

February 29, 2012

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Proposed Amendment 27 - Security Plan
UFTR Operating License R-56, Docket 50-83.
UFTR Technical Specifications

The UFTR requests that the requirement to maintain and implement a physical security plan, contained in the R-56 license and referred to in the Technical Specifications, be deleted in its entirety. No changes to the UFTR Emergency Plan are required to support this proposed amendment.

The regulations in 10 CFR 73.67 require facilities to maintain a physical security plan when they possess special nuclear material of moderate strategic significance or 10 kilograms or more of special nuclear material of low strategic significance. Following completion of our conversion to low enriched uranium, the UFTR is no longer authorized to possess special nuclear material of moderate strategic significance.

The enclosed Table 1 of Regulatory Guide 5.59 shows the type and amount of special nuclear material covered in § 73.67 of 10 CFR Part 73.

The UFTR is licensed to receive, possess, and use up to 5.0 kilograms of contained U-235 of enrichment of less than 20 percent in the form of MTR-type fuel. This quantity is well within the 10 kilogram specification of 10 CFR 73.67. Actual UFTR possession of low enriched MTR-type fuel is in an amount that is well within our license limit.

In addition to the low enriched MTR-type fuel above, the UFTR is licensed to receive, possess, and use up to 0.2 kilograms of contained U-235 of any enrichment in any form. This quantity falls under the special nuclear material of low strategic significance category as well. Actual UFTR possession of special nuclear material in this category is in an amount that is well within our license limit.

The UFTR is also licensed to receive, possess, and use a 1-Ci sealed plutonium-beryllium neutron source. Sealed plutonium-beryllium neutron sources totaling 500 grams or less of contained plutonium at any one site or contiguous sites are exempt from the requirements of 10 CFR 73.67. The UFTRs sealed 1-Ci plutonium-beryllium neutron source contains much less than 500 grams of contained plutonium.

The UFTR has no foreseeable plans to request any increase in possession limits of, or take possession of additional, special nuclear materials in amounts that would require a physical security plan.

Additionally, the UFTR acknowledges that because our license authorizes possession of special nuclear material of low strategic significance, we must continue to meet the security requirements of 10 CFR 73.67(f) following approval of this amendment request.

This proposed change has been reviewed and approved by UFTR management and by the Reactor Safety Review Subcommittee.

We appreciate your consideration of this amendment. Please let us know if you need further information.

Sincerely,



Brian Shea
Reactor Manager

BS/djc
Enclosures

cc: Dean – College of Engineering
Reactor Safety Review Subcommittee
UFTR Facility Director
UFTR Reactor Manager
UFTR Licensing Coordinator
NRC Project Manager

Sworn and subscribed this 29 day of February 2012

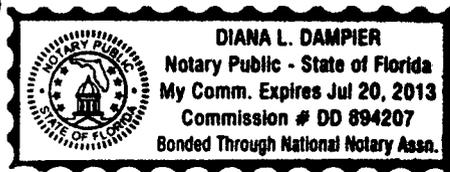
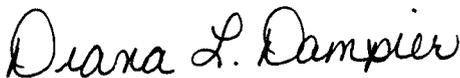


Table 1. Categories of Special Nuclear Material

MATERIAL ^a	ENRICHMENT	MODERATE STRATEGIC SIGNIFICANCE	LOW STRATEGIC SIGNIFICANCE
1. Plutonium		Less than 2,000 g but more than 500 g	500 g or less but more than 15 g
2. Uranium-235	20% or more in U-235 isotope	Less than 5,000 g but more than 1,000 g	1,000 g or less but more than 15 g
	10% or more but less than 20% in U-235 isotope	10,000 g or more	Less than 10,000 g but more than 1,000 g
	Above natural but less than 10%	--	10,000 g or more
3. Uranium-233	--	Less than 2,000 g but more than 500 g	500 g or less but more than 15 g
4. Uranium-235, uranium-233, and plutonium in combination	U-235 portion enriched to 20% or more.	Less than 5,000 g according to the formula: grams = (grams contained U-235) + 2.5 (grams U-233 + grams plutonium) but more than 1,000 g according to the formula: grams = (grams U-235) + 2.0 (grams U-233 + grams plutonium)	1,000 g or less according to the formula: grams = (grams contained U-235) + 2.0 (grams U-233 + grams plutonium) but more than 15 g according to the formula: grams = grams, contained U-235 + grams U-233 + grams plutonium.

