



## NUCLEAR REGULATORY COMMISSION

[Docket No. 50-59; NRC-2017-0007]

Texas A&M University

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Environmental assessment and finding of no significant impact; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to Facility Operating License No. R-23, held by the Texas A&M University (TAMU or the licensee) for the Aerojet General Nucleonics Model 201-Modified (AGN-201M) reactor facility located in the Zachry Engineering Center on the TAMU College Station Campus, Brazos County, Texas. The amendment would delete from the technical specifications (TSs) the Zachry Engineering Center location that constituted the reactor facility for the AGN-201M reactor and associated components. The reactor, associated components, and its special nuclear material (SNM) have been removed from the Zachry Engineering Center and temporarily stored at the Texas Engineering Experiment Station, in Brazos County, Texas, where TAMU operates another reactor. The license amendment would also delete the license conditions requiring a physical security plan (PSP) and TSs requiring procedures that implement the security plan and audits of the PSP and its implementing procedures as the SNM possession limit in the license is below the quantity of material that requires a security plan.

If approved, removal of the Zachry Engineering Center from the TSs would allow the unrestricted use of the rooms where the AGN-201M reactor, its associated components and its byproduct and SNM were formerly located. The NRC is issuing an environmental assessment

(EA) and finding of no significant impact (FONSI) associated with the proposed license amendment.

**DATES:** The EA and FONSI are available as of **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Please refer to Docket ID NRC-2017-0007 when contacting the NRC about the availability of information regarding this document. You may obtain publicly available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2017-0007. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.
- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov).
- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

**FOR FURTHER INFORMATION CONTACT:** Patrick G. Boyle, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Rockville, MD 20852; telephone: 301-415-3936; e-mail: [Patrick.Boyle@nrc.gov](mailto:Patrick.Boyle@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Introduction**

The NRC is considering the issuance of a license amendment to Facility Operating License No. R-23, held by TAMU, which would delete (1) part of TS 5.3, removing the Reactor Room, Control Room and Accelerator Room in the Zachry Engineering Center as a storage location for the AGN-201M reactor and associated components and allowing the unrestricted use of the Zachry Engineering Center that was the former location of the AGN-201M reactor; (2) license conditions 2.C.(3) and 2.D, removing the requirement that the licensee maintain a PSP; and (3) TS 6.4.3.c and parts of TS 6.6.f, removing requirements for procedures that implement the PSP and audits of the PSP and implementing procedures. The facility is located in the Zachry Engineering Center on the TAMU campus, Brazos County, Texas.

The licensee submitted its license amendment request by letter dated November 21, 2016 (ADAMS Accession No. ML16326A447), as supplemented by letters dated December 16 and 20, 2016 (ADAMS Accession Nos. ML16352A000, ML16351A502, and ML17011A079): and January 9 and 11, 2017 (ADAMS Accession Nos. ML17010A057 and ML17012A069). The NRC staff prepared an EA to document its environmental findings related to the proposed license amendment in accordance with section 51.21 of title 10 of the *Code of Federal Regulations* (10 CFR). Based on the results of the environmental review conducted for this EA, the NRC staff did not identify any significant environmental impacts associated with the proposed action and is, therefore, issuing a FONSI in accordance with 10 CFR 51.32.

## II. Environmental Assessment

### *Facility Locations and Previous Actions*

The Zachry Engineering Center, located on the TAMU College Station Campus, in Brazos County, Texas housed the AGN-201M reactor as well as offices and laboratories in which radiological materials were used in support of reactor operations. The AGN-201M has a power rating of 5 watts, thermal and uses a polyethylene and uranium dioxide plate type fuel with a uranium-235 enrichment of less than 20%. The reactor core is cooled by natural convection and therefore, the reactor does not have an external cooling loop. Texas A&M University purchased the AGN reactor in 1957 and moved it to the Zachry Engineering Center in 1972. The AGN-201M reactor was located on the ground floor in the southwest portion of the building and has not been operated since 2014.

