

DRAFT SUPPORTING STATEMENT
FOR
LIMITATIONS ON THE USE OF HIGHLY ENRICHED URANIUM (HEU)
IN DOMESTIC NON-POWER REACTORS

10 CFR 50.64

DESCRIPTION OF THE INFORMATION COLLECTION

10 CFR 50.64 limits the use of highly enriched uranium (HEU) fuel in research and test reactors (nuclear non-power reactors). This regulation requires that new non-power reactors use low enriched uranium (LEU) fuel unless the applicant demonstrates a “unique purpose” as defined in 10 CFR 50.2. Moreover, it requires that existing non-power reactors replace HEU fuel with acceptable LEU fuel when available.

Section 50.64(c)(1) provides existing licensees the option to request a unique purpose exemption from the requirements of converting to LEU fuel. This is a one-time request, and two licensees have current unique purpose exemption requests. No other unique purpose exemptions are expected. The NRC has not completed review of these requests.

Section 50.64(c)(2)(i) requires that licensees authorized to possess and use HEU fuel submit to the NRC written documentation containing a schedule of when a Safety Analysis Report will be submitted and when other events will take place in the conversion from HEU to LEU fuel. This documentation should be updated annually until the Safety Analysis Report is submitted. This documentation containing the schedule will be based upon the availability of replacement fuel acceptable to the NRC and consideration of other factors such as the availability of shipping casks, financial support, and reactor usage. A final schedule will then be determined by NRC. Six licensees are in this situation.

Section 50.64(c)(2)(ii) requires the licensee authorized to possess and use HEU fuel to submit a statement to the NRC that Federal Government funding for conversion to LEU is not available (with supporting documentation) in lieu of the requirement of section 50.64(c)(2)(i) above. If this statement of non-availability of Federal Government funding is submitted, the licensee will be required to submit a proposal for meeting the requirements of 50.64(b)(2) or (3) at 12-month intervals. Two licensees are in this situation.

Section 50.64(c)(2)(iii) requires that the proposal include supportive safety analyses so as to meet the schedule established for conversion.

A. JUSTIFICATION

1. Need for and Practical Utility of the Collection of Information

A Commission policy statement published August 24, 1982 (47 FR 37007), explains NRC's interest in reducing the use of HEU in research reactors. This interest stems from NRC's licensing responsibility for both domestic use and for export of HEU and concern about risks of theft or diversion of this material.

The policy statement also describes a continuing program to develop and demonstrate the technology that will facilitate the use of reduced enrichment fuels. The reduced enrichment for research and test reactors (RERTR) program was initiated by the Department of Energy (DOE) and is managed by the Argonne National Laboratory. Its objective is to prove the ability of new LEU fuels to replace existing HEU fuel without significant changes to existing reactor cores or facilities, or significant decrease in performance characteristics of the reactors.

Information shows that a major consideration is the cost of conversion. NRC shares the licensees' expressed view that conversion costs should largely or entirely be financed by the Federal government. Historically, the DOE and its predecessor agencies have provided significant support to research and test reactor programs. The availability of Federal support will be considered in determining the availability of LEU fuel and final schedules for conversion.

10 CFR 50.64, "Limitations on the Use of Highly Enriched Uranium (HEU) in Domestic Non-power Reactors," is intended to reduce the risk of theft or diversion of HEU fuel used in non-power reactors. The reduction in domestic use of HEU fuel may encourage similar action by foreign research reactor operations, and thereby reduce the amount of HEU fuel in international use.

2. Agency Use of Information

A respondent is required to submit a request with supporting information pursuant to 10 CFR 50.64(c)(1) to the NRC. The NRC will use the information to make a determination that the nuclear non-power reactor has a unique purpose as defined in 10 CFR 50.2.

A respondent will develop and submit to the NRC pursuant to 10 CFR 50.64(c)(2) a proposed schedule for meeting the requirements of 10 CFR 50.64(b)(2) or (3). This schedule must be updated annually until the Safety Analysis Report is submitted. The proposed schedule must be based upon availability of replacement fuel acceptable to the Commission and consideration of other factors such as the availability of shipping casks, financial support, and reactor usage. NRC will use the proposed schedule plus the results of the successful accomplishment of the tasks set out in DOE's RERTR program and the development of commercially available replacement fuel to determine a final schedule.

The proposed schedule for meeting the requirements of 10 CFR 50.64(c)(2) will require a comparison between the licensee's existing fuel design and fuels

developed or projected for development under the documented RERTR program. Coordination with NRC to formulate proposed schedules for regulatory review and with DOE to develop fuel procurement and supporting equipment schedules will be required.

NRC will review the supportive safety analyses required by the provisions of Section 50.64(c)(2)(iii). Subsequent to this review, the Director of the Office of Nuclear Reactor Regulation will issue an appropriate enforcement order directing both the conversion and, to the extent consistent with protection of public health and safety, any necessary changes to the license, facility, or procedures.

3. Reduction of Burden Through Information Technology

There is no legal obstacle to the use of information technology. Moreover, NRC encourages its use; however, at the current time, no responses are submitted electronically.

4. Effort to Identify Duplication and Use Similar Information

The Information Requirements Control Automated System (IRCAS) was searched for duplication, and none was found.

This information is only available from non-power reactor licensees.

5. Effort to Reduce Small Business Burden

This information collection affects colleges and universities. The schedules for conversion of fuel are necessary so that the NRC can ensure proper controls pertaining to risks of theft or diversion of HEU; thus, it is not possible to reduce burden.

6. Consequences to Federal Program or Policy Activities if the Collection is Not Conducted or is Conducted Less Frequently

Information to justify use of HEU or to schedule its discontinuance is necessary to protect the health and safety of the public.

7. Circumstances which Justify Variation from OMB Guidelines

This information collection does not vary from OMB guidelines.

8. Consultations Outside the NRC

Notice of opportunity for public comment on this information collections has been published in the Federal Register.

9. Payment or Gift to Respondents

Not applicable.

10. Confidentiality of Information

Information identified as confidential or proprietary is handled in accordance with the provisions specified in 10 CFR 2.790 of NRC's regulations.

11. Justification for Sensitive Questions

This regulation does not request sensitive information.

12. Estimated Industry Burden and Burden Hour Cost

Burden estimates discussed in a and b below are based on industry experience.

- a. Section 50.64(c)(1). Approximately 10 hours each are required each year for the two "unique purpose" applicants to respond to Commission requests for additional supporting documentation for a "unique purpose" determination. Burden hours would, therefore, be 20.
- b. Section 50.64(c)(2). Approximately 10 hours each are required for 8 respondents to develop and submit the annual updated documentation to NRC. (All other licensees have completed the requirements of this section.) This burden will be approximately 80 hours (8 x 10 hours). In addition, it is anticipated that approximately 1,000 hours will be expended by 6 of these licensees over the three-year clearance period to prepare appropriate safety analyses as specified in Section 50.64(c)(2)(iii). Therefore, approximately 2,000 hours (1,000 hours x 6 licensees divided by 3) would be expended annually for this effort.

Thus, the total annual burden to industry is expected to be 2,100 hours (20 + 80 + 2,000 hours), at an annual cost of \$296,100 (2,100 hours x \$141).

13. Estimate of Other Additional Cost

None.

14. Estimated Annualized Cost to the Federal Government

Section 50.64(c)(1). NRC staff time for making a determination for each of the two "unique purpose" reactor requests will require approximately 10 hours for a total staff burden for two requests of 20 hours annually.

Section 50.64(c)(2). NRC staff time for consideration of a schedule proposed by a non-power reactor licensee and determination of a final schedule will require approximately 47 hours for each of approximately 6 licensees annually for a total of 282 hours.

In addition, it is anticipated that approximately 500 hours will be expended by the NRC for each of these 6 licensees to review their safety analyses over the three-year clearance period. Therefore, approximately 1,000 hours (500 x 6 licensees divided by 3) would be expended annually for this effort.

The two licensees subject to 50.64(c)(2)(ii) will require 10 hours of staff burden each for 20 hours annually.

The total annual Federal burden is, therefore, 1,322 hours (20 + 282 + 1,000 + 20 hours), at an annual cost of \$186,402 (1,322 x \$141). This cost is fully recovered through fee assessments to NRC licensees pursuant to 10 CFR Parts 170 and/or 171.

15. Reasons for Changes in Burden or Cost

The industry burden has increased by 20 hours because eight versus six licensees are expected to submit updated documentation to NRC required by section 50.64(c)(2). The government burden has significantly increased from 300 to 1,322 hours because not all staff effort was captured in the previous submittal.

16. Publication for Statistical Use

The collected information is not published for statistical purposes.

17. Reason for Not Displaying the Expiration Date

The requirement is contained in a regulation. Amending the Code of Federal Regulations to display information that, in an annual publication, could become obsolete would be unduly burdensome and too difficult to keep current.

18. Exceptions to the Certification Statement

None.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not applicable.