University (1982)  
 —Norfolk, Virginia  
 —Physics  
 B.S.—Tam Kang college of Arts and Sciences  
 —Physics  
 "Introduction to Air Toxics." US EPA, Kansas City, Missouri (1985)  
 "Health Physics and Radiation Protection." US NRC, Oak Ridge, Tennessee (1984)  
 "Safety Aspects of Industrial Radiography for State Regulatory Personnel." US NRC, Baton Rouge, Louisiana (1984)



1968-Present: Illinois Department of Nuclear Safety  
 1984-1986: University of Lowell  
 1985: Brookhaven National Laboratory  
 1983: Oak Ridge National Laboratory

*Andrew S. Gulczynski:* Chicago  
 Inspection and Enforcement Section  
 Head, Division of Nuclear Materials.  
 Supervises Chicago office materials  
 license inspectors.

#### Training:

B.S.—Northeastern Illinois University (1981)  
 —Biology  
 "Five Week Health Physics and Radiation Protection Course," US NRC, Oak Ridge, Tennessee (1986)  
 "Internal Dose Assessment," Technical Management Services, Inc., Illinois (1985)  
 "Transportation of Radioactive Materials," US DOE, Chicago, Illinois (1985)  
 "Medical Uses of Radionuclides for State Regulatory Personnel," US NRC, Oak Ridge, Tennessee (1984)  
 "Safety Aspects of Industrial Radiography for State Regulatory Personnel," US NRC, Baton Rouge, Louisiana (1983)  
 "Inspection Procedures for State Regulatory Personnel," US NRC, Atlanta, Georgia (1983)  
 "Radiological Emergency Response Operations," FEMA, Las Vegas, Nevada (1983)

#### Experience:

1985-Present: Illinois Department of Nuclear Safety  
 1982-1985: Kansas Department of Health and Environment, Bureau of Radiation Control, Topeka, Kansas.  
 1981-1982: Argonne National Laboratory, Argonne, Illinois  
 1977-1981: Northeastern Illinois University, Chicago, Illinois

*John D. Papendorf:* Radioactive Materials License Inspector. Performs reviews of radioactive materials license applications and performs inspections of radioactive materials licensees.

#### Training:

N.M.T.—Oak Park Hospital (1975)  
 —Nuclear Medicine Technologist Certification  
 R.T.—Hines V.A. Hospital (1972)  
 —X-Ray Technologist Certification  
 A.S.—Central YMCA College (1972)  
 "Inspection of Transportation of Radioactive Materials," US NRC, Glen Ellyn, Illinois (1985)  
 "Nuclear Transportation for State Regulatory Personnel," US NRC, Columbia South Carolina (1984)  
 "Hazardous Materials Training Course," U.S. DOE, Chicago, Illinois (1983)  
 "Radiation Safety," Northwestern University, Evanston, Illinois (1982)

"Radiation Therapy Workshop, Medical Linear Accelerators," US Public Health Service, Chicago, Illinois (1981)

"Acceptance Testing of Radiological Imaging Equipment," American Association of Physicists in Medicine, American College of Radiology and Society for Radiological Engineering, Chicago, Illinois (1981)

"Safety Aspects of Industrial Radiography for State Programs," US NRC, Baton Rouge, Louisiana (1981)

"Inspection Procedures," US NRC, Glen Ellyn, Illinois (1980)

"Quality Assurance in Nuclear Medicine Departments," US Food and Drug Administration, Rockville, Maryland (1979)

"Radiological Emergency Response Operations Training Course for State and Local Government Emergency Preparedness Personnel," FEMA, Las Vegas, Nevada (1979)

"Special Procedures on CT Scanners," US Public Health Service, Chicago, Illinois (1978)

"Radiological Workshop," US Public Health Service, Chicago, Illinois (1976)

#### Experience:

1980-Present: Illinois Department of Nuclear Safety  
 1978-1980: Illinois Department of Public Health, Division of Radiological Health  
 1973-1978: Oak Park Hospital, Nuclear Medicine Technologist, Oak Park, Illinois  
 1972-1973: Oak Park Hospital, X-Ray Technologist, Oak Park, Illinois

*Robin Gehhardt Bauer:* Radioactive Materials License Inspector. Performs reviews of radioactive materials license applications and performs inspections of radioactive materials licensees.

#### Training:

M.S.—Emory University (1985)  
 —Radiological Physics  
 B.S.—University of Miami (1983)  
 —Biology  
 "Health Physics and Radiation Protection," US NRC, Oak Ridge, Tennessee (1988)

#### Experience:

1986-Present: Illinois Department of Nuclear Safety  
 1985-1986: Georgia Baptist Hospital, Internship, Medical Physics, Atlanta, Georgia  
 1985-1985: Emory University, X-Ray, Nuclear Medicine, Calibration, Atlanta, Georgia  
 19893-1984: Loyola University, Research Technician, Maywood, Illinois

*Joanne B. Karik:* Radioactive Materials License Inspector. Performs reviews of radioactive materials license

applications and performs inspections of radioactive materials licensees.

#### Training:

Graduate work toward M.S.—Colorado State University (1985)  
 —University of Tennessee (1982)  
 —Health Physics  
 B.S.—Villanova University (1973)  
 —Biology

Certificate—St. Joseph's Hospital and Medical Center School of Nuclear Medicine Technology Paterson, New Jersey (1977)

"Inspection Procedures," US NRC, Atlanta, Georgia (1986)

#### Experience:

1986-Present: Illinois Department of Nuclear Safety  
 1981-1984: Oak Ridge National Laboratory, Health and Safety Research Division, Senior Laboratory Technician  
 1979-1981: Oak Ridge National Laboratory, Biology Division, Biological Technician  
 1977-1978: Radiology Associates, Albert Einstein Medical Center, No. Division, Nuclear Medicine Technologist.  
 1976-1977: SpectroChem Laboratories, Inc., Analytical Chemistry Technician  
*John W. Cooper:* Manager, Office of Environmental Safety. Provides technical support to the Division of Nuclear Materials on an as needed basis.

