

Let to G Sharpe
546-55

Distribution:
Docket 70-1359
NMSS R/F
FCUF R/F
VLTharpe
GBidinger (2)
PDR

DEC 13 1985

FCUP:GHB
70-1359

SNM-
1405

Note to Ron Cardarelli

IRT CORPORATION, APPLICATION FOR AMENDMENT DATED OCTOBER 18, 1985

Per your request on December 9, 1985, I have reviewed IRT's request to store fuel at the Arjons Facility. Section 3.3.2 of the amendment application specifies that the SNM at this facility includes 365 grams of plutonium (not Pu-239) and 284 grams of U-235 in the form of 13 mixed oxide fuel pins, and less than 45 grams of U-235 as sealed sources. The 13 fuel pins will be stored in a container and will not be used in the facility.

The applicant identified the container as an NRC-approved shipping container with Certificate of Compliance No. 6581, Model 51032-1. The rods will be placed in two wooden inner containers which, in turn will be placed inside a 43-inch diameter right cylinder which is 216-inches long and is fabricated from 3/8-inch steel. It should be noted that Certificate of Compliance No. 6581 does not authorize plutonium contents. The packaging is satisfactory for storage of the 13 rods, but it is not an authorized container for shipment of the rods to or from the facility.

The inner cavity of each wooden box is 4.125" x 4.125" x 76.75". The applicant has based the analysis on homogeneous mixtures of plutonium and water. This is non-conservative because the heterogeneous urania-plutonia mixtures can be more reactive. However, the limited quantity of SNM rods separated in the two inner containers inside the metal container assure subcriticality. The other 45 grams of U-235 which may be in use is also a very subcritical quantity of SNM.

In Section 3.3.4, the applicant requests an exemption from the requirements in 70.24 for the Arjons facility. Because most of the SNM will be in storage only, there is a sound basis for granting the licensee an exemption from the requirements of 10 CFR 70.24. For purposes of nuclear criticality safety, approval of the amendment application to store and use limited quantities of SNM in the Arjons Facility is recommended.

Original signed by
George H. Bidinger

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George H. Bidinger

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