TAMU operates a second reactor at the Nuclear Science Center, within the Texas Engineering Experiment Station, also located on the TAMU College Station Campus, in Brazos County, Texas.

The NRC staff approved the SNM transfer and relocation of the AGN-201M reactor and associated components in license amendments dated August 31, 2016 (ADAMS Accession No. ML16109A153), and November 11, 2015 (ADAMS Accession No. ML15315A027), respectively. TAMU completed the transfer of SNM in the form of AGN-201M reactor fuel, control rods, and a plutonium beryllium start up source to the TAMU System, Nuclear Science Center Reactor Facility License No. R-83 and the remaining AGN-201M reactor components containing byproduct material and trace quantities of SNM were relocated to the Texas Engineering Experiment Station on October 15, 2016.

TAMU requested that the NRC amend the AGN-201M license to allow the unrestricted use of the Zachry Engineering Center, proposed changes to conditions and TSs in the license, and provided radiation survey results to support its amendment application.

### *Description of the Proposed Action*

The proposed action would delete the Reactor Room, Control Room and Accelerator Room in the Zachry Engineering Center as a location for the storage of the AGN-201 reactor and associated components, allowing the unrestricted use of the Zachry Engineering Center that was the former location of the AGN-201M reactor. The proposed action would also delete license conditions that require a PSP, and delete TS 6.6.f. and 6.4.3.c, which require PSP implementing procedures and audits of the PSP and its implementing procedures because SNM for the AGN-201M has been transferred to another NRC license and, hence, the license no longer authorizes possession of a quantity of SNM that requires a PSP under the regulations in 10 CFR 73.67. In order to remove the Zachry Engineering Center rooms constituting the reactor facility from the TSs and allow unrestricted use of those locations in accordance with 10 CFR 20.1402, residual radioactivity that is distinguishable from background radiation at the reactor facility may not exceed 25 mrem (0.25 mSv) per year total effective dose equivalent (TEDE) to a member of the public and the residual radioactivity must be reduced to levels that are as low as reasonably achievable (ALARA).

### *The Need for the Proposed Action*

The proposed action is needed (1) to remove from Facility Operating License No. R-23 and release the rooms that constitute the AGN-201M reactor facility at the Zachry Engineering Center, which would enable the rooms to be used for other purposes without radiological restrictions, and (2) to delete license conditions requiring the licensee to maintain a PSP and delete associated PSP procedural and audit requirements in the TSs.

### *Environmental Impacts of the Proposed Action*

The NRC staff has completed its environmental review of the proposed action and concludes that the proposed action will not present any undue risk to public health and safety. After removal of the AGN-201M reactor, associated components, and SNM, and their relocation to the Texas Engineering Experiment Station, TAMU conducted clean-up activities at the Zachry

Engineering Center. TAMU developed a final status survey plan (ADAMS Accession No. ML16316A002), completed the final status survey of the Zachry Engineering Center rooms where the AGN-201M reactor, associated components, and SNM were previously located (ADAMS Accession No. ML17010A057) and found that the facility met the requirements for unrestricted use in 10 CFR part 20, subpart E. An NRC staff confirmatory survey was conducted during the week of November 14, 2016 (ADAMS Accession No. ML16355A083).

The NRC staff is preparing a safety evaluation in connection with its review of the proposed action. Based on the clean-up activities carried out by the licensee, the NRC staff's review of TAMU's final status survey report and the results of the NRC staff confirmatory survey, the NRC staff has concluded, pursuant to 10 CFR 20.1402, that residual radioactivity at the site does not exceed 25 mrem (0.25 mSv) TEDE. In addition, since no residual radioactivity distinguishable from background was found at the site, ALARA has been met. Therefore, the Zachry Engineering Center rooms which constituted the reactor facility (as designated in TS 5.3) are suitable to be released for unrestricted use and can be removed from the TSs. TAMU also requests that the NRC delete license conditions requiring a PSP and associated PSP TSs because physical possession of the SNM for the AGN-201M reactor has been transferred to, and is being stored under, another NRC license and therefore a PSP is not required for the AGN-201M under 10 CFR 73.67. Further details of the NRC's safety review will be provided in the safety evaluation related to the license amendment that, if issued by the NRC, would authorize the proposed action.