#### Training:

Ph.D.—University of Iowa (1971)  
 —Radiation Biology  
 M.S.—University of Iowa (1966)  
 —Pharmacy  
 B.S.—Drake University (1960)  
 —Pharmacy  
 "Industrial Ventilation Systems," OSHA Training Institute, Illinois (1983)  
 "Respirator Safety for CSHO's," OSHA Training Institute, Illinois (1982)

#### Experience:

1981-Present: Illinois Department of Nuclear Safety  
 1975-1981: U.S. Nuclear Regulatory Commission, Region III, Inspector and license reviewer  
 1971-1975: Allegheny General Medical Center, Radiation Biology Laboratory  
 1964-1971: University of Iowa, Radiation research and teaching

*Apparao Devata:* Chief, Division of Medical Physics. Provides technical support to the Division of Nuclear Materials on an as needed basis.

#### Training:

Ph.D.—University of New Orleans (1975)—Physics  
 M.S.—University of New Orleans (1972)—Physics



M.S.—University of Illinois (1965)—  
Nuclear Engineering

B.S.—Millikin University (1964)—  
Physics/Mathematics

"Management Education Workshop," Ill.  
Dept. of Personnel, Champaign (1978)

"International Symposium on Migration  
of Tritium in the Environment,"  
International Atomic Energy Agency,  
California (1978)

"Radiological Emergency Response  
Operations," US NRC, Nevada (1977)

"Workshop on Collective Bargaining for  
Public Employees," Ill. Dept. of  
Personnel (1978)

"Administrative and Organizational  
Behavior," Ill. Dept. of Public Health  
(1975)

"Professional Engineering Review,"  
Univ. of Ill. (1974)

"Response of Structures to External  
Forces, i.e., Earthquakes, Tornadoes,  
etc.," Penn. State Univ. (1968)

#### Experience:

1980–Present: Illinois Department of  
Nuclear Safety

1973–1980: Illinois Department of Public  
Health

1967–1973: Sangamo-Weston Electronics  
Company, Springfield, Illinois

1965–1967: Westinghouse Electric  
Company, Forrest Hills, Pennsylvania

Reference: Illinois Program Statement,  
Section III.D. "Allied Chemical Uranium  
Conversion Facility," Appendix 5, and  
Appendix 9. "Current Agreement State  
Staff Positions: Low-Level Radioactive  
Waste Management Program, Office of  
Environmental Safety."

#### c. Licensing and Regulation of Permanent Disposal of Low-Level Radioactive Waste

##### 1. Personnel

The Office of Environmental Safety  
has responsibility for the low-level  
waste (LLW) management regulatory  
program which includes the Sheffield  
site and the regional waste disposal  
facility. The assessment of the  
regulatory framework is included under  
Criterion 2, "Radioactive Waste  
Disposal." The LLW and transportation  
management program is staffed by 13  
technical staff members. The Manager  
of the Office of Environmental Safety  
will provide overall supervision and  
management and the Chief of the  
Office's Division of Nuclear Chemistry  
will provide laboratory support.  
Technical support will also be available  
from the Division of Nuclear Materials.  
These personnel and summaries of their  
duties are:

(a) Staff previously identified in the  
materials or uranium conversion plant  
regulatory oversight programs (Section  
20 a and b):

Michael H. Momenti, Lib-Ching Chu,  
John W. Cooper, James F. Schweitzer.

##### (b) Other IDNS Staff:

Robert A. Lommler, Chief, Division of  
Waste and Transportation. Has  
responsibilities for implementing the  
Illinois LLW management act,  
supervises staff in the LLW program and  
manages the spent nuclear fuel and LLW  
shipment inspection program.

##### Training:

B.S.—Kent State University (1971)—  
Chemistry

"10 CFR 61," US NRC, Springfield,  
Illinois (1986)

"Incinerator Basics," Univ. of California,  
Charlotte, N.C. (1986)

"Radioactive Material Transportation  
Workshop," US DOE, Chicago, Illinois  
(1985)

"10 CFR 61 Compliance," TMS, Inc.,  
Washington, D.C. (1984)

"Radiological Protection Officer  
Course," U.S. Army (1978)

"Chemical Officer Advanced Course,"  
U.S. Army (1978–1979)

"Transportation of Hazardous Materials  
by Air," US DOT (1972)

"Chemical Officer Basic Course," U.S.  
Army (1971)

##### Experience:

1984–Present: Illinois Department of  
Nuclear Safety

1979–1983: U.S. Army, Radiation Safety  
Officer, Ft. Riley, Kansas

1975–1978: U.S. Army, Manheim, West  
Germany

1971–1975: U.S. Army, Edgewood,  
Maryland

Michael Kleber: Nuclear Safety  
Engineer. Serves as technical resource  
on LLW management environmental  
problems, decommissioning and disposal  
facility siting.

##### Training:

M.S.—Montana College of Mineral  
Science and Technology (1982)—  
Mining Engineering

B.S.—Montana College of Mineral  
Science and Technology (1980)—  
Mining Engineering

##### Experience:

1986–Present: Illinois Department of  
Nuclear Safety

1982–1986: Shell Mining Company,  
Houston, Texas and Elkhart, Illinois,  
Mining Engineer

David Flynn: Geologist. Evaluates  
geological and hydrologic factors  
relating to LLW management.

