

January 19, 2017

Dr. Sean M. McDeavitt
Director, TEES Nuclear Science Center
Texas A&M University
Texas A&M Engineering Experience Station
1095 Nuclear Science Road
College Station, TX 77843-3575

SUBJECT: TEXAS A&M UNIVERSITY– ISSUANCE OF AMENDMENT NO. 16 TO AMENDED FACILITY OPERATING LICENSE NO. R-23 TO MODIFY LICENSE CONDITIONS AND TECHNICAL SPECIFICATIONS TO ALLOW FOR THE UNRESTRICTED USE OF THE AGN-201M RESEARCH REACTOR FACILITY IN THE ZACHRY ENGINEERING CENTER AT THE TEXAS A&M UNIVERSITY, COLLEGE STATION – DOCKET NO. 50-59 (TAC NO. MF6159)

Dear Dr. McDeavitt:

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment No. 16 to Amended Facility Operating License No. R-23 for the Texas A&M University (TAMU) Aerojet General Nucleonics Model 201-Modified (AGN-201M) Reactor. The amendment consists of changes to the license and technical specifications (TSs) in response to your application of November 21, 2016, as supplemented on December 16 and December 20, 2016, and January 9 and January 11, 2017.

The amendment deletes from the TSs rooms in the Zachry Engineering Center that constitute the reactor facility for the AGN-201M reactor and associated components, and thus allows the unrestricted use of the rooms that were the former location of the AGN-201M reactor in the Zachry Engineering Center. The reactor, associated components, and its special nuclear material have been removed from the Zachry Engineering Center and relocated to the Texas Engineering Experiment Station as authorized by another amendment. In addition, the amendment deletes the license conditions that require TAMU to maintain and implement an NRC-approved physical security plan (PSP) and delete associated TSs for its AGN-201M reactor facility.

An environmental assessment (EA) related to this licensing action was also prepared. The EA is published in *Federal Register* (82-6660).

S. McDeavitt

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A copy of the safety evaluation supporting Amendment No. 16 is enclosed. If you have any questions, please contact me at (301) 415-3936.

Sincerely,

/RA/

Patrick G. Boyle, Project Manager
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Docket No. 50-59

Enclosures:

1. Amendment No. 16 to R-23
2. Safety Evaluation

cc: w/enclosure: See next page

Texas A&M University

Docket No. 50-59

cc:

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P.O. Box Drawer 9960
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Governor's Budget
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SUBJECT: TEXAS A&M UNIVERSITY– ISSUANCE OF AMENDMENT NO. 16 TO AMENDED FACILITY OPERATING LICENSE NO. R-23 TO MODIFY LICENSE CONDITIONS AND TECHNICAL SPECIFICATIONS TO ALLOW FOR THE UNRESTRICTED USE OF THE AGN-201M RESEARCH REACTOR FACILITY IN THE ZACHRY ENGINEERING CENTER AT THE TEXAS A&M UNIVERSITY, COLLEGE STATION – DOCKET NO. 50-59 (TAC NO. MF6159)

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NRR-088

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DATE	1/12/2017	1/17/17	1/19/17	1/12/17	1/19/17

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TEXAS A&M UNIVERSITY

DOCKET NO. 50-59

AMENDMENT TO AMENDED FACILITY OPERATING LICENSE

Amendment No. 16
License No. R-23

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for an amendment to Amended Facility Operating License No. R-23, filed by the Texas A&M University (the licensee) on November 21, 2016, as supplemented on December 16 and December 20, 2016, and January 9 and January 11, 2017, conforms to the standards and requirements of the Atomic Energy Act of 1954, as amended, (the Act) and the Commission's rules set forth in Title 10 of the *Code of Federal Regulations* (10 CFR), Chapter I;
 - B. The facility will operate in conformity with the application, as supplemented, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance that: (i) the activities authorized by this amendment can be conducted without endangering the health and safety of the public and (ii) that such activities will be conducted in compliance with Commission's regulations set forth in 10 CFR Chapter I;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public;
 - E. This amendment is issued in accordance with the regulations of the Commission as stated in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," and all applicable requirements have been satisfied; and
 - F. Prior notice of this amendment was not required by 10 CFR 2.105, "Notice of proposed action," and publication of a notice for this amendment is not required by 10 CFR 2.106, "Notice of issuance."

2. Accordingly, Amended Facility Operating License No. R-23 is amended by changes to the Technical Specifications as indicated in the enclosure to this license amendment, and paragraph 2.C.(2) of Amended Facility Operating License No. R-23 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 16, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. Accordingly, the license is amended by deletion of paragraphs 2.C.(3) and 2.D.
4. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

Alexander Adams, Jr., Chief
Research and Test Reactors Licensing Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Attachments:
Changes to Amended
Facility Operating License No. R-23
Changes to Appendix A,
"Technical Specifications"

Date of Issuance: January 19, 2017

ATTACHMENT TO LICENSE AMENDMENT NO. 16

AMENDED FACILITY OPERATING LICENSE NO. R-23

DOCKET NO. 50-59

Replace the following page of the Amended Facility Operating License No. R-23 with the revised page. The revised page is identified by amendment number and contains a vertical line indicating the area of change.

Renewed Amended Facility Operating License No. R-23

REMOVE
3

INSERT
3

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment 16, are hereby incorporated in their entirety in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

(3) [DELETED]

D. [DELETED]

E. This license is effective as of the date of issuance and shall expire at midnight, August 26, 1997.

FOR THE NUCLEAR REGULATORY
COMMISSION

/RA/

Brian K. Grimes, Assistant Director
For Engineering & Projects
Division of Operating Reactors

Attachment:
Appendix A, Technical
Specifications dated

Date of Issuance: April 25, 1979

ATTACHMENT TO LICENSE AMENDMENT NO. 16

AMENDED FACILITY OPERATING LICENSE NO. R-23

DOCKET NO. 50-59

Replace the following pages of the Appendix A, "Technical Specifications" with the revised pages. The revised pages are identified by amendment number and contains marginal lines indicating the area of change.

Technical Specifications

REMOVE

15
20
21

INSERT

15
20
21

- c. The core, reflector, and lead shielding are enclosed in and supported by a fluid-tight steel reactor tank. An upper or "thermal column tank" may serve as a shield tank when filled with water or a thermal column when filled with graphite.
- d. The 6 ½ foot diameter, fluid-tight shield tank is filled with water constituting a 55 cm thick fast neutron shield. The fast neutron shield is formed by filling the tank with approximately 1000 gallons of water. The complete reactor shield shall limit doses to personnel in unrestricted areas to levels less than permitted by 10 CFR 20 under operating conditions.
- e. Two safety rods and one control rod (identical in size) contain less than 15 grams of U-235 each in the same form as the core material. These rods are lifted into the core by electromagnets, driven by reversible DC motors through lead screw assemblies. Deenergizing the magnets causes a spring-driven, gravity-assisted scram. The fourth rod or fine control rod (approximately one-half the diameter of the other rods) is driven directly by a lead screw. This rod may contain fueled or unfueled polyethylene.

5.2 Fuel Storage

Fuel, including fueled experiments and fuel devices not in the reactor, shall be stored in locked rooms in the nuclear department laboratories. The storage array shall be such that Keff is no greater than 0.8 for all conditions of moderation and reflection.

5.3 AGN-201M Reactor and Associated Components Storage Locations

The AGN-201M reactor and associated components shall be stored in the following locations:

- Texas A&M Engineering Experiment Station Nuclear Science Center facility
 - Accelerator Building
 - Cargo Container

6.0 ADMINISTRATIVE CONTROLS

6.1 Organization

The administrative organization for control of the reactor facility and its operation shall be as set forth in Figure 1 attached hereto. The authorities and responsibilities set forth below are designed to comply with the intent and requirements for administrative controls of the reactor facility as set forth by the Nuclear Regulatory Commission.

- c. Proposed tests or experiments which are significantly different from previous approved tests or experiments, or those that involve an unreviewed safety question as defined in 10 CFR 50 Section 50.59.
- d. Proposed changes in Technical Specifications or licenses.
- e. Violations of applicable statutes, codes, regulations, orders, Technical Specifications, license requirements, or of internal procedures or instructions having nuclear safety significance.
- f. Significant operating abnormalities or deviations from normal and expected performance of facility equipment that affect nuclear safety.
- g. Reportable occurrences.
- h. Audit reports.

6.4.3 Audits

Audits of facility activities shall be performed at least quarterly under the cognizance of the Reactor Safety Board but in no case by the personnel responsible for the item audited. These audits shall examine the operating records and encompass but shall not be limited to the following:

- a. The conformance of the facility operation to the Technical Specifications and applicable license conditions, at least annually.
- b. The Facility Emergency Plan and implementing procedures, at least every two years.

6.4.4 Authority

The Reactor Safety Board shall report to the President and shall advise the Head of the Department of Nuclear Engineering on those areas of responsibility outlined in section 6.1.6 of these Technical Specifications.

6.4.5 Minutes of the Reactor Safety Board

The Chairman of the Reactor Safety Board shall direct the preparation, maintenance, and distribution of minutes of its activities. These minutes shall include a summary of all meetings, actions taken, audits, and reviews.

6.5 Approvals

The procedure for obtaining approval for any change, modification, or procedure which requires approval of the Reactor Safety Board shall be as follows:

- a. The Reactor Supervisor shall prepare the proposal for review and approval by the Head of the Department of Nuclear Engineering.
- b. The Head of the Department of Nuclear Engineering shall submit the proposal to the Chairman of the Reactor Safety Board.
- c. The Chairman of the Reactor Safety Board shall submit the proposal to the Reactor Safety Board members for review and comment.
- d. The Reactor Safety Board can approve the proposal by majority vote.

6.6 Procedures

There shall be written procedures that cover the following activities:

- a. Startup, operation, and shutdown of the reactor.
- b. Fuel movement and changes to the core and experiments that could affect reactivity.
- c. Conduct of irradiation and experiments that could affect the operation or safety of the reactor.
- d. Preventative or corrective maintenance which could affect the safety of the reactor.
- e. Surveillance, testing, and calibration of instruments, components, and systems as specified in section 4.0 of these Technical Specifications.
- f. Implementation of the Emergency Plan.

The above listed procedures shall be approved by the Head of the Department of Nuclear Engineering and the Reactor Safety Board. Temporary procedures which do not change the intent of previously approved procedures and which do not involve any unreviewed safety question may be employed on approval by the Reactor Supervisor.

6.7 Experiments

- a. Prior to initiating any new reactor experiment and experiment procedures shall be prepared by the Reactor Supervisor and reviewed and approved by the Head of the Department of Nuclear Engineering and the Reactor Safety Board.
- b. Approved experiments shall only be performed under the cognizance of the Head of the Department of Nuclear Engineering and the Reactor Supervisor.

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 16 TO

AMENDED FACILITY OPERATING LICENSE NO. R-23, DOCKET 50-59

TEXAS A&M UNIVERSITY AEROJET GENERAL NUCLEONICS REACTOR

1.0 INTRODUCTION

By letter dated November 21, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16326A447), as supplemented by letters dated December 16 and December 20, 2016 (ADAMS Accession Nos. ML16351A502 and ML17011A079); and January 9 (ADAMS Accession No. ML17010A057) and January 11, 2017 (ADAMS Accession Nos. ML17012A069), Texas A&M University (TAMU) (the licensee or the University) submitted a license amendment request (LAR) to the U.S. Nuclear Regulatory Commission (NRC) to change amended Facility Operating License No. R-23, including Appendix A, "Technical Specifications [(TSs)] for Texas A&M University AGN-201M Reactor (Serial #106)."

The LAR would delete the Reactor Room, Control Room, and Accelerator Room in the Zachry Engineering Center as locations for the storage of the Aerojet General Nucleonics Model 201 Modified (AGN-201M) 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 physical security plan (PSP) and delete TS 6.6.f. and TS 6.4.3.c, which require PSP implementing procedures and audits of the PSP and its implementing procedures. Because special nuclear material (SNM) for the AGN-201M has been transferred to another NRC license, the license no longer authorizes possession of a quantity of SNM that requires a PSP under the regulations in Title 10 *Code of Federal Regulations* (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).

2.0 BACKGROUND

The AGN-201M reactor is a moveable, self-contained reactor that was previously located inside the Zachry Engineering Center on the TAMU campus in College Station, Texas (Brazos County). The Zachry Engineering Center Reactor Room housed the reactor and the Control Room contained the reactor control console. The Accelerator Room, located directly above the reactor, provided access to the top of the core. These rooms also provided laboratory space for experiments conducted in the reactor. TAMU has decided to reallocate the space containing these rooms in the Zachry Engineering Center for other purposes, and as a result, moved the AGN-201M reactor, related components and special nuclear material to other locations. The licensee performed clean-up activities to remove residual contamination and radioactive material

from the Zachry Engineering Center.

The Texas A&M University System (TAMUS) has a Training, Research, and Isotope Production General Atomics (TRIGA) reactor operated by the TEES under License No. R-83, located at the NSC. License Amendment No. 18 to License No. R-83, which was issued on August 31, 2016, allows possession and storage of the AGN-201M reactor fuel, control rods (constructed of fuel material), and plutonium-beryllium (Pu-Be) startup neutron source. All three items listed above were transferred to the NSC and will remain under control of License No. R-83 while they are in storage at the NSC.

The licensee for the NSC TRIGA reactor (License No. R-83) is TEES/TAMUS. The licensee for the AGN-201M reactor (License No. R-23) is TAMU. TEES and TAMU are entities within TAMUS. Both reactors are located on the TAMU College Station campus in Brazos County, Texas.

On October 14, 2016, License Amendment No. 15 to License No. R-23, was issued to TAMU to delete the license condition possession limit for SNM in the form of the AGN-201M reactor fuel, control rods, and the sealed plutonium beryllium startup neutron source, since these materials were previously transferred to the License No. R-83. The amendment revised the license to authorize possession-only of a utilization facility (the AGN-201M reactor and associated components). The amendment further revised the TSs to allow storage of the AGN-201M reactor and associated components at the TEES NSC, and to reduce the surveillance requirements while the reactor components are in storage.

3.0 REGULATORY EVALUATION

The NRC staff reviewed the LAR, as supplemented, to ensure that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by possession in the proposed manner, (2) activities proposed will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. The NRC staff considered the following regulatory requirements and guidance during its review of the proposed changes.

The regulations in 10 CFR Part 20, "Standards for Protection against Radiation," establish standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the NRC. The regulations in 10 CFR Part 20 include radiological criteria for release for unrestricted use of a previously nuclear site.

The regulations in 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," provide regulatory requirements for storage of byproduct material.

The regulations in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," provide regulatory requirements for licensing of non-power reactors.

The regulations in 10 CFR Part 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions," provide regulatory requirements for the protection of the environment.

The regulations in 10 CFR Part 73, "Physical Protection of Plants and Materials," provide regulatory requirements for the physical protection and security of SNM at fixed sites and in transit.

The Atomic Energy Act of 1954, as amended, Section 182a, requires that each utilization facility operating license to include TSs. The regulatory requirements related to the content of the TSs are in 10 CFR 50.36, "Technical specifications." Section 50.36 requires that TSs include the following categories: (1) safety limits, limiting safety systems settings and limiting control settings, (2) limiting conditions for operation, (3) surveillance requirements, (4) design features, and (5) administrative controls.

NUREG-1505, "A Nonparametric Statistical Methodology for the Design and Analysis of Final Status Decommissioning Surveys," provides guidance for radiological surveys and decommissioning of nuclear sites.

NUREG-1507, "Minimum Detectable Concentrations with Typical Radiation Survey Instruments for Various Contaminants and Field Conditions" provides instrumentation guidance for nuclear site surveys and decommissioning.

NUREG-1537, Part 1, provides guidance for the format and content of non-power reactor licensing applications submitted to the NRC. NUREG-1537, Part 1, Appendix 14.1, "Format and Content of Technical Specifications for Non-Power Reactors," provides guidance on the format and content of non-power reactor TSs. NUREG-1537, Part 1, Appendix 14.1, references American Nuclear Standards Institute/American Nuclear Society Standard 15.1-1990, "The Development of Technical Specifications for Research Reactors," except as noted in NUREG-1537, Part 1, Appendix 14.1.

NUREG-1537, Part 2, "Guidelines for Preparing and Reviewing Applications for the Licensing of Non-Power Reactors: Standard Review Plan and Acceptance Criteria," provides guidance to NRC staff on the conduct of licensing action reviews for non-power reactor licensing applications. Chapter 14, "Technical Specifications," provides guidance for the review acceptability of proposed TSs.

NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) Facilities," provides guidance for decommissioning surveys.

NUREG-1757, "Consolidated Decommissioning Guidance," provides general guidance for decommissioning of a nuclear site.

4.0 TECHNICAL EVALUATION

4.1 Proposed Deletion of the Zachry Engineering Center from TS 5.3 as an AGN-201M Reactor and Associated Component Storage Location and To Allow Unrestricted Release of the Zachry Engineering Center

The Zachry Engineering Center at TAMU housed the AGN-201M reactor, as well as offices and laboratories in which radiological materials were used in support of reactor operations. The

reactor, associated components and SNM have been placed in secure storage at the TEES/TRIGA facility, awaiting installation in a new facility. The licensee has proposed to delete the Zachry Engineering Center from the AGN-201M reactor TS 5.3. The licensee performed clean-up activities to remove residual contamination and radioactive material from all the licensed areas in the Zachry Engineering Center (Reactor Room, Control Room, and Accelerator Room). Because Facility Operating License No. R-23 is not being terminated as part of this request, 10 CFR 50.82(b) is not applicable.

On November 10, 2016, TAMU submitted Revision 1 of the Final Status Survey (FSS) plan for the Zachry Engineering Center (ADAMS Accession No. ML16316A002). The NRC staff reviewed the survey plan and determined that it was consistent with the guidance in Chapter 17 of NUREG-1537 Part 1, "Guidelines for Preparing and Reviewing Applications for Licensing of Non-Power Reactors," NUREG-1757, "Consolidated Decommissioning Guidance," and NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual." Appendix H in NUREG-1575 contains the "Acceptable License Termination Screening Values of Common Radionuclides for Building-Surface Contamination" which will ensure compliance with the 10 CFR 20.1402 criteria of 25 mrem/yr unrestricted release dose limit.

On January 10, 2017, TAMU submitted the FSS results report for the Zachry Engineering Center (ADAMS Accession No. ML17010A057). The report stated that the survey met the FSS plan and demonstrated that the Zachry Engineering Center met the requirements for unrestricted use specified in 10 CFR Part 20, Subpart E. In accordance with the cited regulation, the site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the public that does not exceed 25 mrem (0.25mSv) per year (yr) and that residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). In order to demonstrate compliance with the less than 25 mrem/yr criteria, TAMU committed to use the NRC approved default screening values for surface contamination as presented in Appendix H of NUREG-1757, Volume 2, Revision 1, as the upper surface contamination limits for the Zachry Engineering Center. The NRC staff reviewed the FSS report and has determined that the surveys were conducted in accordance with the FSS plan. Additionally, the NRC staff has determined that the survey results in the report are well below the 25 mrem/yr and screening values, the results comply with the criteria in the LAR and FSS plan, and the release criteria in 10 CFR Part 20, Subpart E for the Zachry Engineering Center are met. ALARA, in part, requires reasonable effort to maintain radiation exposures as far below dose limits as is practical consistent with the purpose of the licensed activity and the state of the technology. Since no residual radioactivity distinguishable from background was found at the site, ALARA has been met.

The NRC staff conducted confirmatory radiation survey activities at the Zachry Engineering Center during the week of November 14, 2016, and documented the conduct and results of its survey activities in a report dated December 19, 2016 (ADAMS Accession No. ML16355A083). The confirmatory survey activities included visual inspections/assessments, gamma measurements, fixed alpha plus beta measurements, and smear sampling activities to determine loose surface activity. Based on the results of its confirmatory survey activities, the NRC staff finds that its survey confirms that the licensee's FSS data accurately demonstrated that the Zachry Engineering Center is well below the screening levels in Appendix H of NUREG-1757, Volume 2, Revision 1, and residual activity was only a small fraction of the limit (25 mrem/yr).