- a. The following materials are exempt:
1. Special nuclear material that is not readily separable from the radioactive material and that has a total external radiation dose rate in excess of 10Q rems per hour at a distance of 3 feet from any accessible surface without intervening shielding,
 2. Plutonium with an isotopic concentration of 80 percent or more in Pu-238, and
 3. Sealed plutonium-beryllium neutron sources totaling 500 grams or less of contained plutonium at any one site or contiguous sites.

UNIVERSITY OF FLORIDA

DOCKET NO. 50-83

PROPOSED AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 27
License No. R-56

License Conditions Revised by This Proposed Amendment

2.C.(3) Deleted

2.C.(2) Technical Specifications

The technical specifications contained in Appendix A, as revised through Amendment No. 27, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the technical specifications.

ENCLOSURE TO PROPOSED LICENSE
AMENDMENT NO. 27

FACILITY OPERATING LICENSE NO. R-56

DOCKET NO. 50-83

PROPOSED REPLACEMENT PAGES FOR TECHNICAL
SPECIFICATIONS

Replace the following pages of Appendix A, "Technical Specifications," with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

<u>Remove</u>	<u>Insert</u>
27	27
28	28
34	34
35	35

generated heat to the environment. A deep well furnishes about 200 gpm of cooling water to the shell side of the heat exchanger, removing primary heat and rejecting it to the storm sewer. Weekly samples monitor the activity of this water. Flow indications in the control room are 140 gpm as a warning and 60 gpm to initiate a trip at or above 1 kW after a 10-sec warning. The city water secondary cooling system can be used for backup cooling or for specific operations requiring reactor coolant temperatures hotter than those obtained with the well cooling system. The secondary flow by the city water system is about 40 gpm, with a reactor trip set at 8 gpm (as measured by a flow switch) for power levels at or above 1 kW. A back flow preventer in the city water line ensures compliance with the requirements of the National Plumbing Code to prevent contamination of a potable water supply. The secondary coolant system inlet and outlet temperatures are monitored by thermocouples, with alarm and record functions in the control room.

5.7 Radiological Safety Design Features

5.7.1 Physical Features

The containment structure consists of the reactor cell, with a free air volume of about 1600 m³. This building houses the reactor, reactor control room, the primary cooling system (including the dump tank heat exchanger and purification loop), secondary coolant piping, and reactor vent system. Access to the reactor cell, which is the designated restricted and security area, is controlled by the specifications established by the security procedures of the UFTR. Ventilation is through the independent air conditioning ventilation and reactor Vent system. The reactor vent system can be secured to prevent uncontrolled discharge of radioactivity to the environment or release in excess of permissible levels (per 10 CFR 20). Rough and absolute filters are used to eliminate or minimize radioactive air particulate contamination from the exhaust air. The electrically actuated damper in the core exhaust line is fail-safe and closes upon deenergization.

5.7.2 Monitoring System

Area and stack monitors are used for radioactivity monitoring, as delineated in Sections 3.3, 3.4, and 3.6 of these Technical Specifications. The cell air is monitored by an air particulate detector. Exhaust air drawing from the reactor cavity, reactor cell, or experiments is continuously monitored for gross concentrations of radioactive gases.

5.7.3 Evacuation Sequence

The emergency evacuation sequence is initiated either automatically by two area monitors alarming high in coincidence or manually by the console operator. The sequence is that the reactor room air conditioning / ventilation system and the reactor vent system are shut down and the core vent damper is closed.