##### Training:

B.S.—Southern Illinois University  
(1979)—Geology

"Uranium and Thorium: A Perspective  
on the Hazard," Radiation Safety  
Associates, Springfield, Illinois (1986)

"Corrective Actions for Containing and  
Controlling Ground Water  
Contamination," National Water Well  
Association, Columbus, Ohio (1986)

"A Standardized System for Evaluation  
of Groundwater Pollution Potential  
Using Hydrogeologic Setting,"  
National Water Well Association,  
Denver, Colorado (1986)

"Groundwater Pollution and  
Hydrology," Princeton & Associates,  
Miami, Florida (1986)

"Engineering and Design of Waste  
Disposal Systems," Civil Engineering  
Department, Colorado State  
University, Fort Collins, Colorado  
(1985)

"Groundwater Monitoring Workshop,"  
Illinois Department of Energy and  
Natural Resources, Champaign,  
Illinois (1984)

"Radiological Emergency Response  
Training for State and Local  
Government Emergency Preparedness  
Personnel," FEMA, Nevada Test Site  
(1983)

Experience:  
1983–Present: Illinois Department of  
Nuclear Safety  
1981–1983: Mine Geologist, Atlas  
Minerals Corporation, Moab, Utah  
1980–1981: Associate Mine Geologist,  
Rancher's Exploration & Development  
Corporation, Albuquerque, New  
Mexico  
1979–1980: Junior Geologist, Rancher's  
Exploration & Development  
Corporation, Albuquerque, New  
Mexico  
Shannon M. Flannigan: Geologist.  
Reviews, interprets and evaluates  
geologic hydrologic, physical and  
environmental data related to  
environmental impact, design, location,  
construction and decommissioning of  
facilities.

Training:  
B.S.—Drake University (1978) Geology  
A.A.—Springfield College in Illinois  
(1976)—Business  
"Radiological Emergency Response,"  
FEMA, Nevada (1986)  
"Groundwater Contaminant Transport  
Modeling," Princeton University,  
Princeton, New Jersey (1986)  
"A standardized System for Evaluating  
Groundwater Pollution Using  
Hydrogeologic Setting," Denver,  
Colorado (1986)  
"Groundwater Pollution & Hydrology,"  
Princeton Associates, Princeton, New  
Jersey (1986)

"Comprehensive Health Physics," Rockwell International (1985)

"Biological Effects of Ionizing Radiation," Harvard University, School of Public Health (1982)

"Dose Projection, Accident Assessment and Protective Action Decision Making for Radiological Emergency Response," US NRC, FEMA (1980)

"Environmental Radiation Surveillance," Georgia Institute of Technology (1977)

"Radiological Emergency Response Operations Training," US NRC, ERDA (1977)

"Environmental Source Term Modeling," University of Chicago, Argonne National Laboratory (1971)

**Experience:**

1980-Present: Illinois Department of Nuclear Safety

1973-1980: Illinois Department of Public Health

1972-1973: Illinois Environmental Protection Agency

*Abdul Khalique:* Nuclear Safety Scientist I. Plans, implements and participates in radioanalytical programs.

**Training:**

Ph.D.—University of Birmingham, England (1976), Analytical Chemistry

M.S.—University of Karachi, Pakistan (1967), Chemistry

B.S.—University of Karachi, Pakistan (1964)

Quality Control Course, University of Business Administration, University of Karachi, Pakistan (1964)

**Experience:**

1986-Present: Illinois Department of Nuclear Safety

1981-1986: Department of Pharmacology, Southern Illinois University School of Medicine

1975-1980: Glaxo Laboratories (Pakistan), Ltd.

1968-1970: Opal Laboratories, Ltd. (Pakistan)

*Melanie A. Hamel:* Health Physicist. Functions as a health physics specialist in the environmental monitoring division.

**Training:**

B.S.—University of Lowell, MA (1977), Health Physics

University of Lowell, MA (1977), Environmental Monitoring and Surveillance, Health Physics Certification Review, Medical Health Physics

"Environmental Law and the Citizen," Sangamon State University, Springfield, Illinois

"Post-Accident Radiation Assessment," Northwestern University, Illinois

"Radiation Protection Instrumentation," Harvard University, Boston, MA

"Radon Training Session for State Personnel," US EPA

**Experience:**

1982-Present: Illinois Department of Nuclear Safety

1977-1981: Yankee Atomic Electric Company

1975: University of Lowell, Research Reactor Facility, Health Physics Technician

*Michael V. Madonia:* Nuclear Safety Associate. Performs technical duties concerning nuclear facility monitoring and environmental radiation control.

**Training:**

B.S.—University of Illinois

—Nuclear Engineering, Radiation Protection and Shielding

"Air Sampling for Radioactive Materials," Oak Ridge Associated Universities, Oak Ridge, Tennessee (1986)

"Personal Computer Applications in Health Physics," TMS, Inc., Boston, MA (1986)

Nuclear-General Employee Training (NGET), Commonwealth Edison, Chicago, Illinois (1985)

"Radiation Detection and Measurement—Advanced Course," Eberline Analytical, Albuquerque, New Mexico (1985)

"Fundamentals of Ground Water Contamination," Geraghty & Miller, Chicago, Illinois (1985)

**Experience:**

1985-Present: Illinois Department of Nuclear Safety

1983-1984 (Summers): Illinois Department of Nuclear Safety

*Richard Walker:* Nuclear Policy Analyst. Performs review and analysis of Federal and State regulations.