The proposed action does not authorize any effluent or material releases, does not change any release criteria set forth in the present regulations, and the results of the NRC confirmatory survey confirmed that any residual radioactivity at the Zachry Engineering Center facility comply with criteria for unrestricted release of a site set forth in 10 CFR 20.1402. No changes would occur in the types of any effluents that may be released offsite, and there would be no significant increase in the amount of any effluent released offsite. Thus there would be no

significant increase in occupational or public radiation exposure. In addition, because all of the SNM has been removed from the Zachry Engineering Center, deletion of license conditions requiring a PSP and deletion of associated TSs is appropriate. Therefore, the proposed action would result in no significant radiological environmental impacts.

With regard to potential non-radiological impacts, the proposed action does not authorize or involve any reactor facility construction activities and would not result in visual resource impacts, increases in noise or air emissions, or have any foreseeable impacts to historic properties, water resources, and aquatic or terrestrial resources. Similarly, the proposed action would result in no socioeconomic or environmental justice impacts. Therefore, there would be no significant non-radiological environmental impacts associated with the proposed action.

Accordingly, the NRC staff concludes that there would be no significant environmental impacts associated with the proposed action.

#### *Environmental Impacts of the Alternatives to the Proposed Action*

As an alternative to the proposed action, the NRC staff considered the denial of the proposed action (i.e., the “no-action” alternative). Denial of the license amendment request would result in no change in current environmental impacts. The environmental impacts of the proposed action and the “no action” alternative would be similar.

#### *Alternative Use of Resources*

The proposed action would not involve the use of any different resources than those previously considered in the document “Texas A&M University – Facility Operating License No. R-23,” dated August 26, 1957 (ADAMS Accession No. ML16085A206).

#### *Agencies and Persons Consulted*

The NRC staff did not enter into consultation with any other Federal agency or with the State of Texas regarding the environmental impact of the proposed action. However, on December 22, 2016, the NRC notified the Texas State official, Mrs. DeAnn Walker, Director,

Office of the Governor Office of Budget and Policy, of the proposed action. The State official had no comments.

### **III. Finding of No Significant Impact**

The NRC is considering the issuance of a license amendment to Facility Operating License No. R-23, held by TAMU, which would delete (1) part of TS 5.3, removing the Reactor Room, Control Room and Accelerator Room in the Zachry Engineering Center as a storage location for the AGN-201M reactor and associated components and allowing the unrestricted use of the Zachry Engineering Center that was the former location of the AGN-201M reactor; (2) license conditions 2.C.(3) and 2.D, removing the requirement that the licensee maintain a PSP; and (3) TS 6.4.3.c and parts of TS 6.6.f, removing requirements for procedures that implement the PSP and audits of the PSP and implementing procedures. The facility is located in the Zachry Engineering Center on the TAMU campus, Brazos County, Texas.

On the basis of the EA included in Section II of this notice and incorporated by reference, the NRC staff finds that the proposed action will not have a significant effect on the quality of the human environment. The NRC staff's evaluation considered information provided in the licensee's application, as supplemented, and the NRC staff's review of related

environmental documents. Section II above identifies the documents related to the proposed action and includes information on the availability of these documents. Accordingly, the NRC has determined not to prepare an environmental impact statement for the proposed action.

Dated at Rockville, Maryland, this 13<sup>th</sup> day of January 2017.

For the Nuclear Regulatory Commission.

Mirela Gavrilas, Deputy Director,  
Division of Policy and Rulemaking,  
Office of Nuclear Reactor Regulation.

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