POLICY ISSUE

September 22, 1992 (NEGATIVE CONSENT) SECY-92-325

For: The Commissioners

From: James M. Taylor, Executive Director for Operations

Subject: CHARACTERIZATION OF DISCRETE NARM AND EVALUATION OF THE NEED TO SEEK LEGISLATION EXTENDING NRC AUTHORITY TO DISCRETE NARM

Purpose: To provide the Commission with a response to Item No. 6 of a Staff Requirements Memorandum (SRM) dated October 5, 1990, in which the Commission indicated that the staff should reevaluate and report to the Commission on the public health and safety significance of discrete sources of naturally-occurring and accelerator-produced radioactive materials (NARM), and evaluate whether legislation extending NRC's jurisdiction to include NARM is necessary or desirable.

Background: In Item No. 6 of a Staff Requirements Memorandum (SRM) dated October 5, 1990, (Enclosure 1) the Commission indicated that the staff should reevaluate and report to the Commission on the public health and safety significance of discrete sources of NARM and evaluate whether legislation extending NRC's jurisdiction is necessary or desirable. As a basis for its evaluations, the staff was directed to consider results and recommendations from a report being prepared at the request of former NRC Chairman Lando Zech by the Committee on Interagency Radiation Research and Policy Coordination (CIRRPC). The requested report was to consist of a characterization of risks from discrete sources of NARM and an identification of the need for appropriate action by Federal agencies to regulate various aspects of discrete NARM.

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NOTE: TO BE MADE PUBLICLY AVAILABLE WHEN THE FINAL SRM IS MADE AVAILABLE

Discussion: Response to the October 6, 1990, SRM has been delayed because the requested CIRRPC report has not been completed. The staff's effort to respond to the SRM has included continued monitoring of the CIRRPC efforts, placement of a small contract to assess the sources and risks associated with discrete NARM in order to supplement information expected from CIRRPC, and review of work conducted by the Environmental Protection Agency (EPA) and the National Council on Radiation Protection and Measurement (NCRP) on discrete NARM.

Although a final CIRRPC report is not yet available, the staff has evaluated the issues related to NARM based on other information available at this time, including a draft CIRRPC report which was received in January 1992. This evaluation, which includes a definition of discrete and diffuse NARM, is presented in Enclosure 2. The following is a synopsis of Enclosure 2:

(1) Background information - a discussion of earlier Commission actions taken on NARM and previous NRC staff reports prepared on NARM including NUREGs-0310, 0976, and 1310. Specifically, it is noted that in NUREG-1310 the staff concluded that, based on its review of the hazards associated with NARM and of the oversight exercised by other agencies, NRC should not seek legislative authority over NARM. However, NUREG-1310 did recommend that the issue of NARM regulation be referred to CIRRPC for the purpose of developing an integrated policy and Agency assignments on NARM. Subsequently, NRC Chairman Zech referred the NARM issue to CIRRPC;

(2) Current actions related to discrete NARM - a discussion of current actions being conducted by CIRRPC, EPA, NRC staff, and the States. Specifically discussed are: i) the revised draft CIRRPC report received in January 1992 in which CIRRPC reviews NARM characterization in a relatively qualitative manner, and also indicates that broad authorities exist under the jurisdiction of the EPA through the use of the Toxic Substances Control Act (TSCA) to implement Federal controls if an unreasonable risk has been identified, and that this authority could be applied to the regulation of NARM; ii) EPA projects that have developed information on sources and risks from NARM as well as regulatory products, and were conducted based on the authority of TSCA; iii) a small NRC contract placed to review sources and risks associated with discrete NARM as a means of supplementing information expected from CIRRPC; and iv) efforts by the States, largely under the auspices of the

Conference of Radiation Control Program Directors (CRCPD), to improve the existing State programs for NARM licensing.

3) Characterization of NARM - characterizations of source and dose estimates made in reports on NARM prepared by CIRRPC, EPA, and NRC. These reports are draft and preliminary; however, they do provide an estimate of the range of possible exposures. The following summary can be made based on those reports:

a) For some NARM it is uncertain as to what sources exist, their use, and the attendant risks (e.g., the risks from discrete NARM remaining in use and/or storage) because the information on existence and use is currently unknown, unavailable, or not contained in the data sources listed;

b) Based on the data that is available, the principal concern appears to be unregulated disposal that could result in substantial public exposures of certain discrete NARM sources and of certain higher activity diffuse NARM sources, such as pipe scale. This concern has been addressed by EPA in previous documents developing data on NARM discussed in Enclosure 2. Also, risks from NARM used in medicine appear to be similar to those from regulated byproduct material.