5.8 Fuel Storage

5.8.1 New Fuel

Unirradiated new fuel elements are stored in a vault-type room security area equipped with intrusion alarms in accordance with the security procedures. Elements are stored in a steel, fireproof safe in which a cadmium plate separates each layer of bundles to ensure subcriticality under optimum conditions of moderation and reflection.

5.8.2 Irradiated Fuel

Irradiated fuel is stored upright in dry storage pits within the reactor building in criticality-safe holes.

individual immediately responsible for the area, audit in the area. The following items shall be audited:

- (a) facility operations for conformance to the technical specifications and applicable license or charter conditions, at least once per calendar year (interval between audits not to exceed 15 months)
- (b) the retraining and requalification program for the operating staff, at least once every other calendar year (interval between audits not to exceed 30 months)
- (c) the results of action taken to correct those deficiencies that may occur in the reactor facility equipment, systems, structures, or methods of operations that affect reactor safety, at least once per calendar year (interval between audits not to exceed 15 months)
- (d) the physical security procedures, emergency plan and implementing procedures, at least once every other calendar year (interval between audits not to exceed 30 months)

Deficiencies uncovered that affect the reactor safety shall immediately be reported to the Radiation Control Committee and the Dean of the College of Engineering. A written report of the findings of the audit shall be submitted to the Dean of the College and the review and audit group members within 3 months after the audit has been completed.

6.3 Procedures

The facility shall be operated and maintained in accordance with approved written procedures. All procedures and major revisions thereto shall be reviewed and approved by the Director of Nuclear Facilities before going into effect.

The following types of written procedures shall be maintained:

- (1) normal startup, operation and shutdown procedures for the reactor (These procedures shall include applicable checkoff lists and instructions.)
- (2) fuel loading, unloading, and movement in the reactor
- (3) procedures for handling irradiated and unirradiated fuel elements
- (4) routine maintenance of major components of the systems that could have an effect on reactor safety
- (5) surveillance tests and calibrations required by the required by the technical specifications or those that may have an effect on reactor safety
- (6) personnel radiation protection, consistent with applicable regulations
- (7) administrative controls for operations and maintenance and for the conduct of irradiations and experiments that could affect reactor safety or core reactivity

- (8) implementation of the Emergency Plan and physical security procedures
- (9) procedures that delineate the operator action required in the event of specific malfunctions and emergencies
- (10) procedures for flooding conditions in the reactor facility, including guidance as to when the procedure is to be initiated and guidance on reactivity control

Substantive changes to the above procedures shall be made effective only after documented review by the RSRS and approval by the facility director (Level 2) or designated alternates. Minor modifications to the original procedures which do not change their original intent may be made by the reactor manager (Level 3) or higher, but modifications must be approved by Level 2 or designated alternates within 14 days. Temporary deviations from the procedures may be made by the senior operating individual present, in order to deal with special or unusual circumstances or conditions. Such deviations shall be documented and reported to Level 2 or designated alternates.

6.4 Experiments Review and Approval

- (1) Experiments review and approval shall be conducted as specified under Section 3.5, "Limitations on Experiments," of these Technical Specifications.
- (2) The experiments review and approval shall ensure compliance with the requirements of the license, Technical Specifications, and applicable regulations and shall be documented.
- (3) Substantive changes to previously approved experiments with safety significance shall be made only after review by the RSRS, approval in writing by Level 2 or designated alternates. Minor changes that do not significantly alter the experiment may be approved by Level 3 or higher.
- (4) Approved experiments shall be carried out in accordance with established approved procedures.

6.5 Required Actions

6.5.1 Action to be Taken in Case of Safety Limit Violation

- (1) The reactor shall be shut down, and reactor operations shall not be resumed until authorized by Nuclear Regulatory Commission.
- (2) The safety limit violation shall be promptly reported to Level 2 or designated alternates.
- (3) The safety limit violation shall be promptly reported to the Nuclear Regulatory Commission.
- (4) A safety limit violation report shall be prepared. The report shall describe the following: