

NMSS Licensee Newsletter



U.S. Nuclear
Regulatory
Commission

Office of Nuclear
Material Safety
and Safeguards

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ACTION PLAN TO ENSURE TIMELY CLEANUP OF SITE DECOMMISSIONING MANAGEMENT PLAN SITES

(The following Notice of Availability appeared in the *Federal Register* on April 16, 1992. It describes the approach NRC will use to accelerate the cleanup of sites listed on the Site Decommissioning Management Plan (SDMP). The Commission expects that the action plan described in the notice will facilitate more timely cleanup of these SDMP sites. Further, the Commission believes that broadly disseminating this information will be helpful to all NRC licensees.)

Agency: Nuclear Regulatory Commission.

Action: Notice of availability of NRC action plan.

Summary: The NRC has developed an Action Plan to describe the approach the agency will use to accelerate the cleanup of radiologically contaminated sites listed in NRC's Site Decommissioning Management Plan (SDMP). The objective of this plan is to communicate the Commission's general expectation that sites listed in the SDMP be cleaned up in a timely and effective manner. This plan (1) identifies existing criteria to guide cleanup of contaminated soils, structures, and equipment, and emphasizes site-specific application of the As Low As Reasonably Achievable (ALARA) principle; (2) states the NRC's position on the finality of decommissioning decisions; (3) describes the NRC's general expectation that SDMP site cleanup will be completed within a 4-year timeframe after operations cease or 3 years after issuance of an initial cleanup order; (4) identifies currently available guidance on site characterization work in support of decommissioning; and (5) describes the process the NRC staff will use to establish and enforce schedules for timely cleanup on a site-specific basis.

Addressees: Other documents referenced in this notice may be reviewed and/or copied for a fee from the NRC Public Document Room, 2120 L Street NW, (Lower Level), Washington, DC 20555.

Supplementary Information

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I. Introduction and Purpose

Over the past several years, the Nuclear Regulatory Commission (NRC) has identified over 40 nuclear material sites that warrant special attention by the Commission. These sites have buildings, former waste disposal areas, large piles of tailings, groundwater, and soil contaminated with low levels of uranium or thorium (source material) or other radionuclides. Consequently, they present varying degrees of radiological hazard, cleanup complexity, and cost. Some of the sites are still under the control of active NRC licenses, whereas licenses for other sites may have already been terminated or may have never been issued. At some sites licensees are financially and technically capable of completing cleanup in a reasonable timeframe, whereas at other sites, the licensee or responsible party is unable or unwilling to perform cleanup. In addition, the sites are currently in various stages of decommissioning. At some sites, licensees have initiated decommissioning, whereas at other sites, decommissioning has not yet been planned or initiated.

The NRC believes that the best approach for minimizing the potential for unnecessary radiation exposures and environmental contamination in the future is to ensure that these sites are cleaned up in a timely and effective manner. In 1990, the NRC implemented the Site Decommissioning Management Plan (SDMP) to identify and resolve issues associated with the timely cleanup of these sites. The SDMP provides a comprehensive strategy for NRC and licensee activities dealing with the cleanup and closure of contaminated nuclear material facilities over which the NRC has jurisdiction. The appendix to this document lists the sites that are currently included in the SDMP (the SDMP does not include more routine decommissioning cases such as nuclear power reactors). The SDMP has been effective in ensuring coordination and resolution of some of the policy and regulatory issues affecting site decommissioning. Progress on actual site remediation, however, continues to be slow. The limited progress to date has prompted the Commission to direct the NRC staff to initiate actions to accelerate the cleanup of SDMP sites.

It should be noted that this Action Plan itself does not contain enforceable standards and is not intended to

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1. Action Plan to Ensure Timely Cleanup of Site Decommissioning Management Plan Sites (Notice of availability of NRC action plan, in <i>Federal Register</i> , Vol. 57, No. 74, April 16, 1992, pp. 13389-13392) (Contact: Chad Glenn, 301-504-2546)	1
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7. Participatory Rulemaking on Decontamination Criteria (Contact: Robert Meck, 301-492-3737)	7
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11. A Sampling of Significant Enforcement Actions against Material Licensees (Contact: Joe Delmedico, 301-504-2739)	10

create new rights or obligations on third parties or to preclude litigation of properly framed issues in any pending proceeding. Implementation of this plan may result in the establishment of legally binding requirements by order or license amendment that may be enforced on a site-specific basis. However, nothing in this Action Plan is intended to affect hearing rights associated with such orders or licensee amendments or the hearing rights of parties to

presently pending adjudications and, to the extent that rules promulgated in accord with 5 U.S.C. 583 are not applicable, each case will be judged on its own merits.

II. Action Plan

In accordance with the overall objective of ensuring timely and effective cleanup of SDMP sites, the NRC staff will review site-specific plans and take decommissioning actions consistent with the following elements:

A. Cleanup Criteria

Pending NRC rulemaking on generic radiological criteria for decommissioning, the NRC will continue to consider existing guidance, criteria, and practices listed below to determine whether sites have been sufficiently decontaminated so that they may be released for unrestricted use, pursuant to, or consistent with, the decommissioning rules in 10 CFR 30.36, 40.42, 50.82, 70.38, and 72.54. These cleanup criteria will be applied on a site-specific basis with emphasis on residual contamination levels that are ALARA.

1. Options 1 and 2 of the Branch Technical Position "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations" (46 FR 52601; October 23, 1981).
2. "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," Policy and Guidance Directive FC 83-23, Division of Industrial and Medical Nuclear Safety, November 4, 1983.
3. "Termination of Operating Licenses for Nuclear Reactors," Regulatory Guide 1.86, June 1974, Table 1, for surface contamination of reactor facility structures. Also Cobalt-60, Cesium-137, and Europium-132, that may exist in concrete, components, and structures should be removed so the indoor exposure rate is less than 5 microrentgen per hour above natural background at 1 meter, with an overall dose objective of 10 millirem per year (cf. Letter to Stanford University from James R. Miller, Chief, Standardization and Special Projects Branch, Division of Licensing, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, April 21, 1982, Docket No. 50-141).