4) Authority over NARM -

a) As noted above, the draft CIRRPC report identified TSCA as authorizing the EPA to impose regulatory requirements on NARM, and thus concluded that: (1) Federal authorities and responsibilities (principally EPA) appear sufficient to address any new health problem should it arise in a manner requiring immediate or long-term attention and (2) inasmuch as TSCA could be invoked to control identified unreasonable risks (as defined in the Act) due to discrete NARM, that no gaps in regulatory jurisdiction were identified.

b) EPA has invoked the authority it has under TSCA in proceeding with development of an information base and regulatory requirements on the disposal of both discrete and diffuse NORM, which it sees as the most pressing problem.

c) The states, under their constitutional authority and responsibility to protect the health and safety of

their citizens, have acted to institute requirements in the area of discrete NARM. Most of this work is carried out under the auspices of the CRCPD. Currently, the CRCPD has developed a program to certify the adequacy of State NARM regulatory programs. CRCPD's recommended regulatory control requirements for discrete NARM and ARM are similar to those which are required by NRC for byproduct material in the Agreement State program. Currently about one-third of the states are recognized as NARM licensing states by the CRCPD, while most of the rest have at least some NARM registration program. CRCPD has prepared a strategy document for uniform regulation and control of discrete NARM which includes development of data, improvements in State licensing efforts, and seeking national controls under TSCA, if necessary.

The conclusions reached by the staff in Enclosure 2, are:

a) It appears to the staff that EPA has the legislative authority to adequately regulate NARM, and to assist CRCPD, if necessary, with national standards in certifying States. Although recent discussions by the staff with CIRRPC staff have raised concerns over the authority of EPA to issue broad-scale regulations under TSCA, EPA legislative authority over identified problems caused by NARM appears clear. Therefore, as in the draft CIRRPC report and NUREG-1310, the staff has concluded that there is no need for NRC to seek legislative authority to regulate discrete NARM.

b) Based on considerations regarding authority over NARM, the staff concluded that further NRC efforts to perform detailed analysis of discrete NARM sources and risks, or analysis of the economic impact of regulation of NARM by NRC are not warranted.

Conclusion: Based on the above conclusions reached in Enclosure 2, the staff concluded that:

1. The Commission should not seek legislative authority to extend its jurisdiction over the regulation of discrete NARM.

2. Further NRC efforts related to discrete NARM should focus on assisting EPA in its efforts to apply TSCA to NARM and be conducted pursuant to the NRC/EPA Memorandum of Understanding dated March 16, 1992.

3. The NRC should inform the CRCPD by letter that the Commission will not seek legislative authority to regulate NARM, and indicate the Commission support of the ongoing CRCPD program (a draft letter to the CRCPD is included as Enclosure 3).

Recommendation: Unless otherwise directed by the Commission, within 10 working days after the date of this paper the staff will:

1. Assume its recommendations concerning not seeking legislation over NARM is acceptable to the Commission;

2. Continue its efforts to work with EPA and other Federal and State agencies with regard to NARM regulation;

3. Proceed to finalize and send the letter to the CRCPD presented in Enclosure 3.

Coordination: The Office of the General Counsel has no legal objection to this paper.

James M. Taylor
Executive Director
for Operations

Enclosures:
1. SRM, October 5, 1990
2. Evaluation of Issues Related to NARM
3. Draft Letter to CRCPD

SECY NOTE: In the absence of instructions to the contrary, SECY will notify the staff on Wednesday, October 7, 1992, that the Commission, by negative consent, assents to the action proposed in this paper.

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Enclosure 1

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

OFFICE OF THE SECRETARY

October 5, 1990

IN RESPONSE, PLEASE REFER TO M900816A

Action: Bernero, NMSS
Beckjord, RES
Murley, NRR

Cys: Taylor
Sniezek
Thompson
Blaha
Norry, IRM
Jordan, AEOD
Bird, OP
Springer, CONS
Scinto, OGC
Scroggins, OC

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

William C. Parler
General Counsel

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

FROM: Samuel J. Chilk, Secretary

SUBJECT: STAFF REQUIREMENTS - COLLEGIAL DISCUSSION OF ITEMS OF COMMISSIONER INTEREST, 8:30 A.M., THURSDAY, AUGUST 16, 1990, COMMISSIONERS' CONFERENCE ROOM, ONE WHITE FLINT NORTH, ROCKVILLE, MARYLAND (OPEN TO PUBLIC ATTENDANCE)

The Commission met to discuss topics of individual Commissioner interest. The topics discussed and associated staff requirements are described below.

