

**From:** Boyle, Patrick  
**Sent:** Tuesday, April 12, 2016 9:49 AM  
**To:** Dr. Sean McDeavitt  
**Cc:** Jerry Newhouse (newhouse@tamu.edu); 'Jeremy Osborn'; Adams, Alexander; Helvenston, Edward; Boyle, Patrick  
**Subject:** Review of Proposed License Conditions for Texas A&M University AGN license amendment supporting relocation

Dr. McDeavitt,

As we discussed on the phone, the facility operating license conditions proposed in your letter dated March 3, 2016 (ML16063A384) for the AGN reactor do not support the intended condition of the AGN reactor and associated components once the core (AGN fuel) has been transferred to the R-83 license and the non-core components relocated to the NSC. I have highlighted the area of each condition that needs to be revised and I have suggested some possible wording that can be used for these license conditions. As we discussed, the key to developing the license conditions is considering what will be in place at the time the amended license takes effect. The effective date of the license amendment will be predicated on the transfer of the material from the Zachry building to the NSC storage location and onto the TRIGA (R-83) license. You proposed the following license condition for section 2.B:

- (1) Pursuant to Section 104c of the Act and 10 CFR, Chapter 10 Part 50, "Licensing of Production and Utilization Facilities", to possess, use and operate the Reactor as a utilization facility at the designated location in College Station, Texas, in accordance with the procedures and limitations set forth in this license.

In this case, at the effective date of the license amendment, the license should become a possession only license, so the conditions allowing use and operate should be deleted or negated (but not use, etc.).

You proposed the following license condition for section 2.B:

- (2) Pursuant to the Act and 10 CFR Part 70, "Special Nuclear Material" to receive, possess, and use up to 700 grams of contained uranium 235, enriched to less than 20 percent in uranium dioxide (UO<sub>2</sub>) embedded in radiation stabilized polyethylene, and up to 16 grams of plutonium 239 in the form of a sealed Pu-Be neutron source, both in connection with operation of the Reactor. Upon receipt of the SNM stated above at the NSC facility, License R-83 will then govern the possession and storage of the SNM for up to 5 years.

Condition (2) should be deleted in its entirety as the AGN fuel (700 grams of contained uranium 235) and Pu-Be neutron source have their physical and regulatory control transferred to the R-83 license and would not need to appear on the R-23 license at all when the amended license takes effect.

You proposed the following license condition for section 2.B:

- (3) Pursuant to the Act and 10 CFR Parts 30 and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the Reactor. Upon receipt of the SNM stated above in 2.B.(2) at the NSC facility, License R-83 will then govern the possession and storage for up to 5 years. Activated and contaminated AGN-201M Reactor Components will continue to be possessed under License R-23.

Condition (3) needs to remain in place, but with some modifications. The intention of condition (3) is to allow storage of the reactor core tank, shield tank, supports, and additional equipment at the NSC. It can be assumed that some activation of the non-fuel components has occurred which would produce small amounts of material that would be governed by 10 CFR Part 30. It is also possible, that some of the transuranic material (Part 70) produced in the fuel could have been deposited on the surfaces of the core tank from direct contact with the fuel. So, the Part 70 possession also needs to remain. What needs to be deleted from this license condition is any reference to the R-83 license. Also, it would make sense to indicate that the byproduct and special nuclear material production had occurred in the past. This can be achieved by changing the statement about "as may be produced" to "as may have been produced by previous operation" or some similar statement.

Please contact me with any questions or to discuss these concerns.

**Patrick G. Boyle**

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Office of Nuclear Reactor Regulation, Division of Policy and Rulemaking

Research and Test Reactors Licensing branch

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