**Training:**

Ph.D.—Purdue University (1976)

—Sociology (Research Methods and Statistics)

M.S.—Purdue University (1974)

—Sociology

B.S.—Marietta College (1972)

—Sociology

Environmental Radiation Surveillance, Harvard University, Massachusetts (1985)

"Fundamentals of Radiation Safety," Radiation Safety Associates (1985)

**Experience:**

1985-Present: Illinois Department of Nuclear Safety

1976-1984: Chairman, Department of Sociology, Blackburn College, Carlinville, Illinois

1976-1978: Department of Sociology, Muhlenberg College, Allentown, Pennsylvania

*Teresa A. Adams:* Nuclear Policy Analyst. Performs staff functions

coordinating and assisting with the direction of office programs.

#### Training:

B.A.—Wellesley College (1981)

—German

Massachusetts Institute of Technology, Department of Urban Studies and Planning (1982-1984)

University of Hanover, West Germany: Department of Planning and Architecture (1981-1982)

Additional coursework in decision analysis, fundamentals of radiation protection, hazardous waste minimization

#### Experience:

1985-Present: Illinois Department of Nuclear Safety

1984: Parliamentary Research Service, Bonn, West Germany

1982-1984: Worked on a variety of projects dealing with policy development and dispute resolution in environmental issues

*Paul E. Seidler:* Nuclear Policy Analyst. Responsible for implementing the Illinois public participation plan, also performs as liaison with local government groups.

#### Experience:

M.A.—University of Chicago (1986)

—Public Policy

B.A.—University of Illinois (1983)

—Political Science, Communications Studies

Urban & Regional Information Systems Association, 1986 Annual Conference (1986)

#### Experience:

1986-Present: Illinois Department of Nuclear Safety

1985-1986: University of Chicago, Office of the Comptroller

1985-1985: Illinois Bureau of the Budget

1984-1985: Compass Health Plans

1984-1984: U.S. Senator Paul Simon

1982-1982: Creative Research Associates

**Reference:** Illinois Program Statement, (Section II.C.1.a), "Low-Level Waste Management," (Section II.C.2.b) "Sheffield Low-Level Waste Disposal Facility," Section IV.B, "Low-Level Radioactive Waste Management Program," and Appendices 5 and 9.

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.



applicable to the proposed Illinois agreement.

Dated at Bethesda, Maryland, this 24th day of December 1986.

For the U.S. Nuclear Regulatory Commission.

G. Wayne Kerr,

Director, Office of State Programs.

Appendix A--Proposed Agreement Between the United States Nuclear Regulatory Commission and the State of Illinois 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 Nuclear Regulatory Commission (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 as defined in Sections 11e.(1) and (2) of the Act, source materials and special nuclear materials in quantities not sufficient to form a critical mass; and

WHEREAS, the Governor of the State of Illinois is authorized under Illinois Revised Statutes, 1985, ch. 111 ½, par. 216b and ch. 111 ½, par. 241-19 to enter into this Agreement with the Commission; and

WHEREAS, the Governor of the State of Illinois certified on \_\_\_\_\_ that the State of Illinois (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

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

WHEREAS, the Commission and the State recognize the desirability of reciprocal recognition of licenses and exemptions 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 in behalf of the State as follows:

#### Article I

Subject to the exceptions provided in Articles II, IV and V, 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:

A. Byproduct material as defined in section 11e.(1) of the Act;

B. Source materials;

C. Special nuclear materials in quantities not sufficient to form a critical mass; and

D. The land disposal of source, byproduct and special nuclear material received from other persons.

#### Article II

This Agreement does not provide for discontinuance of any authority and the Commission shall retain authority and responsibility with respect to regulation of:

A. The construction and operation of any production or utilization facility;

B. The export from or import into the United States of byproduct, source or special nuclear material, or of any production or utilization facility;

C. The disposal into the ocean or sea of byproduct, source or special nuclear waste materials as defined in regulations or orders of the Commission;

D. 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; and

E. The extraction or concentration of source material from source material ore and the management and disposal of the resulting byproduct material.

#### Article III

This Agreement may be amended, upon application by the State and approval by the Commission, to include the additional area specified in Article II, paragraph E, whereby the State can

exert regulatory control over the materials stated therein.

#### Article IV

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 shall not transfer possession or control of such product except pursuant to a license or an exemption from licensing issued by the Commission.

#### Article V

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 VI

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 VII

The Commission and the State agree that it is desirable to provide 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.



ENCLOSURE C

## Enclosure C

### Summaries of Public Comments and NRC Staff Responses<sup>1</sup>

#### Comments 1 and 2

Letters dated January 7, 1987, and January 15, 1987 from Robert M. Rader, Counsel for US Ecology, noting unavailability in the NRC H Street public document room of documents referenced in the Federal Register notice and requesting that the comment period be extended from 30 to 60 days. Mr. Rader stated that US Ecology, Inc. is currently a party to a proceeding before an NRC Atomic Safety and Licensing Board regarding the low-level radioactive waste disposal site near Sheffield, Illinois.

#### NRC Staff Response:

On January 27, 1987, G. Wayne Kerr, Director, OSP informed Mr. Rader that documents referenced in the FR notice were made available for public inspection in the PDR on January 9, 1987, that the comment period was extended to February 20, 1987 to accommodate public review of the corrected FR notice, and that the staff had decided, after careful consideration of the request, not to extend the 30 day comment period.