Comments, and suggestions you may have for information that is not currently being included, that might be helpful to licensees, should be sent to:

E. Kraus
NMSS Licensee Newsletter Editor
Office of Nuclear Material Safety and Safeguards
One White Flint North, Mail Stop 6-E-6
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

4. The Environmental Protection Agency's (EPA's) "Federal Groundwater Drinking Water Regulations," 40 CFR 141.101 (43 FR 38404; July 9, 1978). In accordance with FC 83-23, the maximum contaminant levels for radionuclides in public drinking water as established by the EPA should be used as reference standard for protection of groundwater and surface water resources.

5. The EPA's "Persons Exposed To Transuranium Elements In The Environment" (42 FR 80956; November 30, 1977). This document provides guidelines for acceptable levels of transuranium elements in soil.

The criteria of this section will be considered in establishing site-specific ALARA levels for each of the SDMP sites in license amendments and orders.

B. Finality

The NRC's decision to terminate a license will relieve the licensee from any further obligation to the NRC to conduct additional cleanup, as long as the licensee decommissioned the site in full accordance with an approved decommissioning plan. The licensee will demonstrate compliance with the cleanup levels described in the decommissioning plan by performing a radiologic survey of the site prior to license termination. The NRC usually conducts an independent survey to confirm the accuracy of the licensee's termination survey. Therefore, if a licensee or responsible party cleaned up a site, or was in the process of cleaning up a site, under an NRC-approved decommissioning plan, the NRC will not require the licensee to conduct additional cleanup in response to NRC criteria or standards established after NRC approval of the plan. An exception to this case would be in the event that additional contamination, or noncompliance with the plan, is found, indicating a significant threat to public health and safety. Noncompliance would occur if a licensee or responsible party does not comply with an approved decommissioning plan, or provides false information.

The NRC will inform EPA about specific decommissioning actions at sites. NRC will also inform State and local agencies that have jurisdiction over aspects concerning decommissioning actions.

C. Timing

The NRC staff will address the timing of SDMP site cleanups on a case-by-case basis, with the expectation that cleanup generally be completed within about 4 years after operations that caused the contamination cease or 3 years after issuance of an initial cleanup order. To achieve this objective, major decommissioning milestones should be established within the following timeframes:

1. As soon as practical, but generally not later than 12 months after notification by the NRC that decom-

missioning is expected to commence, the licensee or responsible party identified by the NRC should submit to the NRC an adequate site characterization report, if that has not yet been completed. The NRC encourages early and substantive coordination and communication between the licensee or responsible party in planning for site characterization, including NRC review of site characterization plans.

2. As soon as practical, but generally not later than 6 months after NRC approval of the site characterization report, the licensee or responsible party should submit to the NRC a site decommissioning plan for approval based on the site characterization results. The decommissioning plan should include schedules for completing site decommissioning work in a timely and effective manner, including plans to dispose of contaminated materials either onsite pursuant to 10 CFR 20.302 (or 10 CFR 20.2002 of the revised 10 CFR Part 20), or at a licensed disposal facility offsite.
3. As soon as practical, but generally not later than 18 months after NRC approval of the site decommissioning plan, the licensee or responsible party should complete all decommissioning work and termination surveys, so that sites or facilities can be released for unrestricted use after termination of the license, as appropriate.

In implementing this approach, the NRC will establish specific and enforceable milestones for each phase of decommissioning through license amendments or orders. These schedules will provide flexibility to allow a licensee or responsible party to demonstrate good cause for delaying cleanup based on technical and risk reduction considerations, or for reasons beyond its control. NRC recognizes that at sites containing hazardous chemical wastes, schedules will depend, at least in part, on the necessary reviews and approvals by other responsible agencies (e.g., EPA or State agencies).

D. Site Characterization

Inadequate site characterization has been one of the technical issues that has delayed timely approval and implementation of site-specific decommissioning actions. Therefore, the NRC is developing new guidance on the content of acceptable site characterization programs conducted in support of decommissioning actions. The NRC has developed a draft "Guidance Manual for Conducting Radiological Surveys in Support of License Termination" (NUREG/CR-5849)¹ through Oak Ridge Associated Universities. This draft manual, which will be published for interim use and evaluation in April 1992, should be

¹A free single copy of draft NUREG/CR-5849 may be requested by writing to the U.S. Nuclear Regulatory Commission, Attn: Distribution and Mail Services Section, Mail Stop P-370, Washington, DC 20555. A copy is also available for inspection and/or copying in the NRC Public Document Room, 2120 L Street, NW, (Lower Level), Washington, D.C.

consulted regarding general aspects of site characterization activities. In addition, this draft manual should be used by licensees when conducting radiological surveys in support of license terminations in the interim until the manual is finalized. NRC is developing additional guidance on specific aspects of site characterization, such as hydrogeologic assessment of contaminated sites.

Until specific NRC guidance on site characterization is developed, licensees should continue to review relevant information from existing documents on site characterization such as those identified below. Although NRC recognizes that these documents do not completely address site characterization needs for decommissioning, use of these references, in addition to site-specific consultation with the NRC staff, will help ensure that site characterization is appropriately planned and conducted so that final site characterization reports are submitted with minimal deficiencies and in a timely manner. The following documents, available from the NRC Public Document Room, should be reviewed regarding general aspects of site characterization activities:

1. "Survey Procedures Manual for the ORAU Environmental Survey and Site Assessment Program," Oak Ridge Associated Universities, March 1990.
2. "Laboratory Procedures Manual for the Environmental Survey and Site Assessment Program," Revision 5, Oak Ridge Associated Universities, February 1990.
3. "Quality Assurance Manual for the Oak Ridge Associated Universities' Environmental Survey and Site Assessment Program," Revision 3, Oak Ridge Associated Universities, February 1990.
4. "Monitoring for Compliance with Decommissioning Termination Survey Criteria," NUREG/CR-2082,² June 1981.
5. "Guidance on the Application of Quality Assurance for Characterizing a Low-Level Radioactive Waste Disposal Site," NUREG-1383, October 1990.

E. Procedures to Compel Timely Cleanup

The NRC staff will seek voluntary cooperation by licensees or other responsible parties in establishing and implementing decommissioning plans in accordance with the objectives of this Action Plan. For sites with active NRC licenses, an approved decommissioning plan that includes appropriate schedules and cleanup levels will be incorporated into the license by amendment through normal licensing procedures. For sites with joint licenses

(i.e., facilities that possess both a materials and a non-power reactor license), a coordinated approach under both licenses will be taken in establishing appropriate schedules and plans for decommissioning. If a site is not under an active license, the NRC may impose a decommissioning plan by order.

In cases where voluntary cooperation is ineffective in establishing acceptable schedules for completing decommissioning actions, the NRC will establish legally binding requirements and take enforcement action, as necessary, to compel timely and effective cleanup of SDMP sites. Demands for Information may be used to establish licensee commitments to perform major decommissioning activities. Enforcement actions may include issuance of orders, including immediately effective orders, to compel actions by licensees or other responsible parties. If necessary, NRC will issue orders requiring payment of funds into a decommissioning escrow account when a licensee or responsible party fails to meet an agreed upon schedule and has not already established an adequate decommissioning fund pursuant to, or consistent with, the decommissioning funding rules (10 CFR 30.35, 40.36, 50.82, 70.25, and 72.30). The amount of the escrow account will be based upon and be consistent with the estimated cost required to complete site cleanup. Other enforcement actions may include escalated payment of funds into the escrow account based on a licensee's or responsible party's failure to comply with the order. Accumulations into that account will be dedicated for use to finance the cleanup of the site. Finally the NRC will consider issuing civil penalties where (1) the licensee or responsible party fails to comply with an order compelling payment into an escrow account; or (2) the licensee or responsible party fails to comply with a requirement or an order compelling cleanup when there is already sufficient decommissioning funding. Additionally, NRC may seek court injunctions to compel enforcement of these orders.

Appendix—Existing SDMP Sites

Site Name	Location
Advanced Medical Systems	Cleveland, OH
ALCOA	Cleveland, OH
AMAX	Wood County, WV
Aberdeen Proving Ground	Aberdeen, MD
Army Arsenal	Watertown, MA
Babcock and Wilcox	Appollo, PA
Babcock and Wilcox	Parks Township, PA
BP Chemicals	Lima, OH
Budd Company	Philadelphia, PA
Cabot Corporation	Boyertown, PA
Cabot Corporation	Reading, PA
Cabot Corporation	Revere, PA
Chematron Corporation (Bert Ave.)	Cleveland, OH

²Copies of NUREGS may be purchased from the Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20013-7042. Copies are also available from the National Technical Information Service, 3285 Port Royal Road, Springfield, VA 22181. A copy is also available for inspection and/or copying at the NRC Public Document Room, 2120 L Street, NW, (Lower Level), Washington, DC.

Site Name	Location (cont'd)
Chematron Corporation (Harvard Ave.)	Cleveland, OH
Chevron Corporation	Pawling, NY
Dow Chemical	Midland, MI and Bay City, MI
Elkern Metals	Marietta, OH
Englehard	Plainville, MA
Fansteel	Muskogee, OK
General Services Administration	Watertown, MA
Hartley and Hartley	Bay County, MI
Heritage Minerals	Lakehurst, NJ
Kerr-McGee (Cimarron)	Crescent, OK
Kerr-McGee	Cushing, OK
Magnesium Elektron	Flemington, NJ
Molycorp	Washington, PA
Molycorp	York, PA
NE Ohio Regional Sewer District	Cuyahoga Heights, OH
Nuclear Metals	Concord, MA
Permagrain	Media, PA
Pesses Chemical	Pulaski, PA
Remington Arms Company	Independence, MO
RMI Titanium	Ashtabuta, OH
RTL, Inc.	Rockaway, NJ
Safety Light Corporation	Bloomsburg, PA
Schott Glass	Dureyca, PA
Shieldalloy	Cambridge, OH
Shieldalloy	Newfield, NJ
Texas Instruments	Attleboro, MA
United Nuclear Corporation	Wood River Junction, RI
Victoreen	Cleveland, OH
Westinghouse (Waltz Mill)	Madison, PA
West Lake Landfill	St. Louis, MO
Whittaker Metals	Greenville, PA
Wyman-Gordon	North Grafton, MA
3M Company	Kerrick, MN

NRC REQUESTS CAMPBELL ENGINEERING COMPANY TO RETRACT MARKETING MATERIAL STATEMENTS

In response to a sales marketing campaign by Campbell Engineering Company (CECO), involving an apparently wide distribution of commercial literature to NRC safeguards licensees, NRC is requesting a retraction of statements, in this literature, attributed to Robert F. Burnett, Director, Division of Safeguards and Transportation, NMSS. The marketing material, dealing with an automated access control system, contains statements, attributed to Burnett, that suggest that Burnett and NRC endorse the system. NRC did not grant CECO permission to use Burnett's name nor any reference to NRC in

this literature. Neither NRC nor its officials endorse specific safeguards systems, and statements to that effect, in this marketing literature, are not correct.

