PDR

Standard Form 83
(Rev. September 1983)

Request for OMB Review

DESIGNATED ORIGINAL
Paulette Smith

Important

Read instructions before completing form. Do not use the same SF 83 to request both an Executive Order 12291 review and approval under the Paperwork Reduction Act.

Answer all questions in Part I. If this request is for review under E.O. 12291, complete Part II and sign the regulatory certification. If this request is for approval under the Paperwork Reduction Act and 5 CFR 1320, skip Part II, complete Part III and sign the paperwork certification.

Send three copies of this form, the material to be reviewed, and for paperwork—three copies of the supporting statement, to:

Office of Information and Regulatory Affairs
Office of Management and Budget
Attention: Docket Library, Room 3201
Washington, DC 20503

PART I.—Complete This Part for All Requests.

1. Department/agency and bureau/office originating request

U.S. Nuclear Regulatory Commission

2. Agency code

3 1 5 0

3. Name of person who can best answer questions regarding this request

Everett Wick

Telephone number

(301) 492-0546

4. Title of information collection or rulemaking

Information Notice, Reporting of Mishaps Involving Low-Level Radioactive Waste Forms Prepared for Disposal

5. Legal authority for information collection or rule *(cite United States Code, Public Law, or Executive Order)*

_____ USC _____, or _____

6. Affected public *(check all that apply)*

1 ☐ Individuals or households
2 ☐ State or local governments
3 ☐ Farms
4 ☒ Businesses or other for-profit
5 ☐ Federal agencies or employees
6 ☐ Non-profit institutions
7 ☒ Small businesses or organizations

PART II.—Complete This Part Only if the Request is for OMB Review Under Executive Order 12291

7. Regulation Identifier Number (RIN)

___ ___ ___ ___ ___ ___ ___ ___ ___ ___, or, None assigned ☐

8. Type of submission *(check one in each category)*

Classification

1 ☐ Major
2 ☐ Nonmajor

Stage of development

1 ☐ Proposed or draft
2 ☐ Final or interim final, with prior proposal
3 ☐ Final or interim final, without prior proposal

Type of review requested

1 ☐ Standard
2 ☐ Pending
3 ☐ Emergency
4 ☐ Statutory or judicial deadline

9. CFR section affected

_____ CFR _____

10. Does this regulation contain reporting or recordkeeping requirements that require OMB approval under the Paperwork Reduction Act and 5 CFR 1320? ☐ Yes ☐ No

11. If a major rule, is there a regulatory impact analysis attached? 1 ☐ Yes 2 ☐ No

If "No," did OMB waive the analysis? 3 ☐ Yes 4 ☐ No

Certification for Regulatory Submissions

In submitting this request for OMB review, the authorized regulatory contact and the program official certify that the requirements of E.O. 12291 and any applicable policy directives have been complied with.

Signature of program official — Date

Signature of authorized regulatory contact — Date

12. *(OMB use only)*

SUPPORTING STATEMENT
FOR
INFORMATION NOTICE
"REPORTING OF MISHAPS INVOLVING LOW-LEVEL
RADIOACTIVE WASTE FORMS PREPARED FOR DISPOSAL"

Description of the Information Collection

The Nuclear Regulatory Commission (NRC) is proposing to issue an information notice to encourage voluntary submittal (by both waste form generators and processors) of information concerning mishaps to low-level radioactive waste forms prepared for disposal. This information notice would also remind licensees of their obligation to report defects and deviations in accordance with NRC requirements in 10 CFR Part 21.

