

TO: File No. 19-1398-29

MAY 20 1964

FROM: ^{W. H. Ray} W. H. Ray, Irradiated Fuels Branch
Division of Materials Licensing

SUBJECT: CLEAN OUT OF CELLS 1 AND 2

Summary of Application

A letter application dated May 11, 1964, from the Martin-Marietta Corporation requests an amendment to Byproduct Material License No. 19-1398-29 to approve the removal of equipment and radioactive contamination from Cells 1 and 2 at the Quehanna Pilot Plant. Operations have been terminated in Cells 1 and 2, and construction is underway on a new equipment installation in Cell 4 and its associated isolation area, to replace that which has been abandoned in Cells 1 and 2.

The application does not specify the amount of residual radioactivity in Cells 1 and 2, nor does it establish detailed handling procedures. It lists in four steps the work to be done:

1. Removal of major equipment items;
2. Shearing and removal of all piping;
3. Removal Cell 2 processing dry box; and
4. Cleanup of the cells.

It states that each piece of major equipment will be closed off or bagged in heavy vinyl material, that all piping will be sheared and swagged closed, and that painting may be used to fix contamination on surfaces of removed items. Items to be discarded are to be packed in compliance with B of E/ICC shipping regulations and disposed of at an approved burial site.

Hazard Evaluation

The applicant states that he expects no unusual hazards. Although this renovation work will involve opening of the cells and the direct exposure of personnel, we are inclined to agree. The opportunities for exposure will be different from those during routine operations with kilocurie quantities of Sr-90. But since this is not a continuing operation, and will require monitoring and detailed planning as the work proceeds, it will be under close surveillance by both health physics personnel and supervision.

B-65

MAY 2 1964

The opening of the cells and removal of bagged items increases the possibility of the restricted access service area becoming contaminated. This, however, is a contamination control zone in which protective clothing is regularly worn, and in which contamination can be dealt with. The normal exhaust ventilation (which is filtered) should prevent escape of contamination from this region to the outdoors.

Even if the building should burn down (it is not of flammable construction) or be blown away by a tornado while some of the bagged items are exposed out of the cells, prior to ICC packaging, it may be assumed that not many curies of Sr-90 would be involved, and consequently no hazardous exposures to the public could ensue. (re. Maximum Credible Accident, Section 12.8.2.1. of MND-3137.)

Recommendation

Inasmuch as the applicant has qualified and experienced personnel to conduct the proposed operation; and that the work will be executed in a suitable facility in a rather isolated area, it is recommended that the rehabilitation of Cells 1 and 2 proposed in the May 11 application be approved.

Since this clearly decommissions the applicant's processing equipment, the proposed amendment should reduce the authorized use of the licensed material to (i) storage (ii) loading encapsulated sources into SNAP devices or shipping containers, and (iii) preparation and packaging of waste.

The licensee has submitted a comprehensive "Facility Design and Safety Evaluation" document MND-3137, in support of an application for a license renewal. Although certain items in this docket are subject to discussion and further resolution, the Health Physics Chapter (10) appears to be acceptable, and incorporates information describing a respiratory protective program which should be authorized to facilitate the work rehabilitating Cells 1 and 2. In general, MND-3137 covers all the prevailing commitments of the licensee that are pertinent. He presented it intending that this document would replace all the material submitted heretofore and serve as the basic reference for the license renewal. Therefore, we recommend that its provisions be incorporated by reference in the proposed license amendment.

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Even if the building should burn down (it is not of flammable construction) or be blown away by a tornado while some of the bagged items are exposed out of the cells, prior to HSE packaging, it may be assumed that not many curies of Sr-90 would be involved, and consequently no hazardous exposures to the public could ensue. (re. Maximum Credible Accident, Section 12.8.2.1. of MSD-3137.)

Recommendation

Inasmuch as the applicant has qualified and experienced personnel to conduct the proposed operation, and that the work will be executed in a suitable facility in a rather isolated area, it is recommended that the rehabilitation of Cells 1 and 2 proposed in the May 11 application be approved.

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