#### Comment 3

Letter dated January 29, 1987 from A. Eugene Rennels, Mayor, City of West Chicago, commenting on the classification of waste at the Kerr-McGee West Chicago Rare Earths Facility as section 11e.(2) byproduct material and on the request of Illinois to exclude this material from the provisions of the agreement, noting that under the proposed agreement Illinois would assume regulatory responsibility for off-site source material resulting from operation of the Kerr-McGee West Chicago Rare Earths Facility (including off-site material which has been or may be returned to the Kerr-McGee site), expressing the view that regulatory responsibility for the materials located at the West Chicago Rare Earths Facility site should not be divided between the State of Illinois and the NRC and requesting, in the alternative, either that the Commission disapprove the Agreement because it does not include section 11e.(2) byproduct material, or that the classification of the materials in the City of West Chicago, both those located at the Kerr-McGee West Chicago Rare Earths Facility site and those located off-site, be reassessed and determined to be source material. The Mayor also requested that NRC adopt as policy certain resolutions of the City of West Chicago concerning the radioactive materials at the Kerr-McGee Rare Earths Facility.

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<sup>1</sup>Copies of the public comments are available for public inspection in the Commission's public document room at 1717 H Street N.W., Washington, DC and the Commission's Region III Office, 799 Roosevelt Road, Building No. 4, Glen Ellyn, Illinois.

### NRC Staff Response

For the reasons set out below, the NRC staff disagrees with the commenters' views that the off-site process wastes from the West Chicago Rare Earths Facility, including those off-site wastes which have been subsequently returned to the West Chicago site, should be considered §11e.(2) byproduct material. In the opinion of the staff, these wastes are properly characterized as source material.

Under the regulatory scheme established by §274 of the Atomic Energy Act of 1954, as amended, the transfer of jurisdiction over particular licensees depends on whether the licensed activities fall within the categories of materials over which a state has agreed to assume regulatory authority under the provisions of a §274b agreement. In the case of the proposed Illinois agreement, Illinois would assume regulatory responsibility for activities in the following categories: §11e.(1) byproduct material, source material, special nuclear material in quantities not sufficient to form a critical mass, and land disposal of low-level radioactive waste received from other persons. NRC would retain jurisdiction over §11e.(2) byproduct material. While there is no argument over this division of authority, a dispute has arisen as to whether certain materials attributed to one licensee (Kerr-McGee Chemical Corporation) have been properly characterized. The dispute relates to the characterization of offsite materials located in the vicinity of Kerr-McGee's West Chicago site. (Some of these materials have been returned to the Kerr-McGee West Chicago site for storage.)

One commenter, the City of West Chicago, urges that all the radiological materials on and in the vicinity of the West Chicago site be classified as source material, thereby placing all regulatory authority over these materials in the State of Illinois. Another commenter, Covington & Burling on behalf of Kerr-McGee Chemical Corporation, urges that the offsite materials in the vicinity of the West Chicago site be classified as §11e.(2) byproduct material, thereby assuring that regulatory responsibility for these materials will remain with NRC. The waste materials that have remained on the site are already classified as §11e.(2) byproduct material. Both commenters object to the NRC staff's determination characterizing part of the materials at the West Chicago site as §11e.(2) byproduct material and part as source material (see Federal Register notice containing Staff Assessment of Proposed Agreement between the NRC and the State of Illinois, 52 FR 2309 at 2322, January 21, 1987.) In the opinion of these commenters, regulatory authority over these materials should either be exercised by NRC or by Illinois but not by both.

As defined in the Atomic Energy Act of 1954, as amended and the Commission's regulations, the terms source material and §11e.(2) byproduct material have the following meanings:

Source material means (1) uranium or thorium, or any combination thereof, in any physical or chemical form or (2) ores which contain by weight one-twentieth of one percent (0.05%) or more of (i) uranium, (ii) thorium or (iii) any combination thereof. Source material does not include special nuclear material.



of industrial uses including polishes, chemical manufacture, catalysts, and television phosphors. Beginning in the 1940's, the refinery, under Government contracts, became a principal source of thorium for national defense needs. Following World War II, much of the factory output was sold to U.S. government agencies. With the passage of the Atomic Energy Act of 1954, production of thorium at the facility became subject to federal regulation. At all times since May 1, 1956, the facility has been licensed by the Atomic Energy Commission or its successor, the Nuclear Regulatory Commission. In 1958, the facility was acquired by American Potash & Chemical Corporation which continued thorium production at the site. In 1967, Kerr-McGee acquired the West Chicago Rare Earths Facility as a small part of its larger acquisition of American Potash. In December 1973, Kerr-McGee discontinued operations at the facility.

Kerr-McGee, which now holds a license authorizing possession of unlimited amounts of thorium at the West Chicago Rare Earths Facility, has applied to the Commission for a license amendment authorizing it to decommission the facility and restore the West Chicago site to its approximate original state. Under the restoration plan proposed by Kerr-McGee, all the factory structures would be torn down (demolition of these structures is now essentially complete), five settling ponds would be eliminated and the contaminated building rubble and process wastes would be placed in a disposal cell on a landscaped and fenced portion of the site. The remainder of the property would be prepared for unrestricted, beneficial use. The NRC has not yet acted on Kerr-McGee's application for a license amendment. The matter is pending before an Atomic Safety and Licensing Board. The State of Illinois has intervened in this proceeding. Both Illinois and the City of West Chicago have indicated that they want all the contaminated material removed from the site.

According to the plant operating history, as presented in the Kerr-McGee Decommissioning Plan submitted August 15, 1979, the West Chicago facility processed 10,000 tons per year of monazite sands during peak production years between 1954 and 1958, about 5000 to 6000 tons per year between 1958 and 1963, and about 2000 to 2500 tons per year before 1954 and after 1963. The ore fed to the process from 1954-1973 was about 77 percent of the total ore used from 1936-1973. The liquid and solid waste volumes which resulted from the production process and contain significant quantities of thorium and thorium daughter products would be essentially proportional to ore use. It follows, therefore, that the majority of the liquid and solid wastes produced during the life of the facility, including those now on the West Chicago site, were produced during the period the facility was licensed by the Atomic Energy Commission.