1. The Commission discussed the potential for use of an electronic system to aid communication in the rulemaking process. No staff requirements were initiated from this discussion.

2. The Commission discussed plans for the review of the PIUS and CANDU designs. The staff requirements covering this area will be handled separately.

3. The Commission discussed the matter of Staff Requirements Memoranda developed from votes on proposed actions and the need to communicate the basis for Commission decisions in order to assist the staff in responding appropriately to Commission requests. The staff should make every effort to communicate with Commission staff for clarification if a question arises regarding Commission requests.

4. The concept of creating an elite NRC group of experts to conduct design reviews of the advanced reactors was briefly discussed.

5. The issue of Agreement State compatibility was discussed in the context of recent Commission review of State programs and the development of the **Below Regulatory Concern** policy. A clear and sound policy on compatibility is integral to ongoing reviews of Agreement State programs and rulemakings affecting State programs. Accordingly, **an interoffice group should be formed to evaluate the compatibility issue**, including past practice and current policy, and provide policy reccommendations and options for Commission consideration. In addition to general policy options, this evaluation should specifically provide answers to the following questions:

   a. What is the legal basis for compatibility determinations? What is the relationship between compatibility determinations and protection of the public health and safety?

   b. Are these determinations limited to State statutes and regulations only, or do they also include other aspects such as programs, staffing, and policies? What is NRC's basis for requiring States to adopt compatible regulations within a three-year timeframe?

   c. How often does NRC review State regulations after the Commission enters into an Agreement with a State to ensure continued compatibility of the programs?

   d. If NRC determines that a State program is not compatible with NRC's program for similar materials, what options does the Commission have to encourage and/or require compatibility?

   e. In light of the answers to the above questions, should the Internal Procedure B.7 be revised or modified? Should these procedures be published for review and comment by States and members of the public? Should the existing categorization of NRC requirements be reevaluated?

   f. Discuss the various arguments, pro and con, related to the question whether the Low-Level Radioactive Waste Policy Amendments Act of 1985 and its legislative history provide a basis for concluding that Agreement States are to be given a greater degree of latitude in fashioning their own standards for low-level waste (LLW) disposal, in view of the States' increased responsibility in this area?

(GPA/OGC/EDO) (SECY Suspense: 2/15/91)
NMSS/RES)

6. The Commission discussed the potential need for legislation in the areas of naturally occurring and accelerator-produced radioactive material (NARM) and mixed waste.

The Commission requests that, as part of the joint survey with EPA on mixed waste, staff determine whether joint NRC/EPA permitting should be pursued, and whether the existing regulatory guidance on mixed waste is adequate for generators and States to make progress in treatment and disposal of mixed waste. Staff should evaluate as a matter separate from the upcoming legislative proposals whether legislation is necessary or desirable to address the mixed waste issue, so as to permit timely development of low-level waste disposal capacity.

(~~EDO~~/GPA) (SECY Suspense: 60 days after completion of survey) 9000218
NMSS

While the mixed waste survey and in-depth evaluation of the need for legislative action is progressing over the next two years, the staff should provide preliminary recommendations on the need or potential need for legislation if sufficient information is available. The technical staff in coordination with OGC should closely monitor the development of RCRA reauthorization legislation and provide timely recommendations based on currently available information for early Commission input into these deliberations (e.g., into a potential Administration RCRA reauthorization proposal).

(~~EDO~~) (NMSS/OGC) (SECY Suspense: 12/28/90 and continuing as necessary) 9000219

On the subject of NARM, staff should reevaluate and report to the Commission on the public health significance of discrete sources of NARM, focusing on the questions identified in the Commission's earlier referral to CIRRPC. Staff should also evaluate whether legislation extending NRC's jurisdiction to include NARM is necessary or desirable. This evaluation should include a discussion of the advantages and disadvantages of our seeking jurisdiction over NARM.

(~~EDO~~) (RES/NMSS) (SECY Suspense: 8/30/91) 9000220

Subsequent to the Commission's consideration of this information on mixed waste and NARM, the Commission will provide guidance on the need to address these issues in the future legislative submittals.

7. The Commission discussed the proposed Part 35 medical rule which is currently out for public comment. No requirements were identified for staff action.

8. The continuing need for a licensing review basis document was discussed by the Commission. Staff should submit its recommendations on this issue by October 26, 1990, so that the Commission can factor the decision that it reaches on this issue into the agency's schedule and resource estimates for ALWR reviews.