A. JUSTIFICATION

Need for the Collection of Information

NRC has some information concerning reported mishaps to low-level radioactive waste (LLW) forms prepared for ultimate disposal in a licensed LLW disposal facility, but this information is incomplete. For example, four incidents have been reported in which chemical reactions occurred in low-level waste shipping containers storing dewatered synthetic organic materials, such as resins (NRC Information Notices 83-14, "Dewatered Spent Ion Exchange Resin Susceptibility to Exothermic Chemical Reaction," March 21, 1983; 84-72, "Clarification of Conditions for Waste Shipments Subject to Hydrogen Gas Generation," September 10, 1984; 90-50, "Minimization of Methane Gas in Plant Systems and Radwaste Shipping Containers," August 8, 1990). Another incident was reported in which, during solidification of the waste, a violent reaction occurred

between a chemical detergent and a vendor's waste solidification agent (NRC Information Notice 88-08, "Chemical Reactions with Radioactive Waste Solidification Agents," March 14, 1988). This reaction resulted in boiling of the mixture so that it overflowed the liner, then hardened and had to be chipped away. Other problems have been encountered in the use of cement to solidify and stabilize bead resin wastes. Thus, there have been multiple incidents in which cement-solidified bead resin wastes have either not solidified properly or have disintegrated over a period of time following solidification. Though mishaps such as these have been made known to regulatory authorities, mainly through indirect and informal means, there is at present no way to ensure that all such events are being reported and that adequate information is being made available.

Agency Use of Information

A waste form mishap experienced by one reactor licensee or processor may raise the possibility of a generic problem. In that case, an NRC Information Notice would be issued to advise all power reactor licensees, low-level waste processors and the sited-disposal States of the potential hazard(s) and to encourage them to take the appropriate precautions to ensure public health and safety.

Reduction of Burden through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection by the use of information technology. NRC encourages the use of such technologies. The sporadic nature of the mishaps to be reported, however, does not lend itself to the use of such new technologies.

Duplication of Other Collections of Information

There is no known duplication of information collection requirements within NRC relative to the reporting of the incidents described in this

Information Notice. The Information Requirement Control Automated System (IRCAS) was searched and no duplication was found.

Effort to Use Similar Information

There is no known information that is similar to the information identified in the proposed Information Notice. Information is provided only if a mishap occurs.

Effort to Reduce Small Business Burden

A majority of the reports requested are from commercial nuclear power licensees which are not small entities. Some responses may be received from waste processors that are small businesses. However, the consequences to public health and safety from waste form mishaps are the same, whether reported by large or small businesses. Therefore, the burden on small businesses cannot be reduced.

Consequences of Less Frequent Collection

This is a one time voluntary submittal as mishaps are reported. It is not possible to report less frequently unless this voluntary submittal to NRC is eliminated.

Circumstances Which Justify Variation From OMB Guidelines

Mishaps to low-level radioactive waste forms prepared for disposal should be reported to the NRC within 30 days of knowledge of the incident. This is necessary so that NRC can determine whether (1) waste form requirements of 10 CFR Part 61.56 are met prior to disposal, (2) other waste processors need to be notified of processing problems and (3) changes to the processing methods are needed.

Consultation Outside the NRC

None.

Confidentiality of Information

None, except for proprietary information.

Sensitive Questions

None.

Estimate of Cost to Federal Government

The collection of the information requires approximately 16 hours of NRC staff time per report. The staff time to review and act on each report is approximately 8 hours for the headquarters and 8 hours for the regions. The number of responses is estimated to be no more than approximately 40 per year. This workload would be assumed to be distributed so that 3/4 would fall to waste processors and 1/4 would fall to disposal site operators. For approximately 40 reports received annually, NRC would expect approximately 640 hours of work. This includes time for review, coordination, and any required follow-up. At $92.00 per hour, the annual costs could be as high as $58,880 (640 hours x $92 per hour).

Estimate of Burden

The actual cost or burden on the licensee or processor is difficult to estimate because only a few of these mishaps have been reported. An average mishap report would be about two to three pages in length. The average time to prepare such a report is estimated to be 8 hours. Assuming a maximum total of 40 mishap reports, a maximum total of 320 hours per year would be expended. The burden estimate is set forth in the following table. The total cost to respondents would be $29,440 (320 hours x $92 per hour).

ADDITIONAL REPORTING BURDEN (HOURS)

Respondent	No. of Responses/Yr.	Burden Hours Per Response	Total Burden/Yr
Waste processors	30	8	240
Disposal site operators	10	8	80
	40		320

Publication for Statistical Use

None.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
AUGUST XX, 1990

NRC INFORMATION NOTICE NO. 90-XX

REPORTING MISHAPS INVOLVING LOW-LEVEL RADIOACTIVE WASTE FORMS PREPARED FOR DISPOSAL

Addressees:

All operators of LLW disposal sites, waste processors, and all holders of licenses for nuclear fuels, nuclear materials and nuclear power reactors

Purpose:

The Nuclear Regulatory Commission (NRC) has decided to rely on voluntary submittal by both waste form generators and processors of information concerning mishaps to low-level radioactive waste forms prepared for disposal. This Information Notice (IN) is intended to encourage voluntary submittal of reports of such mishaps. Licensees are also reminded of their obligation to report defects and deviations in accordance with NRC requirements in 10 CFR Part 21. The reasons for encouraging voluntary reporting of mishaps involving low-level radioactive waste forms prepared for disposal are presented below.

Discussion:

Background -

NRC has some information concerning reported mishaps to low-level waste forms prepared for disposal, but this information is incomplete. For example, four incidents have been reported in which pressurization resulted from chemical

reactions in low-level waste shipping containers storing dewatered synthetic organic materials, such as resins (NRC Information Notices 83-14, "Dewatered Spent Ion Exchange Resin Susceptibility to Exothermic Chemical Reaction," March 21, 1983; 84-72, "Clarification of Conditions for Waste Shipments Subject to Hydrogen Gas Generation," September 10, 1984; 90-50, "Minimization of Methane Gas in Plant Systems and Radwaste Shipping Containers," August 8, 1990). Another incident was reported in which, during solidification of the waste, a violent reaction occurred between a chemical detergent and a vendor's waste solidification agent (NRC Information Notice 88-08, "Chemical Reactions with Radioactive Waste Solidification Agents," March 14, 1988). This reaction resulted in boiling of the mixture so that it overflowed the liner, then hardened and had to be chipped away. Other problems have been encountered in the use of cement to solidify and stabilize bead resin wastes. Thus, there have been multiple incidents in which cement-solidified bead resin wastes have either not solidified properly or have disintegrated over a period of time following solidification. Though mishaps such as these have been made known to regulatory authorities, mainly through indirect and informal means, there is at present no way to encourage that all such events be reported and that adequate information be made available.

Current Practice -

All three currently-sited Agreement States (Nevada, South Carolina and Washington) have established requirements in the State licenses for the reporting of waste form and container deficiencies identified by the site operators in wastes shipped to the sites for disposal. In addition, all three

facilities have on-site State inspectors who inspect the condition of shipments received by the disposal facility operators. This information is provided to the NRC as part of the NRC/Agreement State exchange of information program. The staff further notes, however, that neither the Agreement States nor NRC have specific regulatory requirements that apply to all licensees for reporting of waste form or container deficiencies. Therefore, the States do report what they find, but they may not find some of the problems because they have no requirement to look for everything at their disposal facilities and they do not at present have the means to be informed routinely of mishaps that occur at NRC-licensed facilities.

With regard to current NRC reporting requirements in the 10 CFR Parts 20, 21, 50 and 61, the staff has identified four classes of information that are not presently captured. They are: (1) cases where the monetary or time threshold for damage reporting is too high, as in 10 CFR Section 20.403; (2) cases where the reporting requirement applies only to non-compliant or defective construction, operation, activities, or components supplied to regulated facilities or activities, as in 10 CFR Part 21; (3) where there is a lack of significant radioactive releases or reactor safety significance, as in 10 CFR Sections 50.71, 50.72 or 50.73; or (4) cases where the record-keeping and reporting requirement does not apply to presently operating disposal facilities, e.g., 10 CFR Subsection 61.80(f). Thus, there is mishap information that is not required to be reported under 10 CFR Parts 20, 21, 50 and 61 because it (1) does not meet the current high monetary or time threshold, (2) it does not involve defective construction, (3) it does not involve a significant release of material and (4) it is not captured under the record-keeping requirements for currently-operating disposal facilities.

Classes of Needed Information -

The staff has identified three classes of useful information which are of interest to the NRC and could be reported. These three classes of information include:

1. The failure of high-integrity containers used to ensure a stable waste form. Container failure can be evidenced by changed container dimensions, cracking, or damage resulting from mishandling (e.g., dropping or impacting against another object).

2. The misuse of high-integrity containers, evidenced by a quantity of free liquid greater than one percent of container volume or by an excessive void space within the container. Such misuse is contrary to 10 CFR Section 61.56.

3. The production of a solidified Class B or C waste form that has any of the following characteristics:

   - Contains free liquid in quantities exceeding 0.5 percent of the volume of the waste.

   - Contains waste with radionuclides in concentrations exceeding those considered during waste form qualification testing accepted by the regulatory agency, which could lead to errors in assessment of waste class.

- Contains a significantly different waste loading than that used in qualification testing accepted by the regulatory agency.

- Contains chemical ingredients not present in qualification testing accepted by the regulatory agency, and those quantities are sufficient to unacceptably degrade the waste product.

- Shows instability evidenced by crumbling, cracking, spalling, voids, softening, disintegration, nonhomogeneity, or dimensional changes.

- Evidence of processing phenomena that exceed the limiting processing conditions identified in applicable topical reports on process control plans, e.g., foaming, temperature extremes, premature or slow hardening, and production of volatile material.

Bases for Needed Information -

The voluntary reporting of the three classes of information outlined above would allow the staff access to information on the field experiences with low-level radioactive waste forms. This is needed to determine when modifications to test criteria are necessary. Part 61 establishes certain "minimum" (Section 61.56(a)) and "stability" (61.56(b)) requirements for low-level waste, while Part 20 (Section 20.311) requires waste generators and processors to certify that the waste satisfied the requirements of Part 61. NMSS staff reviews topical reports

and other documents provided by vendors and licensees to assure that the waste form requirements of Part 61 will be met and to provide a vehicle with which the certification requirements of Part 20 can be satisfied (by reference). In a parallel effort, Office of Nuclear Reactor Regulation (NRR) staff reviews information on waste processing equipment and procedures to assure that 10 CFR Part 50, App. A, "General Design Criteria for Nuclear Power Plants," are satisfied. The NRC staff findings of acceptability and adequacy of process control provisions affecting the characteristics of the waste form produced may require modification if subsequent experience in the field reveals that the bases for the approvals are being exceeded or are no longer relevant. Therefore, to make informed decisions on regulatory action, to inform licensees of events which may have generic implications, and to make inspectors aware of the reported information, the staff needs to have quantitative information on the nature and frequency of occurrence of mishaps regarding waste form and packaging for disposal.

It is requested that waste form mishaps be reported within 30 days of knowledge of the incident to the NRC's Director of the Division of Low-Level Waste Management and Decommissioning and to the designated State disposal site regulatory authority.

No specific action or written response is required by this information notice. If you have any questions regarding this information notice, please direct them to the technical contact listed below or the Regional Administrator of the appropriate regional office.

This request is covered by Office of Management and Budget Clearance Number: _____, which expires _____. The estimated average burden is approximately 8 person-hours per licensee response, including visual observation of the waste form mishap, drafting a description of the observation, and preparing a final mishap report for submittal to NRC. Comments on the accuracy of this estimate and suggestions to reduce the burden may be directed to the Office of the Management and Budget, Room 3208, New Executive Office Building, Washington, D.C. 20503, and the U.S. Nuclear Regulatory Commission, Information and Records Management Branch, Office of Information Resources Management, Washington, D.C. 20555.

Technical Contract: Michael Tokar, NMSS (301) 492-0590

Richard L. Bangart, Director Division of
Low-Level Waste Management
and Decommissioning, NMSS

1. List of Recently Issued NMSS Information Notices
2. List of Recently Issued NRC Information Notices