The process used for thorium and rare earths production at the West Chicago facility produced two types of waste materials. These wastes were initially deposited on site. One waste material resulted from the ore digestion process and was a solid sandlike residue. The other waste material was composed of liquid wastes from a number of processes and contained dissolved salts and suspended solids. The solids settled out on the bottoms of the facility's sumps and percolation ponds. These sediments were periodically dredged from the ponds and sumps and placed

the operations at the West Chicago Rare Earths Facility can be attributed to the production of rare earths, it would be inaccurate to characterize all the wastes determined to have originated from the West Chicago Rare Earths Facility as §11e.(2) byproduct material.

The NRC staff has characterized the contaminated landfill returned to the West Chicago site from West Chicago residential areas and the sewage treatment plant as source material. The NRC staff has also characterized other offsite materials determined to be contaminated as a result of the operations of the West Chicago Rare Earths Facility as source material. These materials include landfill at Reed-Keppler Park and in certain residential areas of DuPage County, and contaminated areas in Kress Creek and the West Branch of the DuPage River. The staff based these characterizations on the fact that most of the process wastes created prior to 1953, particularly prior to the early 1940's, are properly attributable to the production of rare earths. It is these materials that were removed from the West Chicago site and used as landfill. The process wastes created during the period after 1953, particularly during the period the West Chicago Rare Earths Facility was licensed by the Atomic Energy Commission, are properly attributable primarily to the production of thorium.<sup>2</sup> Accordingly, the staff has characterized the onsite process wastes which now remain at and have at no time been removed from the West Chicago site as §11e.(2) byproduct material. During the period the facility was producing thorium under its AEC license, some of the facility structures became increasingly contaminated. Since the most extensive use of the buildings has been in connection with the thorium production process, the staff has also characterized the contaminated building rubble left on the West Chicago site following demolition of the facility structures as §11e.(2) byproduct material. In view of the facts, the staff is of the opinion that these characterizations are reasonable.

Both Kerr McGee Chemical Corporation and US Ecology (see Comment 5) object to the termination of the proceedings before the Commission on the grounds that termination would deny them due process and be wasteful of the efforts that the Commission and the parties have devoted to those proceedings to date.

The commenters' due process concerns are speculative and without foundation. Once the NRC proceedings are terminated, it will be up to Illinois to initiate its own enforcement proceedings. We see no basis to speculate that Illinois would deny either of the licensees due process of law in the conduct of those proceedings.

The NRC staff has examined Illinois procedures for the formulation of general rules, for approving or denying applications for licenses or authorizations to possess and use radioactive materials and for taking disciplinary actions against licensees in the light of Criterion 23

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<sup>2</sup>See, Kerr-McGee Chemical Corporation, Internal Correspondence, Memos dated February 4, 1982 and January 21, 1983 re: "West Chicago Comingled Tailings."



from Mark J. Wetterhahn). The NRC staff's views on these matters, summarized briefly in footnote 3 are contained in documents on file in the Commission's public document room and have, in addition, already been made available to the commenter under an FOIA request (FOIA-87-47) which was both filed and answered before the relevant comments were submitted. Conner & Wetterhahn's late-filed comment of April 2, 1987 addresses US Ecology's concerns respecting two inactive chemical waste disposal sites located to the north and west of the Sheffield low-level radioactive waste disposal site. These chemical waste disposal sites are not regulated by the NRC and are not included in the categories of materials transferred by the agreement. The following NRC response to the commenter's letter dated February 20, 1987 also addresses the matters raised by Mark J. Wetterhahn in his late-filed comment letter dated March 6, 1987.

#### NRC Staff Response

The concerns expressed by Conner & Wetterhahn on behalf of their client, US Ecology, relate primarily to the anticipated impact of the Agreement upon the ongoing NRC adjudicatory proceeding involving the Sheffield site and to the detrimental effect that the State's assumption of regulatory authority is expected to have on US Ecology's procedural rights. (The commenter's due process concerns are addressed in the NRC response to Comment 4, supra.) The comments do not substantively address the NRC staff's assessment of the Illinois program. The comments did not question the NRC staff's conclusion that Illinois' proposed program is adequate to protect public health and safety within the State nor do they substantively challenge the NRC staff's conclusion that the Illinois program is compatible with the Commission's regulatory program for like materials. The principal purpose of the comments is to request relief, specifically temporary exclusion of the Sheffield site, from the provisions of the proposed agreement.

On March 10, 1987, the Atomic Safety and Licensing Board issued an Order holding that all issues in the Sheffield proceeding had been resolved by the Board's Memorandum and Order of February 20, 1987<sup>4</sup> and concluding the proceeding. On March 16, 1987, US Ecology appealed the Licensing Board's order and asked for expedited Appeal Board consideration. On

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#### (Footnote Continued)

October 1, 1986 from G. Wayne Kerr, SP to J. Davis, NMSS which summarized the staff's disposition of NMSS' comments on the Illinois proposal, including addressing each and every one of those of WM. This document was placed in the NRC public document room in Washington, DC along with other materials relating to the negotiations for an Agreement with Illinois on February 26, 1987 and was in the same package that contained the October 3, 1986 WM memo. In the aggregate, staff found the March 16, 1987 comment on the compatibility of the proposed Illinois proposal to be totally without merit.

<sup>4</sup>The Board's Memorandum and Order of February 20, 1987 addressed two legal issues. The first dealt with the possession of the buried materials and the second with the termination of the license.



segments of a nuclear materials category or over individual licensees.<sup>7</sup> Contrary to the views of the commenter, the NRC does not retain jurisdiction over pending enforcement matters after an Agreement has been executed nor do such matters constitute a special category of radioactive materials within the meaning of §274. Read correctly, the memorandum on which the commenter relies only stands for the proposition that the staff is to finish what can be finished in the time available so that the turnover can be completed in an orderly manner.

Section 274j authorizes the Commission, under certain circumstances, to terminate or suspend a §274b agreement and to reassert its licensing and regulatory authority. In 1978, this section was amended to enable the Commission to terminate or suspend "all or part of" its agreement. This change made it possible for the Commission to reassert regulatory authority over a single category of materials, such as uranium mills and mill tailings, while at the same time permitting States to retain regulatory authority over other categories of materials subject to the agreement. However, this amendment did not authorize NRC to terminate or suspend an agreement with respect to a particular licensee. In 1980, §274j was again amended to authorize NRC to reassert its regulatory authority over an individual licensee. Under this authority, the Commission may temporarily suspend all or part of its agreement with a State without notice or hearing if, in the judgment of the Commission: ". . . an emergency situation exists with respect to any material covered by such an agreement creating danger which requires immediate action to protect the health or safety of persons either within or outside of the State, and . . . the State has failed to take steps necessary to contain or eliminate the cause of the danger within a reasonable time after the situation arose." Section 274j further provides that this temporary suspension is to remain in effect "only for

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(Footnote Continued)  
agreement.

Section 274f tracks the text of §274e of the draft bill which the Atomic Energy Commission, NRC's predecessor agency, transmitted to the Joint Committee on Atomic Energy in March 1959. In its section-by-section analysis of §274e of the draft bill, the Commission concluded "Subsection e. gives the Commission necessary authority to implement those agreements." JCAE, Joint Committee Print, "Selected Materials on Federal-State Cooperation in the Atomic Energy Field," March 1959, 86th Cong., 1st Sess. at p. 33. See also, analysis of S. 1987, as introduced, 105 Cong. Rec. 7524, May 19, 1959.

<sup>7</sup> This point is specifically addressed in the section-by-section analysis prepared by the AEC to accompany its draft bill which was introduced in the Senate as S. 1987 on May 19, 1959. "Three categories of activities are specified. Under the bill the Commission may enter into an agreement providing for discontinuance of its regulatory authority with respect to any one or more of those categories. Such an agreement may not provide for discontinuance of the Commission's authority with respect to part of a category ..." 105 Cong. Rec. 7523, May 19, 1959.

ENCLOSURE D



Enclosure D

The Honorable John BreauX, Chairman  
Subcommittee on Nuclear Regulation  
Committee on Environment and Public Works  
United States Senate  
Washington, D.C. 20510

Dear Mr. Chairman:

We are pleased to advise the Committee that, pursuant to section 274 of the Atomic Energy Act of 1954, as amended, entitled "Cooperation with States," the Commission on \_\_\_\_\_, 1987 approved a proposed Agreement with the State of Illinois under which the State will assume certain regulatory responsibility for byproduct materials as defined in section 11e.(1) of the Act, source materials, special nuclear materials in quantities less than a critical mass and for the commercial disposal of low-level radioactive waste. The State will not assume authority for uranium or thorium milling activities nor for the Allied-Chemical UF<sub>6</sub> conversion plant in Metropolis. The State did not request authority to regulate uranium or thorium milling activities. The Commission has decided to retain authority over the Allied-Chemical plant because of its significance to the common defense and security. A copy of the proposed Agreement is enclosed. Also enclosed is a copy of the public announcement which we plan to issue within the next few days.

In his proposal requesting that the Commission enter into an Agreement with the State, Governor James R. Thompson certified that the State of Illinois has a program for the control of radiation hazards adequate to protect the public health and safety with respect to the materials



covered by the proposed Agreement, and that the State desires to assume regulatory responsibility for such materials.

The proposed Agreement and the staff assessment of the proposed Agreement were published in the Federal Register for public comment as required by section 274 of the Atomic Energy Act, as amended. Copies of the proposal were made available for public inspection at the Commission's Public Document Room.

The Commission has determined that the Illinois program is compatible with the Commission's program for the regulation of like materials and adequate to protect the public health and safety with respect to the materials covered by the proposed Agreement.

It is planned to execute the Agreement by correspondence with an effective date of \_\_\_\_\_, 1987.

The Agreement will be published in the Federal Register within thirty days after signature by the parties.

Sincerely,

Carlton C. Kammerer, Director  
State, Local and Indian  
Tribe Programs  
Office of Governmental and  
Public Affairs

Enclosures:

1. Agreement
2. Proposed Public Announcement

cc: Senator Alan Simpson

ENCLOSURE E

Enclosure E

PROPOSED PUBLIC ANNOUNCEMENT

NRC APPROVES ILLINOIS AGREEMENT TO REGULATE  
USE OF CERTAIN RADIOACTIVE MATERIALS

The Nuclear Regulatory Commission has approved an Agreement with the State of Illinois under which that State will assume part of the Nuclear Regulatory Commission's regulatory authority over the use of certain radioactive materials. The Agreement will become effective on \_\_\_\_\_, 1987.

Under the Agreement, the responsibility for licensing, rulemaking, inspection, and enforcement concerning the use of byproduct materials, the source materials uranium and thorium, small quantities of fissionable materials and commercial low-level waste disposal will be transferred to Illinois. There are approximately 800 NRC licenses currently in effect in Illinois which will be transferred to the State. The Agreement, however, does not provide for State authority over Section 11e.(2) byproduct material milling activities or their wastes.

The Commission will also retain authority over the Allied-Chemical UF<sub>6</sub> conversion plant in Metropolis because of its significance to the national common defense and security.

The Illinois Department of Nuclear Safety will be the State agency responsible for administering the regulatory program.



The Commission has found that the radiation control program proposed by Illinois is compatible with the NRC program and is adequate to protect the public health and safety. The Agreement, as approved by the Commission, is the same as the one published for public comment in the Federal Register for four consecutive weeks beginning on January 21, 1987.

Illinois becomes the 29th State to sign such an Agreement with the NRC. Other States which have already assumed this authority from the NRC are: Alabama, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Nebraska, Nevada, New Hampshire, New Mexico, New York, North Carolina, North Dakota, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Utah and Washington.

ENCLOSURE F

Enclosure F

The Honorable James R. Thompson  
Governor of Illinois  
Springfield, Illinois 62706

Dear Governor Thompson:

I am pleased to inform you that the Nuclear Regulatory Commission has approved your proposed Agreement under which the NRC will discontinue and the State of Illinois, on \_\_\_\_\_, 1987, will assume certain of the Commission's regulatory authority over byproduct, source and special nuclear materials in accordance with section 274 of the Atomic Energy Act of 1954, as amended. The Commission, after consultation with the U.S. Department of Energy and after careful consideration of the national common defense and security needs, has ordered retention of regulatory authority for health and safety over the Allied-Chemical conversion plant in Metropolis (enclosure 1). Please be assured that this action does not in any way reflect upon the overall adequacy of the Illinois program for regulation of health and safety. We plan, however, to continue to keep the Illinois Department of Nuclear Safety informed of health and safety regulatory actions taken with respect to this plant.

I am pleased to enclose three (3) copies of the Agreement for your signature (enclosure 1). Following your execution of the Agreement, please return two copies to NRC. The third copy is for retention by the State.



On behalf of the Commission, I congratulate you, your staff, and the State of Illinois for taking this important step in Federal-State relations.

Sincerely,

Lando W. Zech, Jr.

Chairman

Enclosure:

As stated

ENCLOSURE G

Enclosure G

UNITED STATES  
NUCLEAR REGULATORY COMMISSION

In the Matter of

ALLIED-CHEMICAL CORPORATION  
Metropolis, Illinois

)  
)  
)  
)

Docket No. 40-  
License No. \_\_\_\_\_

ORDER TO PROTECT THE COMMON DEFENSE AND SECURITY

I

Allied-Chemical Corporation, Metropolis, Illinois, (the "licensee") is the holder of License No. \_\_\_\_\_ (the "licensee") issued by the Nuclear Regulatory Commission (the "Commission" or "NRC") which authorizes the licensee to use source material in a UF<sub>6</sub> conversion plant in Metropolis, Illinois. The license was last issued on \_\_\_\_\_, 19\_\_ and will expire on \_\_\_\_\_, 19\_\_.

II

In a letter dated October 2, 1986, Governor James P. Thompson of the State of Illinois requested that the Commission enter into an Agreement with the State pursuant to Section 274 of the Atomic Energy Act, as amended. The specific authority requested includes the category, source material. An NRC staff assessment and the proposed agreement were published in the Federal Register for public comment (52 FR 2309, 2898, 3503 and 4436; correction notice at 52 FR 4569). The staff assessment noted that with respect to the Allied Chemical plant, the Commission was considering whether continued NRC regulation was necessary in the interest of the common defense and security of the United States.

III

In a letter dated November 17, 1986, the Department of Energy, ("DOE") commenting to NRC on the matter of the proposed inclusion of the NRC license to Allied Chemical among the category of source material licenses to be transferred to Illinois under a Section 274b Agreement, stated that the combination of the commercially operated uranium conversion facilities in the U.S. and the DOE operated enrichment facilities represent a complex that is an important national asset essential to maintaining the common defense and security of the United States. DOE further expressed the view that, "it would be prudent for NRC to retain its existing regulatory authority over uranium conversion facilities consistent with its charter to regulate facilities whose operation is in the national interest."



IV

Upon consideration of these facts, the Commission has determined that regulation of the Allied-Chemical conversion plant in Metropolis should be continued under NRC jurisdiction to protect the common defense and security.

V

In view of the foregoing and pursuant to Section 274m of the Atomic Energy Act, as amended, 42 U.S.C. §2021(m), IT IS HEREBY ORDERED, EFFECTIVE IMMEDIATELY, THAT:

a. Notwithstanding the provisions of a Section 274b Agreement with the State of Illinois as approved by the Commission the NRC jurisdiction over the possession and use of source material by Allied Chemical (license \_\_\_\_\_) shall be retained by the NRC, and

b. NRC jurisdiction over the license shall remain in effect during the term of such Section 274b Agreement unless the Commission shall determine that continued regulation by NRC is no longer needed to assure the protection of the common defense and security of the United States.

VI

Any person whose interests may be affected by this order may within \_\_\_\_\_ days of the date of this order file written comments with supporting analysis with the Secretary of the Commission explaining why this order should not have been issued. The Commission will consider any comments that are filed with a view to possible modification or rescission of the order. The filing of any comments does not stay the effectiveness of this order.

FOR THE UNITED STATES  
NUCLEAR REGULATORY COMMISSION

Samuel J. Chilk, Secretary  
Office of the Secretary of the  
Commission

Dated at Washington, DC this \_\_\_\_\_ day of \_\_\_\_\_, 1987.