MEDICAL SUPERVISION

The Nuclear Regulatory Commission has paid increasing attention to the issue of adequate training and supervision for the medical use of byproduct material. Although the performance of tasks associated with the medical use of byproduct material may be delegated, the licensee or authorized user may not delegate responsibility to supervised individuals. The delegated authority to prepare and administer radiopharmaceuticals requires specialized training, outlined in 10 CFR 35.25(a)(1), in addition to the radiation safety training required to be in compliance with 10 CFR Part 19. In accordance with this regulatory requirement, the licensee, through the authorized user, must provide instructions, to a supervised individual, in the principles of radiation safety and in the licensee's written quality management (QM) program. Furthermore, the supervised individuals are required, in 10 CFR 35.25(a)(2), to follow the instructions of the authorized user. The specific radiation safety principles that are appropriate to an individual's use of byproduct material may include, but not be limited to, safe handling procedures, preparation of dosages, patient instructions, clarification of physician orders, etc. Failure to follow either the instructions of the supervising authorized user or the licensee's QM procedures is a violation of 10 CFR 35.25(a)(2). The licensee, as outlined in 10 CFR 35.25(b), is responsible for the acts and omissions of the supervised individual. Therefore, if a supervised individual, through misunderstanding, negligence, or commission, acts contrary to the requirements of the license, the regulations, the QM procedures, or an order, the licensee remains responsible. It is critical, therefore, that an adequate system for instruction and supervision for the handling of byproduct radioactive materials, including their administration to patients, be implemented by the licensee, through the radiation safety officer and authorized users.

QUALITY MANAGEMENT RULE

The Nuclear Regulatory Commission (NRC) published the "Quality Management Program and Misadministrations" final rule, in the *Federal Register*, on July 25, 1991; it became effective on January 27, 1992. This rule amended the regulations, in 10 CFR Part 35, for Medical Use Programs, for therapeutic administration of radiopharmaceuticals, therapeutic application of radiation from sealed sources, and the administration of radioactive sodium iodide. The new requirement in 10 CFR 35.32 requires licensees to establish and maintain a written quality management (QM) program to provide high confidence that byproduct material or radiation from byproduct material is administered as directed by the authorized physician user. Licensees are required to submit a written certification that a QM program has been implemented, along with a copy for NRC review.

The QM rule also revised 10 CFR 35.2 and 35.33 to change the definition of, and reporting requirements for, diagnostic and therapeutic misadministrations of byproduct material, to include higher whole-body and organ dose thresholds for reporting. This new definition of misadministration significantly reduces the number of diagnostic errors meeting the threshold to be called a "misadministration."

Letters have been mailed to all NRC medical licensees requiring QM programs, either acknowledging receipt of the program, or notifying them that a QM program has not yet been received. Because of ongoing discussions, with the Office of Management and Budget, on the information and recordkeeping requirements associated with the final rule, and consequent confusion among some licensees on the implementation of the rule, licensees have been granted 60 days from the date of the letter to submit a QM program. Regulatory Guide 8.33, "Quality Management Program," which provides guidance on how to develop an acceptable QM program, has been mailed to all medical licensees.

To implement the rule, NRC Headquarters staff will provide training to regional inspectors and license reviewers, to include the following subject areas: 1) background and development of the rule; 2) objectives of a performance-based program; 3) procedures for review of QM program submittals; 4) inspecting against QM program criteria; 5) Regulatory Guide 8.33; and 6) contract support for the review of QM program submittals. Until regional training is completed and inspection guidance has been issued, all enforcement actions regarding violations of QM programs will be referred to, and coordinated with, Headquarters staff. NRC considers the failure to substantially implement the QM program required by 10 CFR 35.32 to be of significant regulatory concern. Therefore, failure to comply with these regulatory requirements may result in escalated enforcement action.

TELETHERAPY

External beams of ionizing radiation (teletherapy) have been used for the treatment of tumors, in patients, for decades. Consequently, there exist numerous teletherapy units, in present clinical use, that were manufactured more than 30 years ago. This raises concerns about the useful lifetime of these units, vis-a-vis continued safe clinical use. Other considerations, such as newer technology, operational reliability considerations, and increased maintenance costs, could contribute to licensee reduced use or retirement of older generation units.

In 1991, the Center for Devices and Radiological Health of the Food and Drug Administration (FDA) inspected Theratronics International Limited (formerly AECI Medical) after concerns were expressed about potential safety-related problems with some of the firm's older teletherapy units. As a result of the problems uncovered

in this inspection, the FDA issued a Safety Alert (No. M-020/021-1), in May 1991, to all users of Theratronics T60 and T80 units, advising them that the arms of these units might crack.

After these FDA actions, Theratronics issued two User Bulletins—CUB-91-03NA, dated June 5, 1991, and CUB-91-04NA, dated June 24, 1991. The purpose of these bulletins was to inform users of the firm's Theratron Junior, Eldorado A, Eldorado G, Eldorado Super G, Ceasatron E, Eldorado 6, and Eldorado 8 (CUB-91-03-NA) and users of its Theratron 60 and 80 (CUB-91-04NA) teletherapy units that, in the opinion of the manufacturer, these units had exceeded their useful safe life and should be removed from service, especially those units with cast-iron components. The manufacturer also stated that spare parts were becoming increasingly difficult to provide, would only be supplied on an "as available" basis, and that routine service, service contracts, source replacements, and accessories would no longer be made available.

The broad safety issues related to the age of these units, combined with the withdrawal of the manufacturer's support, concern the Nuclear Regulatory Commission. This lack of support may lead to incidents of deferred or improper maintenance at a time when service and maintenance requirements are normally increasing, as components age. Improper servicing, repair, or substitution of spare parts could readily produce device failures, resulting in overexposures to both patients and employees.

To address these concerns, NRC issued NRC Bulletin 92-1, on April 21, 1992. This bulletin was sent to all NRC teletherapy licensees. The bulletin requires each licensee to report back to NRC, within 60 days, even if it does not possess one of the teletherapy units for which the manufacturer has discontinued support. If a licensee does possess such a unit, then it must describe the unit, its service history, and service contract (if it has one). In addition to providing the requested information, the licensee must describe its commitment to ensure the continued safe clinical use of these aging teletherapy units. Regarding the latter, a number of NRC concerns are set forth, in the bulletin, that the licensee must address.

The present draft regulatory guide for the preparation of applications for licenses for medical teletherapy programs (Task FC 414-4, dated December 1985) is being revised. The new revision will update the present draft guide to reflect the changes to 10 CFR Parts 20 and 35 that have been made since the present draft guide was issued.

NRC STAFF DENIES LICENSE RENEWAL APPLICATIONS; ISSUES ORDER TO DECOMMISSION BLOOMSBURG SITE

The Nuclear Regulatory Commission staff has denied the applications submitted by Safety Light Corporation of

Bloomsburg, Pennsylvania, to renew two nuclear material licenses, based on the licensee's failure to comply with the decommissioning requirements in 10 CFR 30.35. The NRC staff ordered Safety Light and other responsible entities to decommission their currently licensed site in Bloomsburg, once the denials become effective. The companies named in the denial and order establishing criteria and a schedule for decommissioning the Bloomsburg site are: Safety Light Corporation; Lime Ridge Industries, Inc.; Metreal, Inc.; United States Radium Corporation; USR Industries, Inc.; USR Chemical Products, Inc.; USR Metals, Inc.; USR Lighting, Inc.; and U.S. Natural Resources, Inc. (collectively, "the Companies").

Since 1956, NRC and its predecessor, the Atomic Energy Commission, have licensed the possession of unspecified quantities of byproduct materials for research and development, and the manufacture and distribution of various products containing radioactive material, at the Bloomsburg site. Although various radionuclides were licensed for use in prior years, the principal material used today is tritium, which is incorporated into glow-in-the-dark exit signs and other self-luminous products.

The denials, issued on February 7, 1992, are effective in 50 days or on the conclusion of any hearing requested by the Companies. On the effective date of the denials, the Companies must take actions leading to termination of the licenses, in accordance with the requirements of the order and NRC regulations. The Companies must divest themselves of licensed material (e.g., by transfer to an authorized recipient); decontaminate their equipment, facilities, and real property; and submit a survey showing that their equipment, facilities, and real property are suitable for unrestricted use.

Although contamination at the Bloomsburg site has not been analyzed completely, it is known that buildings and equipment are contaminated with strontium-90, cesium-137, and other radionuclides, and outdoor areas (soil and groundwater) are also contaminated at levels that make the site unsuitable for unrestricted release. Limited studies conducted to date by Oak Ridge Associated Universities and Chem-Nuclear Systems, Inc., show that there is widespread contamination, on-site, that must be remediated before the site can be released for unrestricted use.

The schedule in the order requires the Companies to submit a decommissioning plan to NRC within 120 days of the effective date of the denials. The companies must then complete decommissioning within 1 to 3 years of the effective date of the denials, depending on the particular building or area of the site. Within 3 years of the effective date, the Companies must submit, to NRC, a survey demonstrating that the premises are suitable for unrestricted

use. The order requires the Companies to satisfy the NRC staff's current criteria for site cleanup.

The NRC staff took these actions because the Companies have not submitted decommissioning funding plans or certifications of financial assurance, as required by NRC regulations in 10 CFR 30.35. The decommissioning regulations, published June 27, 1988, are intended to ensure that the decommissioning of all NRC-licensed facilities will be accomplished in a safe and timely manner—to protect the public health and safety—and that adequate licensee funds will be available for this purpose when a facility is to be taken out of service.

The denials do not affect NRC staff orders issued March 16, 1989, and August 21, 1989, requiring the Companies to restrict access to the site; begin decontamination activities; establish funding to implement a plan to characterize the extent of radioactive contamination at the Bloomsburg site and to take remedial action where necessary; and to take certain other actions. The Companies have requested an administrative hearing on these orders, which is in progress.

The Companies have also requested an administrative hearing on the license denial and order issued in February 1992.

PARTICIPATORY RULEMAKING ON DECONTAMINATION CRITERIA

The Nuclear Regulatory Commission intends to initiate a rulemaking to establish the radiological criteria for the decommissioning of NRC-licensed facilities. To enhance this rulemaking, the NRC staff plans to conduct a series of workshops during which invited participants, representing a variety of points of view, will inform the staff of their positions on the relevant issues. These workshops will be scheduled for approximately 2 days and include some preliminary background presentations, and opportunities for participant statements on the issues, and questions. No consensus nor agreements need to be reached during these workshops.

The workshops will be public, and all attendees will be allowed to state their positions and questions. A court reporter will transcribe workshops; NRC staff members will use transcripts when they formulate a draft rule for Commission consideration. The eventual proposed rule will be subject to all of the notice and comment opportunities ordinarily provided in rulemaking procedures.

It should be clear that the development of the draft rule will stem from the workshop interactions, and that before the workshops, the NRC staff will not develop positions on the draft rule. The staff will document how it has treated the positions expressed at the workshop, in developing the draft rule.

Although no draft rule will be developed before the workshops, staff will produce an issues paper to be used as a focal point of the workshop discussions. This paper, which will be distributed in advance of the workshops, will set forth, in "neutral" terms, background information and issues that should be addressed in the rule. This paper will provide assistance to participants as they prepare for the workshops, suggest the workshop agenda, and set the level of technical discussion that can be expected at the workshops. To the extent that the issues paper fails to identify a pertinent issue, this may be corrected at the workshop sessions.

The workshops will be located in NRC's regions and will be conducted with the help of a professional facilitator. Some regions may require more than one workshop. There will also be a "national" workshop in the Washington, DC, area, for organizations that are national in scope, so that the regional workshops can be devoted to regional organization participation.

INFORMATION NOTICES PUBLISHED March 25, 1992—May 15, 1992

Note that these are only summaries of information notices. Information notices are automatically sent to licensees to whom they pertain. If a notice appears relevant to your licensed operation and it has not been received, we recommend that you obtain the notice from the NRC contact listed here or speak with the contact about its provisions.

- A. Spent Fuel Pool Reactivity Calculations—IN 92-21, Supplement 1, April 22, 1992
Technical Contacts:
Jack Ramsey 301-504-1167
Larry Kopp 301-504-2879

This notice updates information initially supplied by ABB Combustion Engineering (CE) and incorporated in IN 92-21. Initially, CE attributed one of the errors in its calculations for the Millstone, Unit 2, spent fuel pool to using the transport cross section as an approximation for the total cross section in a region containing a strong neutron absorber (Boraflex). CE now believes that this approximation had little effect on calculated reactivity. CE now attributes the error to incorrect treatment of the self-shielding effect in Boraflex for the epithermal energy group. Revised calculations have shown that the absorption cross section in Boraflex for the epithermal energy group is significantly self-shielded; however, this was not accounted for in the original calculations. This oversight resulted in overestimating neutron absorption and a corresponding lower calculated K_{eff} in that region. The remainder of the discrepancy is still attributed to the inaccurate geometric buckling term used, as discussed in IN 92-21.

- B. Criminal Prosecution and Conviction of Wrongdoing Committed by a Commercial-Grade Valve Supplier, IN 92-22, March 24, 1992
Technical Contact:
Joseph Petrosino 301-504-2979

This notice informs licensees of the results of the criminal prosecution of a case of wrongdoing that the NRC staff referred to the U.S. Department of Justice (DOJ). Pacific Gas and Electric Co. (PG&E) found that leaking valves were counterfeit. An NRC review of records at CMA International of Vancouver, Washington, which had shipped the valves to PG&E, found indications of wrongdoing by the company. The matter was referred to DOJ, which ultimately obtained a felony indictment and conviction of the President of CMA, who was sentenced to 3 years imprisonment. In addition, the corporation was ordered to pay restitution of \$213,825 to NRC licensees. All personnel involved in NRC-regulated activities, including suppliers and vendors, have a responsibility to comply with applicable NRC regulatory requirements and other Federal laws. NRC expects and demands compliance and will seek criminal prosecution of wrong doing in cases of willful violations of these requirements.

- C. Inadequate Fire Suppression System Testing, IN 92-28, April 8, 1992
Technical Contact:
S. R. Jones 301-504-2833

This notice alerts licensees to potential inadequate performance of carbon dioxide and Halon fire suppression systems caused by excessive leakage from the protected enclosure or by deficient operation of the system's components. Limited acceptance testing may not be adequate to identify these problems.

- D. Falsification of Plant Records, IN 92-30, April 23, 1992
Technical Contacts:
David C. Fischer 301-504-1154
Eugene M. Kelly 215-337-5183
James A. Prell 215-337-5108

This notice alerts licensees to NRC's concern that licensee personnel may have falsified plant logs. NRC is reminding personnel of the penalties that could result from intentionally violating Federal regulatory requirements and criminal statutes. All personnel are subject to the requirements of 10 CFR 50.9 (for reactors), and 10 CFR 30.9, 40.9, 70.9, and 72.11 (for materials licensees), which state that information required by statute or by the Commission's regulations must be complete and accurate in all respects.

- E. New Exposure Limits for Airborne Uranium and Thorium, IN 92-34, May 6, 1992
Technical Contact:
Edward Shum 301-504-2607

This notice alerts addressees to changes, in 10 CFR Part 20, governing air-borne uranium and thorium exposures that may significantly affect exposure calculations and reporting requirements. The major revision of Part 20, which was published on May 21, 1991 (56 FR 23360), adopts the dose-assessment methodology recommended by the International Commission on Radiation Protection (ICRP), which significantly changes the occupational exposure limits for airborne uranium and thorium compounds. In addition, internal doses from exposure to airborne concentrations of radioactive particles will have to be maintained as part of a worker's total occupational dose limit (10 CFR 20.1202). Under 10 CFR 20.1204, internal exposure can be determined through air sampling in the work place or routine bioassay. Compliance by means of air sampling may be demonstrated according to Appendix B to 10 CFR 20.1001 to 20.2401. The new revision to NRC Regulatory Guide 8.25, "Air Sampling in the Workplace," gives guidance for setting up an air-sampling program that can be used to estimate internal dose from airborne activity. The associated NUREG-1400 explains acceptable implementation of methods described in Regulatory Guide 8.25. In addition, Table 2 of Appendix B to 10 CFR 20.1001 to 20.2401 places much more stringent limits on effluent concentrations for soluble uranium and thorium in water, and for thorium and insoluble uranium in air.

F. Implementation Date for the Revision to the EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, IN 92-38, May 12, 1992

Technical Contacts:

Aby Mohseni 301-504-2925
Kevin M. Ramsey 301-504-2534

This notice alerts addressees to a recent Commission decision to delay the date for required implementation of 10 CFR Part 20 for 1 year—to January 1, 1994—which delays also the implementation of a revision to EPA's Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, which is to be issued concurrently. NRC issued Information Notices 91-72, "Issuance of a Revision to the EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents" (November 19, 1991), and 92-08, "Revised Protective Action Guidance for Nuclear Incidents" (January 23, 1992), to notify licensees of the revision.

RULES PUBLISHED JANUARY 20, 1992—
MAY 14, 1992

FINAL RULES

- "DOE-L or DOE-Q Reinvestigation Program for NRC-R Access Authorization Renewal Requirements"
 1. Published: January 22, 1992
 2. Contact: Rocio Castancira 301-504-2392

- "NRC Licensee Reinvestigation Program"
 1. Published: January 31, 1992
 2. Contact: Duane Kidd 301-492-4127
- "Revision to Procedures to Issue Orders"
 1. Published: February 4, 1992
 2. Contact: Mary E. Wagner 301-492-3749
- "Limited Revision of Fee Schedules"
 1. Published: April 17, 1992
 2. Contact: James Holloway, Jr. 301-492-4301
- "Uranium Enrichment Regulations"
 1. Published: April 30, 1992
 2. Contact: C. W. Nilsen 301-492-3834
- "Limited Revision of Fee Schedules" (correction)
 1. Published: May 6, 1992
 2. Contact: James Holloway, Jr. 301-492-4301

PROPOSED RULES

- "Licensing Requirements for Land Disposal of Radioactive Wastes"
 1. Published: March 6, 1992
 2. Contact: Janet Lambert 301-492-3857
- "Low-Level Waste Manifest Information and Reporting"
 1. Published: April 21, 1991
 2. Contact: Mark Haisfield 301-492-3877
- "Receipt of Byproduct and Special Nuclear Material"
 1. Published: April 24, 1992
 2. Contact: Lemoine J. Cunningham
301-504-1086 or
Paul Lohaus 301-504-2553
- "Import and Export of Radioactive Wastes"
 1. Published: April 28, 1992
 2. Contact: Ronald Hauber 301-504-2344
- "Revision of Fee Schedules; 100% Fee Recovery"
 1. Published: April 29, 1992
 2. Contact: James Holloway, Jr. 301-492-4301
- "Fitness-for-Duty Requirements for Licensees Who Possess, Use, or Transport Category I Material"
 1. Published: April 30, 1992
 2. Contact: Stanley P. Turel 301-492-3739

- "Revisions to Procedures to Issue Orders; Challenges to Orders That Are Made Immediately Effective"

1. Published: May 12, 1992
2. Contact: John Cho 301-504-1585

REGULATORY GUIDES ISSUED NOVEMBER 4, 1991-APRIL 15, 1992

FINAL GUIDES

- "Quality Management Program," Guide No. 8.33
 1. Issued 10/91
 2. Contact: John Telford 301-492-3796
- "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities," Guide No. 3.67
 1. Issued 1/92
 2. Contact: Kevin Ramsey 301-504-2534

DRAFT GUIDES

- "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants," DG-8006 (applies also to certain materials licensees)
 1. Issued 10/91
 2. Contact: Cynthia Jones 301-504-2629
 - "Instructions for Recording and Reporting Occupational Radiation Exposure Data," DG-8007, Guide No. 8.7 (Revision 1)
 1. Issued 11/91
 2. Contact: Cynthia Jones 301-504-2629
 - "Proposed Appendix X to Regulatory Guide 10.8, Guidance on Complying with New Part 20 Requirements," DG-0002, Guide No. 10.8
 1. Issued 12/91
 2. Contact: Cynthia Jones 301-504-2629
- "Planned Special Exposures," DG-8006
1. Issued 12/91
 2. Contact: Cynthia Jones 301-504-2629
- "Interpretation of Bioassay Measurements," DG-8009, Guide No. 8.9 (proposed Revision 1)
 1. Issued 12/91
 2. Contact: Cynthia Jones 301-504-2629
 - "Criteria for Monitoring and Methods for Summation of Internal and External Occupational Doses," DG-8010
 1. Issued 2/92
 2. Contact: Cynthia Jones 301-504-2629

- "Radiation Dose to the Embryo/Fetus," DG-8011

1. Issued 2/92
2. Contact: Cynthia Jones 301-504-2629

A SAMPLING OF SIGNIFICANT ENFORCEMENT ACTIONS AGAINST MATERIAL LICENSEES

One way to avoid regulatory problems is to be aware of enforcement problems others have faced. Thus we have included here a sampling of some representative enforcement actions against material licensees. These enforcement actions can include civil penalties, orders of various types, and notices of violations.

A. Civil Penalties and Orders

1. Alt & Witzig Engineering, Inc., Indianapolis, Indiana Supplements IV and VI, EAs 91-119 and 91-148

A Notice of Violation and Proposed Imposition of Civil Penalty and Demand for Information was issued December 18, 1991, to emphasize the need for continued and lasting effective management control over activities authorized by the license and to ensure adherence to regulatory requirements. The action was based on a Severity Level II violation for deliberately exceeding the authorized possession limit for byproduct material, a violation for use of licensed material by untrained and non-supervised individuals, and a problem that collectively represents a breakdown in the radiation safety program. The base civil penalty was escalated based on NRC identification of the violations, poor past performance, multiple occurrences, and duration.

2. Curwood, Inc., Oshkosh, Wisconsin Supplement VI, EA 91-177

A Notice of Violation and Proposed Imposition of Civil Penalty was issued December 30, 1991, to emphasize the importance of effectively managing the licensee's radiation safety program, to ensure that licensed materials are properly secured, and events involving licensed materials are promptly reported to NRC. The action was based on the loss of a measuring gauge, containing a 25-millicurie sealed source of americium-241.

3. Fewell Geotechnical Engineering, Ltd., Pearl City, Hawaii EA 90-190

An Order Modifying License (Effective Immediately) was issued November 2, 1990, based on observations by NRC personnel of the licensee's radiographer willfully violating NRC requirements during October 1990. The Order prohibited the use of the individual for 3 years. The individual also gave false information to NRC. The individual requested a hearing November 18, 1990. The Hearing Board issued an Order on June 25, 1991, affirming, in part, the staff's order. In September 1991, the licensee requested termination of its license. The license was terminated on September 27, 1991.

4. Lone Pine Coal Company, Danville, West Virginia Supplement VI, EA 91-192

A Notice of Violation and Proposed Imposition of Civil Penalties was issued January 15, 1992, to emphasize the importance of maintaining an effective radiation safety program and complying with regulatory requirements and license conditions. The action was based on violations involving: (1) the removal of a licensed device by a licensee employee who was neither qualified nor authorized to remove or service the device; and (2) two examples where licensed devices were removed from service and stored unlocked and unsecured in unrestricted areas at licensee coal mines.

5. Monmouth Medical Center, Long Branch, New Jersey Supplements IV and VI, EA 91-174

A Notice of Violation and Proposed Imposition of Civil Penalty was issued December 24, 1991, to emphasize the importance of management attention and oversight to ensure that: (1) licensed activities are conducted safely and in accordance with requirements; and (2) appropriate corrective measures are taken when problems exist at the facility. The action was based on violations involving failures to: (1) amend the license before moving the Nuclear Medicine Department; (2) implement the radiation safety program through the radiation safety officer; (3) failure of the radiation safety committee to hold quarterly meetings; (4) provide required training to radiation workers; (5) calibrate survey instruments; (6) maintain accurate records of patient radiation doses; and (7) appropriately perform dose calibrator tests.

6. Overlook Hospital, Summit, New Jersey Supplement VI, EA 91-163

A Notice of Violation and Proposed Imposition of Civil Penalty was issued on December 12, 1991, to emphasize the importance of improvement in the management attention and oversight provided to the radiation safety program. The action was based on a violation wherein an individual administered a radiopharmaceutical without awaiting a written and signed physician order, as required. As a result, a patient received an incorrect iodine procedure.

7. Photon Field Inspection, Inc., Saginaw, Michigan Supplement VI, EA 89-098

A Notice of Violation and Proposed Imposition of Civil Penalty was issued June 7, 1989, to emphasize the need for adequate management control over the licensee's radiological safety program. The action was based on the licensee's failures to: obtain NRC authorization before facility relocation; provide annual retraining to radiographic personnel; perform quarterly management audits; perform quarterly physical inventories; calibrate survey instruments; leak-test sealed sources at required frequencies; complete shipping papers for transport of radiographic sources; and maintain records of byproduct material receipt. The former owner agreed not to apply to

NRC or an Agreement State for a new license for himself and not to engage in activities licensed by NRC or an Agreement State for 5 years.

8. St. Joseph's Hospital and Medical Center, Paterson, New Jersey, EA 91-175

A Notice of Violation and Proposed Imposition of Civil Penalties was issued December 26, 1991, to emphasize the importance of long-lasting corrective actions and that they result in continued improvement in the management attention and oversight provided to the radiation safety program. The action was based on: (1) a violation of NRC requirements, which contributed to a therapy procedure misadministration at the facility; and (2) a violation involving the failure to report that therapy misadministration.

9. Thomas Jefferson University, Philadelphia, Pennsylvania Supplement IV, EA 92-004

A Notice of Violation and Proposed Imposition of Civil Penalties was issued January 27, 1992, to emphasize the importance of ensuring proper security of licensed material and immediate notification of NRC when required. The action was based on violations of NRC requirements involving the failures to: (1) maintain security of radioactive material on numerous occasions, including one that resulted in the loss of 3 millicuries of sulfur-35 at the facility; and (2) report the loss of radioactive material to NRC in a timely manner.

10. Tulsa Gamma Ray, Inc., Tulsa, Oklahoma Supplements IV, V, and VI, EA 89-223

A Notice of Violation and Proposed Imposition of Civil Penalty was issued December 29, 1989, to emphasize the importance of strict adherence to radiation safety requirements and the need to have a program that ensures that regulatory requirements are met. The action was based on ten violations in the following programmatic areas: 1) job-site radiation safety practices; 2) personnel radiation exposure evaluation and recordkeeping; 3) radiography device inventories; and 4) transportation of radiography devices.

11. University of Puerto Rico, San Juan, Puerto Rico Supplements IV and VI, EA 91-089

A Notice of Violation and Proposed Imposition of Civil Penalty was issued August 28, 1991, to emphasize the need for stronger management oversight of licensed activities, more effective control of radiation programs, and effective implementation of corrective actions. The action was based on 15 violations, which include failures to: secure licensed material against unauthorized removal; conduct leak tests of sealed sources at the required intervals; properly evaluate dosimetry data; survey radiopharmaceutical waste storage areas; properly label radioactive material containers; adhere to radiation safety committee meeting requirements; properly

maintain sealed source inventory records; and maintain leak-test records for sealed sources.

B. Severity Level III Violation, No Civil Penalty

1. Century Inspection, Inc., Dallas, Texas
Supplement VI, EA 92-031

A Notice of Violation was issued March 17, 1992, based on the failure of an employee to wear a film badge, direct-reading pocket dosimeter, or alarm ratemeter, while conducting radiography. A civil penalty was not proposed because the licensee's performance had been good, and the licensee took prompt action to address the violation and actions to preclude a recurrence.

2. Sequoyah Fuels Corporation, Gore, Oklahoma
Supplements IV and VI, EA 91-153

A Notice of Violation was issued January 27, 1992, based on the failures to conduct radiation surveys as necessary; to inform and instruct individuals, working in restricted areas, of the presence of radioactive materials and the precautions to be taken; to exercise adequate radioactive contamination controls over materials being taken from the facility; to report events to NRC in accordance with established requirements; to establish procedures for all activities involving radioactive or hazardous materials; to follow procedures that had been established; and to comply with license conditions and requirements designed to ensure the protection of the environment. A civil penalty was not proposed based on the significant actions the licensee is taking as required by an Order dated October 3, 1991, and the fact that the licensee is prevented from operating the facility until many of the improvements are in place.

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