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IE Report Nos. 50-83/75-2, 70-462/75-1
70-49/75-1 and 70-1068/75-2

DETAILS

Prepared by: J. W. Hodges 4/21/75
J. W. Hodges, Safeguards Auditor Date
Materials and Plant Protection Branch

Dates of Inspection: March 24-26, 1975

Reviewed by: [illegible] 4/[illegible]/75
W. B. Kenna, Chief Date
Materials and Plant Protection Branch

1. Individuals Contacted

Don G. Price - Head, Radiation Control Department
Dr. N. J. Diaz - Reactor Supervisor, Nuclear Engineering Sciences

2. General

The inspection was conducted to determine the University of Florida's conformance to materials protection requirements contained in Title 10, Code of Federal Regulations, Part 70, "Special Nuclear Materials," and specific requirements contained in licenses R-56, SNM-50, SNM-452, and SNM-1050.

The licensee's material protection controls were reviewed by an audit of records, review of procedures, observations by the inspector, and interviews with appropriate personnel.

3. Inventory

The inventory of SNM at the University was located in the Nuclear Sciences Center and in the Field Research Building and consisted of the following:

Nuclear Sciences Center

Stored in various laboratories:

- Misc. quartz tubes coated with enriched uranium, foils, etc. (216 gms U-235)
- 4 PuBe neutron sources (205 gms Pu)
- 4 fission chambers (containing less than 1 gm U-235)
- 0.360 gms U-233.

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UFTR (University of Florida Training Reactor)

- 18 fuel plates and two containers of fuel samples (288 gms U-235).
- 8 fuel plates (113 gms U-235)
- 22 fuel plates (3337 gms U-235)
- 1 PuBe neutron source on top of reactor tank (15 gms Pu)
- 1 fission chamber in reactor (1 gm U-235)

Field Research Bldg.

- 5400 SPERT fuel pins containing 187.9 Kgs. of U-235 at an enrichment of 4.8%, stored . These pins are encapsulated in stainless steel rods 3-1/2 feet long by 1/2 inch diameter.
- 2 PuBe neutron sources (31 gms. Pu)

4. Procedures

Written material control and accounting procedures are required by 10 CFR 70.51c. The licensee has prepared and maintains written procedures as required. The licensee is exempt from §70.58, "Fundamental Nuclear Material Controls," under the exclusion provisions of §70.58(a).

5. Reactor Thermal Output

The methods employed for the determination of UFTR thermal output are considered acceptable for a facility of this size. Negligible heat is produced by the University of Florida SPERT assembly and measurements of thermal output are not required.

6. Nuclear Material Depletion and Production

The licensee uses a depletion factor and thermal output to determine fuel depletion. Depletion has been very small to date (2 gms for this inspection period; about 4 gms since May 1970).

7. Internal Control

Procedures and practices for the internal control of SNM are deemed to be adequate considering the size and type of facility.

8. Records and Reports

Receipts and shipments of SNM for the inspection period were verified by examination of the NRC-741's on file and a determination made that the licensees' NRC-742 "Material Status Report," issued for the periods under inspection, are correct and are in agreement with internal records.