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March 18, 2016  
Docket Number 50-128 / License No. R-83

2016-0017

U.S. Nuclear Regulatory Commission  
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Washington DC 20555

**SUBJECT:** Supplement 3 to License Amendment Request dated October 14, 2015,  
Facility License R-83, Docket Number 50-128. (ADAMS Accession No.  
ML15287A148)

Attn: Mr. Alexander Adams, Jr., Chief  
Research and Test Reactors Branch  
Office of Nuclear Reactor Regulation

Mr. Patrick Boyle, Project Manager  
Research and Test Reactors Branch  
Office of Nuclear Reactor Regulation


The purpose of this letter is to provide supplemental information, ensuring that the TS 5.6 is worded correctly. Specifically in our March 15, 2015 submittal we used "will" in two places of TS 5.6 and via this letter we are replacing "will" with the correct term "shall." This is the third supplement in support of our October 14, 2015 license application (ADAMS Accession No. ML15287A148). In the March 15, 2015 letter TEES proposed an additional change to TS Section 5.6. This current submission (supplement 3) supersedes the proposed TS 5.6 contained in our letters of March 3, 2015 (ADAMS Accession No. ML16063A264) and March 15, 2015 (ADAMS Accession No. ML 16075A409). The enhancement made to the TS clarifies the limits regarding the amount of special nuclear material (SNM) that can be placed in the NSC Fuel Storage Vault. While the enhancement clarifies the limits, we used the term "will" and are now recommending the use of the term "shall" which is defined in the TS,

Should you have any questions regarding the information provided in this submittal, please contact me or Mr. Jerry Newhouse at (979) 845-7551 or via email at [mcdeavitt@tamu.edu](mailto:mcdeavitt@tamu.edu) or [newhouse@tamu.edu](mailto:newhouse@tamu.edu).

Oath of Affirmation

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

A handwritten signature in dark ink, appearing to read "Sean M. McDeavitt", with a stylized flourish at the end.

Sean M. McDeavitt, PhD.  
Director, TEES Nuclear Science Center

Enclosure: Technical Specification 5.6  
cc: next page

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## Enclosure:

### Proposed Technical Specification Change

The following replacement Technical Specification change is recommended to support this LAR:

#### 5.6 Fuel Storage

##### Applicability

This specification applies to the storage of reactor fuel at times when it is not in the reactor core. This includes the combined  $^{235}\text{U}$  fissile mass of no more than 0.7 kilograms, byproduct material, and the  $^{239}\text{PuBe}$  neutron start-up source with a  $^{239}\text{Pu}$  fissile mass of no more than 20 grams from the TAMU AGN-201M reactor. Further, there shall be no introduction of any additional SNM while the AGN-201M fuel and PuBe source are stored in the fuel storage vault that would exceed the current licensing basis as described in the SAR.

##### Objective

The objective is to ensure that fuel that is being stored will not become critical and will not reach an unsafe temperature.

##### Specification

1. All fuel elements and fueled devices shall be stored in a geometrical array for which the k-effective is less than 0.8 for all conditions of moderation and reflection.
2. Irradiated fuel elements and fueled devices shall be stored in an array, which will permit sufficient natural convection cooling by water or air such that the fuel element or fueled device temperature will not exceed design values.
3. Possession of the AGN-201M fuel, byproduct material, and neutron start-up source is restricted to receipt, possession, but not use in the operation of the NSC reactor. Specification 2, above, is not applicable to these materials.
4. There shall be no introduction of any additional SNM while the AGN-201 SNM are stored in the fuel storage vault.

##### Basis

The limits imposed by Specifications 5.6.1, 5.6.2, 5.6.3, and 5.6.4 are conservative and ensure safe storage.