

JAN 10 1990

DOCKET NO: 40-8724

LICENSEE: Chemetron Corporation

FACILITY: Harvard Avenue and Bert Avenue Sites, Newburgh Heights, Ohio

SUBJECT: SAFETY EVALUATION REPORT, APPLICATION DATED SEPTEMBER 28, 1989,
RE: ONE-YEAR EXTENSION OF LICENSE

I. Introduction

By application dated September 28, 1989, Chemetron requested a 1-year extension of Source Materials License No. SUB-1357 authorizing the decontamination of McGean-Rohco properties located at 2910 Harvard Avenue, and between 28th and 29th Streets at Bert Avenue, Newburgh Heights, Ohio. This request was submitted pursuant to the regulations found in 10 CFR § 40.43.

Since the spring of 1989, Chemetron has been decommissioning the Harvard Avenue property. By mid-September 1989, Chemetron's contractor had removed over 17,000 cubic feet of uranium-containing material.

Several factors have combined to extend the decommissioning work beyond the expiration date of October 31, 1989. These include:

- ° The volume of material excavated to date greatly exceeds the original estimate. More excavation is required, thus more time is required to excavate, prepare, package, and ship the additional large volumes of uranium-containing material at the subject sites.
- ° The uranium-containing materials on site include unexpectedly significant volumes of steel rails, concrete, asphalt, and brick rubble. To reduce off-site disposal volumes, these materials have been cleaned in the field. Field cleaning is a labor-intensive activity which has resulted in the extension of the overall projected decommission schedules beyond what had been anticipated.
- ° Adverse weather, including unusually high rainfall through the 1989 construction season has further delayed decommissioning work by either eliminating or shortening work days and by necessitating extra time and effort to dry and prepare the uranium-containing materials for off-site disposal.

Thus, the request to extend the license for 1 year in order to complete the decontamination of the Harvard Avenue property and to decontaminate the Bert Avenue property in order that they may be released for unrestricted use.

II. Discussion

A. NRC's Criteria for Unrestricted Release

The NRC's Branch Technical Position (46 FR 52061) Option 1, specifies soil decontamination limits for unrestricted release of land. For contamination involving depleted uranium, the Option 1 limit is 35 pCi of uranium per gram of soil. For depleted uranium, the critical pathway of radiation dose to a person exposed to contaminated land is mainly from inhalation through the resuspension of particulates from contaminated soil. Under conservative assumptions, the exposure from land contaminated with an average of 35 pCi of depleted uranium per gram of soil would result in a lung dose of 20 mrem/yr. The resuspension of particulates generally involves a rather large area. Therefore, in demonstrating compliance with the 35 pCi/g limit for unrestricted release, the NRC staff allows the average of soil levels in any adjacent four grid areas. If any combination of four adjacent grids results in an average level exceeding 35 pCi/g, further cleanup is required. This is to ensure that the unrestricted release of land would not result in a lung dose greater than 20 mrem/yr. This approach has been used by the staff to demonstrate compliance with the Branch Technical Position. As stated in its letter of December 13, 1988, the licensee is using Option 1 as a guideline in its decontamination effort.

B. Licensee's Decontamination Plan

As part of the request for the 1-year extension of its license, Chemetron provided resumes of individuals responsible for radiation safety; a Radiation Worker Handbook and Training Manual; its Radiation Safety Program; and its Waste Management Program. This material was reviewed.

Inspectors from NRC's Region III observed the decontamination effort on the Harvard Avenue site several times. Also, split soil samples were provided to the Oak Ridge Associated Universities for analysis as an additional check on the adequacy of the decontamination effort.

The decontamination of the Bert Avenue site will be conducted in a similar manner as at the Harvard Avenue site. The Radiation and Waste Management Programs will be implemented as appropriate to the Bert Avenue site.

The requested license term extension is for the sole purpose of providing more time in which to accomplish the decontamination work for which the license was revised on October 1, 1987.

III. Regional Comments

The licensee's application was discussed with Region III staff on October 23, 1989. No safety-related problems were foreseen with issuance of this license amendment.

IV. Conclusion/Recommendation

Based on the discussion above, I conclude that implementation of the proposed 1-year extension will not present an undue risk to the health and safety of the workers or the public. Accordingly, I recommend issuance of this amendment.

Original Signed by

Germain LaRoche
Advanced Fuel and Special
Facilities Section
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Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
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Approved by: PETER LOYSEN FOR
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[CHEMETRON CORPORATION/SER]

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