(~~EDO~~) (NRR) (SECY Suspense: 10/26/90) 9000142

9. Several other items were very briefly discussed without initiating requirements for the staff. These items were:

- o Plant operating data
- o Speaking opportunities
- o ACRS reports to Congress
- o BRC policy
- o Personnel recruiting
- o Memos to the staff
- o Second building status

cc: Chairman Carr
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
ACRS
PDR - Advance
DCS - P1-24

Enclosure 2

CHARACTERIZATION OF DISCRETE NARM AND EVALUATION OF NEED TO SEEK LEGISLATION EXTENDING NRC AUTHORITY TO DISCRETE NARM

I. INTRODUCTION

In Item No. 6 of a Staff Requirements Memorandum (SRM) dated October 5, 1990, the Commission indicated that the staff should reevaluate and report to the Commission on the public health and safety significance of discrete sources of naturally-occurring and accelerator-produced radioactive materials (NARM), and evaluate whether legislation extending NRC's jurisdiction is necessary or desirable. As a basis for its evaluations, the staff was directed to consider results and recommendations from a report being prepared by the Committee on Interagency Radiation Research and Policy Coordination (CIRRPC) on characterization of risks from discrete sources of NARM and identification of the need for appropriate action by Federal agencies to regulate various aspects of discrete NARM.

In general, NARM includes both NORM and ARM as described below:

A. NORM (Naturally Occurring Radioactive Material) -

1. Diffuse - generally large volume, low activity sources of radioactivity, principally radium-226 (Ra-226), such as phosphate ore, mineral processing wastes, coal ash, phosphate fertilizers, geothermal wastes, water treatment plant sludges and resins, uranium mining overburden, and oil and gas pipeline scale.

2. Discrete - typically small volume, high specific activity sources. The generally recognized lower limit for discrete NORM is 2 nanocuries/gm equivalent Ra-226 concentration. Sources of discrete NORM can include:

   a. Products containing Ra-226 such as medical sources, industrial sources, and certain consumer products. Generally, such sources are no longer produced in large quantities, although sources remain in storage and in some cases in use, although the exact quantity in use is not certain;

   b. Certain wastes containing Ra-226, such as oil pipe scale and water treatment plant resins, which, although generally diffuse, might in certain instances become concentrated enough and confined enough to be considered discrete.

B. ARM (Accelerator-Produced Radioactive Material) - radionuclides produced by bombardment of non-radioactive materials with charged particles or neutrons. A number of radionuclides are produced by accelerators (e.g., Ga-67, I-123, Tl-201) and are used in:

1. Medical uses - used in diagnostic medicine and therapy in a manner similar to that of byproduct material; and

2. Industrial/research uses.

As directed by the Commission, the subject of the remaining sections of this enclosure is discrete NORM and ARM, although diffuse NORM is at times referred to in order to provide a context for the discussion on discrete NARM.

II. BACKGROUND

The subject of regulation of NARM by NRC has been considered several times over the past several years. Specifically:

A. In June 1977, in response to requests from the States, an NRC Task Force reviewed the use and regulation of NARM (NUREG-0301, Ref 1). The Task Force concluded that the regulation of NARM was fragmentary, non-uniform, and incomplete at both Federal and State levels. The Task Force found that NARM was widely used, particularly Ra-226, and that the use of accelerator produced nuclides was growing rapidly, and noted the potential for exposure incidents involving NARM. The Task Force recommended NRC seek legislative authority to regulate NARM and a Commission Paper (SECY-78-211) on the subject was prepared in April 1978. However, the Commission chose not to act on the recommendations in the paper because it did not believe that a case had been made that NRC regulation of NARM was necessary and because it believed that other Federal or State agencies more properly should exercise such authority. Nonetheless, the Commission asked that the staff resubmit the paper for reconsideration after addressing specific questions on NARM risks and authority of other agencies over NARM.

B. In May 1979, the Commission directed the staff to forward NUREG-0301 by letter to Federal agencies, State governors, and Congressional committees having reponsibilities in the regulation of NARM, and in particular to note that "while NRC could logically regulate NARM - given legislative authority - NRC is not pursuing that authority because it believes such efforts should be integrated into the larger effort to properly allocate Federal responsibilities for radiation protection." The Federal Radiation Policy Council, established to address the overall direction and effectiveness of Federal regulatory programs, was informed of the issue by the NRC staff. However, the Council did not address the issue before it was disbanded.

C. In October 1984 the NRC staff published NUREG-0976 (Ref. 2) which updated NUREG-0301. The staff had reviewed the use of and regulatory control over NARM and concluded that fragmentary control of NARM leads to confusion and the potential for exposure to workers and the public. The staff also concluded that the regulation of NARM should be uniform - the responsibility of a single Federal Agency which would set national standards to be followed by the other agencies, States, and licensees.

D. In August 1987, the Conference of Radiation Control Program Directors (CRCPD) indicated that they believed that, because there was no single Federal Agency where uniform guidance on NARM is provided and because in some States there was no control of NARM, the NRC should begin the appropriate actions necessary to regulate NARM in the States which are not currently regulating NARM.

E. In March 1988, the staff published NUREG-1310 (Ref. 3) which contained (1) an updated discussion of NORM and of ARM, including trends and problems, (2) an extensive discussion of Federal and State government involvement with NARM, (3) issues related to NARM, and (4) options related to regulation of NARM (including a discussion of the impact that NRC involvement with NARM regulation might have on NRC resources). These options included:

1. Maintaining the status quo, i.e., not seeking NRC legislative authority over NARM;

2. Seeking legislative authority over NARM;

3. Seeking regulatory control over radium disposal;

4. Seeking regulatory authority over cyclotron produced nuclides for medical use only;

5. Referring the issue of NARM regulation to CIRRPC.

The staff concluded that, based on the jurisdiction over NARM existing in other Federal agencies and on the increased State regulatory activities related to NARM, the level of risk from unregulated NARM was not sufficient for NRC to seek legislative authority over NARM. However, the staff also recommended referring the issue of NARM regulation to CIRRPC for the purposes of developing an integrated policy and Agency assignments on NARM, because as the staff pointed out:

> "CIRRPC was created to coordinate radiation matters between agencies and to advise the Office of Science and Technology on issues involving Federal radiation policy. NARM cuts across existing jurisdictions of other agencies. There is a need for an integrated control program over ionizing radiation, in general, and over NARM, in particular, to ensure that the dominant hazards are appropriately addressed

without undue attention to the lesser hazards. Thus, CIRRPC is the logical entity to resolve the NARM issue. In fact, in 1979, the Commission referred the NARM issue to the predecessor of CIRRPC, but action was never completed."

In NUREG-1310 the staff also recommended that NRC inform the Governors of those States, which were not CRCPD-recognized NARM licensing States, that NRC is not going to seek legislative authority to regulate NARM because such regulation is a responsibility of the States and because other Federal agencies already have jurisdiction over most facets of NARM hazards.

F. SECY-88-64, dated March 2, 1988, transmitted NUREG-1310 to the Commission and a Commission meeting was held to discuss the matter on May 5, 1988. Following the Commission meeting, on July 26, 1988, former NRC Chairman Lando Zech wrote to Dr. William Graham, Science Adviser to the President, indicating that the Commission had decided to refer the issue of Federal regulation of NARM to CIRRPC. Chairman Zech indicated in his letter that "CIRRPC, as the body created to coordinate Federal policy on radiation issues, will be able to make recommendations on the appropriate designation of responsibilities for regulation of NARM."

Four specific requests were included in the NRC's scope of referral to CIRRPC, as follows:

1. Develop a definition of discrete sources of NARM that might be regulated by the Federal government;

2. Where Federal jurisdiction exists over aspects of NARM, characterize the nature of public health and safety concerns that are going unaddressed by Federal controls and recommend how to remedy the situation;

3. Identify gaps in Federal jurisdiction over discrete NARM and characterize public health and safety concerns associated with those sources;

4. To the extent the concerns identified above merit Congressional action, recommend which Federal Agency or agencies might seek legislative authority to regulate various aspects of those discrete sources of NARM.

G. In response to Chairman Zech's letter, CIRRPC submitted a draft report (Ref. 4) to the NRC in June 1990 in which it concluded that the NRC should not seek legislative authority over regulation of NARM. This affirmed the NRC staff's conclusion in NUREG-1310. The bases for CIRRPC's conclusion as given in the draft report were that a significant public health and safety problem had not been identified and sufficient authorities to regulate NARM already exist in other agencies. However, the Commission was not satisfied with the level of detail provided in the report,

particularly the characterization of public health and safety concerns associated with discrete NARM. Therefore, in November 1990 the NRC sent a letter to CIRRPC requesting that the draft report be revised to address a number of specific questions related to risk levels associated with discrete NARM.

III. CURRENT ACTIONS RELATED TO DISCRETE NARM

At the time of the November 1990 request to CIRRPC, the Commission issued a Staff Requirements Memorandum (SRM) indicating that the staff should reevaluate and report to the Commission on the public health and safety significance of discrete sources of NARM and evaluate whether legislation extending NRC's jurisdiction to include NARM is necessary or desirable. As a basis for its evaluations, the staff was directed to consider results and recommendations from the report being prepared by CIRRPC on characterization of risk from discrete sources of NARM and identification of the need for appropriate action by Federal agencies.

Several actions are underway, which provide input to the response to the SRM:

A. In January 1992 a revised draft CIRRPC report was received by the staff for review in parallel with a review by the CIRRPC Science Subpanel. The revised draft report presents the following:

1. Discrete NARM is discussed in a relatively qualitative manner indicating that, in the absence of detailed data on risks due to NARM, the CIRRPC Working Group members have relied on information available from their agencies and from studies such as those done by the National Council on Radiation Protection and Measurements (NCRP) presented in NCRP Report Nos. 95 and 96 (Refs 5, 6). It is also indicated that a comprehensive study of risks was not contemplated or conducted by the CIRRPC Working Group because such would be inappropriate, if not impossible, particularly in the absence of requested information from the States.

2. Broad authorities do exist under the jurisdiction of the Environmental Protection Agency (EPA) through the use of the Toxic Substances Control Act (TSCA) to implement Federal controls if an unreasonable risk has been identified. Section 6(a) of TSCA authorizes EPA to impose regulatory requirements on a chemical substance or mixture if EPA finds that there is a "reasonable basis to conclude that the manufacture, processing, distribution in commerce, use, or disposal of the chemical substance or mixture, or that any combination of such activities, presents or will present an unreasonable risk of injury to health or the environment." The term "chemical substance" is very broad and would include all NARM.

Under Section 6(c)(1) of TSCA, EPA must consider the following factors when determining whether a chemical substance or mixture presents an unreasonable risk:

a. Effects of such substance or mixture on health and the environment, and the magnitude of the exposure of human beings or the environment to such a substance or mixture;

b. Benefits of such substance or mixture for various uses;

c. Economic consequences of the rule, after consideration of the effect on the national economy, small business, technology, the environment, and public health.

3. Based on the above, in the revised draft report CIRRPC concluded that:

a. No public health and safety problem has been identified, though studies are underway by EPA and NRC which may result in recommendations for Federal control;

b. Federal authorities and responsibilities (principally in EPA under TSCA) appear sufficient to address any new health problem due to discrete NARM should it arise in a manner requiring immediate or long-term attention;

c. Inasmuch as TSCA could be invoked to control identified unreasonable risks (as defined in the Act) due to discrete NARM, no gaps in Federal jurisdiction over discrete NARM have been identified;

d. Detailed studies should be conducted by NRC on current medical and industrial uses of unlicensed NARM sources to determine if Federal action is needed;

e. The EPA study on diffuse NARM risks should be extended to include discrete NARM waste streams resulting from man's production and treatment systems;

f. CRCPD should continue to identify discrete sources of NARM that are candidates for regulation under TSCA.

B. Several projects have been conducted by EPA based on the fact that, as noted above in the draft revised CIRRPC report, the EPA could use its authority under TSCA to regulate NARM. Based on this authority, the EPA has developed information on sources and risks from both discrete and diffuse NARM, and has also developed regulatory products, as follows:

1. EPA, using its authority under TSCA, has prepared draft standards for discrete NARM waste disposal (draft 40 CFR Part 764) and a Draft Environmental Impact Statement (EIS) (Ref.7) regarding the characterization and risk from radium in discrete NARM such as used in medical applications, certain industrial applications, and in certain consumer products (smoke detectors, instrument dials, watches). The NRC plans to complete its review of EPA's draft NARM waste regulations under the framework provided in the new Memorandum of Understanding between NRC and EPA. EPA's draft NARM waste EIS provides an assessment of the characteristics and risk associated with disposal of discrete NARM wastes but not of the use of discrete NARM.

2. EPA has also released for comment a draft report on diffuse naturally occurring radioactive material (NORM) (Ref. 8). Although the subject of this draft EPA report is diffuse NORM, certain of these diffuse sources can become concentrated and confined (e.g., oil pipe scale, water treatment resins) and in certain instances might be considered as discrete. The draft report characterizes all of these sources and estimates associated exposures, which it emphasizes are preliminary and therefore uncertain, and also discusses the potential need for establishing EPA's regulatory controls over these NORM sources through TSCA. The draft report was reviewed by the NRC staff and comments sent to EPA. A final report is under preparation by EPA.

C. To supplement information developed by CIRRPC and to assist the NRC staff in its evaluation of the risk associated with NARM, the Office of Nuclear Regulatory Research (RES) placed a small contract to review sources and risks associated with discrete NARM. The staff is now reviewing a draft report from the contractor. The draft contractor report summarizes some of the information in the draft EPA reports on NORM and also discusses the use of accelerator-produced radioactive materials, principally in the area of medical applications. The draft report indicates that the use of ARM appears to have increased in recent years and the exposures and risks from medical uses of ARM are similar to those from byproduct materials currently regulated under the AEA.

D. The States, under their constitutional authority and responsibility to protect the health and safety of their citizens, have acted both individually and as a group to institute requirements in the area of discrete NARM. Most of this work is carried out under the auspices of the CRCPD. Currently, the CRCPD has developed a program to certify the adequacy of State NARM regulatory programs. CRCPD's recommended regulatory control requirements for discrete NORM and ARM are similar to those which are required by NRC for byproduct material in the Agreement State program. Currently about one-third of the states are recognized as NARM licensing states by the CRCPD, while most of the rest

have at least some NARM registration program. CRCPD has prepared a strategy document for uniform regulation and control of discrete NARM which includes development of data, improvements in State licensing efforts, and seeking national controls under TSCA, if necessary.

IV. SUMMARY AND CONCLUSIONS

The following is a summary of the preceding sections including the conclusions that can be drawn from the available data and information:

A. Characterization of NARM

1. The CIRRPC, EPA, and NRC contractor reports referenced above are in draft form and hence the characterizations of sources and dose estimates made in those reports are preliminary and subject to change. However the reports do provide an estimate of the range of possible exposures.

   Based on the draft reports, there are areas where it is uncertain what sources or risks exist, because the information is either currently unknown or not contained in the data sources listed. These include:

   a) the amounts of and risks from discrete NORM remaining in use vs. storage, and

   b) the amounts of and risks from ARM in certain uses, including certain medical uses and industrial and research uses.

   Of the draft data that is available, certain statements can be made, including:

   a) the impact of unregulated disposal of discrete NARM could, in some cases, be greater than the public dose limits in 10 CFR Part 20 and was found by EPA, in its draft GEIS and in draft regulations noted in Section III.B.1 above, to be sufficiently high to warrant regulation;

   b) the unregulated disposal of certain higher specific activity diffuse NORM sources such as pipe scale appears to result in substantial maximum exposed individual and worker doses (this source was addressed by EPA in its draft report on diffuse NORM noted in Section III.B.2 above);

   c) the risks from ARM use in medicine appears to be similar to those from byproduct materials.

2. Obtaining the missing information sufficient to make definitive statements regarding the health and safety impact of the NARM sources and the cost effectiveness of regulations would require an extensive effort making use of information-gathering surveys and detailed pathway and dose analysis of the data obtained. However, based on the apparent sufficiency of EPA authority over NARM, the staff has concluded that NRC efforts should not be expanded further except to assist other agencies as noted below.

B. Authority over NARM

1. As can be seen from Section II above, more than one previous Commission has expressed reluctance in assuming control of discrete NARM, and in fact Chairman Hendrie, in his comments on SECY-78-211, saw this area as unrelated to NRC's primary responsibility for nuclear fuel cycle matters. Also, earlier Commissions have sought to obtain guidance from interagency Federal policy councils, such as the Federal Radiation Policy Council (FRPC) in 1978 and CIRRPC in 1988, in their roles as organizations created to coordinate Federal policy on radiation issues, and to obtain recommendations on the appropriate designation of responsibilities for regulation of NARM. Previously, the FRPC did not provide guidance; however, the CIRRPC draft conclusions and recommendations regarding authority over NARM as discussed above are contained in the draft CIRRPC report of January 1992.

2. In their draft revised report, CIRRPC identified the Toxic Substances Control Act (TSCA) as authorizing the EPA to impose regulatory requirements on a chemical substance or mixture, such as NARM, if EPA finds that there is a reasonable basis to conclude that the manufacture, processing, distribution, use, or disposal of the chemical substance or mixture, or any combination of such activities, presents or will present an unreasonable risk of injury to health or the environment. Based on that, the draft CIRRPC report concludes that: (1) Federal authorities and responsibilities (principally in EPA) appear sufficient to address any new health problem should it arise in a manner requiring immediate or long-term attention and (2) inasmuch as TSCA could be invoked to control identified unreasonable risks (as defined in the Act) due to discrete NARM, no gaps in regulatory jurisdiction are identified.

3. EPA has invoked the authority it has under TSCA in proceeding with development of an information base and regulatory requirements on the disposal of both discrete and diffuse NARM which it sees as the most pressing problem. Based on these actions, it appears to the staff that, if

problems in other areas related to NARM are identified, EPA has the authority to act in a like manner.

4. State efforts under CRCPD appear to be directed towards improved State certification in the regulation of NARM and towards setting uniform requirements with reference to TSCA, as necessary.

5. As was concluded in the draft CIRRPC report and in NUREG-1310, the staff concludes that there does not at this time appear to be a need for NRC to seek legislative authority to regulate NARM, although there should still be NRC involvement as noted in Section 5 below.

V. RECOMMENDATIONS

A. Based on the above, the staff recommends that the Commission not seek legislative authority to extend its jurisdiction over the regulation of discrete NARM. This recommendation is based on the draft reports and other information currently available that are discussed above. While it is not expected that the recommendation would change, the staff will continue to interact with EPA and other agencies on this matter.

B. Under Section 26(a) of TSCA, upon request by the EPA Administrator, other Federal agencies are authorized to make their services available to the Administrator to assist in the administration of the Act. The staff recommends that NRC assistance under Section 26(a) in support of EPA regulation of NARM should be pursuant to the NRC/EPA Memorandum of Understanding dated March 16, 1992.

C. The staff recommends that the NRC inform the CRCPD, by letter, that the NRC will not seek legislative authority to regulate NARM, because such regulation is a responsibility of the States and because other Federal agencies already have jurisdiction over most facets of NARM hazards, and that the NRC supports the ongoing CRCPD NARM program (a draft letter to the CRCPD is included in Enclosure 3).

VI. REFERENCES

1. Regulation of Naturally Occurring and Accelerator-Produced Radioactive Materials, NUREG-0301, U.S. Nuclear Regulatory Commission, June 1977.

2. Regulation of Naturally Occurring and Accelerator-Produced Radioactive Materials - An Update, NUREG-0976, U.S. Nuclear Regulatory Commission, October 1984.

3. Naturally Occurring and Accelerator-Produced Radioactive Materials - 1987 Review, NUREG-1310, U.S. Nuclear Regulatory Commission, March 1988.

4. CIRRPC Policy Report - Naturally Occurring and Accelerator-Produced Radioactive Materials (NARM), DRAFT, Committee on Interagency Radiation Research and Policy Coordination, June 1990.

5. Radiation Exposure of the U.S. Population from Consumer Products and Miscellaneous Sources, NCRP Report No. 95, National Council on Radiation Protection and Measurement, December 1987.

6. Comparative Carcinogenicity of Ionizing Radiation and Chemicals, NCRP Report No. 96, National Council on Radiation Protection and Measurement, December 1989.

7. Low-Level and NARM Radioactive Wastes - Draft Environmental Impact Statement for Proposed Rules, EPA 520/1-87-012-1, U.S. Environmental Protection Agency, June 1988.

8. Diffuse NORM - Waste Characterization and Preliminary Risk Assessment, DRAFT, U.S. Environmental Protection Agency, May 1991.

Enclosure 3

DRAFT

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

Mr. Charles Hardin, Executive Director
Conference of Radiation Control Program
Directors, Inc.
205 Capital Avenue
Frankfort, KY 40601

Dear Mr. Hardin:

The Nuclear Regulatory Commission (NRC) has been in the process of evaluating the possibility of NRC seeking legislative authority for the regulation of Naturally-Occurring and Accelerator-Produced Radioactive Material (NARM). This evaluation was initiated, in part, as a result of the August 26, 1987 letter from the Conference of Radiation Control Program Directors, Inc. (CRCPD) signed by Terry R. Strong, the Chairman at that time.

In March 1988, NRC published NUREG-1310, "Naturally-Occurring and Accelerator-Produced Radioactive Materials - 1987 Review." The Commission then referred the issue to the Committee on Interagency Radiation Research and Policy Coordination (CIRRPC) and requested a report to consist of a characterization of the risks from discrete sources of NARM and an identification of the need for appropriate action by Federal agencies to regulate various aspects of discrete NARM. This report has not been completed. However, we have reviewed a draft of the report. Progress has been made on the Federal front through recent actions of the Environmental Protection Agency to develop NARM regulations through its authority under the Toxic Substances Control Act (TSCA).

After reviewing the currently available information, the NRC staff has recommended that the Commission not seek a change in its legislative authority for NARM material because a) EPA authority under TSCA, b) State authority, and c) the CRCPD program for States to be designated as a NARM licensing State. The Commission agreed with the staff recommendation.

The Commission continues to believe that the licensing State program developed by the CRCPD to enhance uniform minimum regulatory programs at the State level is an excellent effort to protect the public health and safety and will continue its support of the program.

I want to thank you for your support in this effort. Please contact me if you have any further questions.

Sincerely,

Carlton Kammerer, Director
Office of State Programs