The NRC staff also reviewed the residual radioactivity values in the FSS reports and compared them to the values that trigger the need for consultation in accordance with the 2002 Memorandum of Understanding (MOU) between the NRC and the U.S. Environmental Protection Agency (EPA) entitled, "Consultation and Finality on Decommissioning and Decontamination of Contaminated Sites" (67 FR 65375). Based on this review, the residual radioactivity at the site is well below the values in the MOU and, as such, NRC consultation with EPA in accordance with the MOU is not required.

Therefore, based on the adequacy of the clean-up activities carried out by the licensee and the NRC staff's review of TAMU's FSS report, as well as the results of NRC confirmatory surveys, the NRC concludes that, pursuant to 10 CFR 20.1402, the measured residual radioactivity levels will result in a TEDE that is significantly less than 25 mrem (0.25 mSv) per year requirement. No residual radioactivity distinguishable from background was found at the site. Therefore ALARA has been met and the Zachry Engineering Center is suitable to be released for unrestricted use.

The current TS 5.3 states:

5.3 AGN-201M Reactor and Associated Components Storage Locations

The AGN-201M reactor and associated components shall be stored in either of the following locations:

- Zachry Engineering Center
 - Reactor Room
 - Control Room
 - Accelerator Room
- Texas A&M Engineering Experiment Station Nuclear Science Center facility
 - Accelerator Building
 - Cargo Container

The licensee proposed to revise TS 5.3, AGN-201M reactor and associated Components Storage Locations.

5.3 AGN-201M Reactor and Associated Components Storage Locations

The AGN-201M reactor and associated components shall be stored in the following locations:

- Texas A&M Engineering Experiment Station Nuclear Science Center facility
 - Accelerator Building
 - Cargo Container

The NRC staff reviewed proposed TS 5.3 which deleted the Zachry Engineering Center as an approved storage locations for the AGN-201M. The licensee indicated that the reactor and associated components were relocated to the TEES/NSC on October 15, 2016, as authorized by

License Amendment No. 15. The SNM was relocated to the NSC, as authorized by Amendment No. 18 to Facility Operating License No. R-83. The NRC staff finds the deletion of the Zachry Engineering Center from TS 5.3 is acceptable because the licensee has permanently removed the AGN-201M reactor, associated components and special nuclear material from the Zachry Engineering Center and the results of the licensee's final radiation survey demonstrate the Zachry Engineering Center is suitable to be released for unrestricted use. Based on the above, the NRC staff concludes that the proposed change to TS 5.3 is acceptable.

4.2 Proposed Changes to License Conditions and Technical Specifications Related to the PSP

In the LAR, as supplemented, the licensee proposed deletion of license conditions requiring a PSP. The licensee requested the proposed change because of the removal of the reactor fuel and the PuBe startup neutron source from the AGN-201M Facility Operating License No. R-23 and from the Zachry Engineering Center, as authorized by the license amendments described in Section 2.0 of this safety evaluation. The licensee proposed the following changes to the license conditions and technical specifications.

The current License Conditions

C. (3) Physical Security Plan

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security plan, including all amendments and revisions made pursuant to the authority of 10 CFR 50.90 and 10 CFR 50.54(p), which are part of the license. This plan, which contains information withheld from public disclosure under 10 CFR 2.790, is entitled "Texas A&M University AGN-201M Reactor Facility Security Plan," with revisions through September 24, 1984.

D. The licensee shall maintain in effect and fully implement all provisions of the NRC-approved physical security plan, including amendments and changes made pursuant to the authority of 10 CFR 50.54(p). The approved security plan consists of the document withheld from public disclosure pursuant to 10 CFR 2.790(d), entitled "Security Plan for the Texas A&M University AGN-201M Reactor Facility", dated September 13, 1974

The proposed License Conditions

The proposed license conditions delete 2.C.(3) and 2.D.

The NRC staff reviewed the licensee's proposed deletion of the PSP requirements in the license conditions 2.C.(3) and 2.D. Based on the issuance of License Amendment No. 15 to Facility Operating License No. R-23, approved on October 14, 2016, which reduced the authorization to possess special nuclear material to the quantity of material present in the AGN-201M reactor non-fuel components, the NRC staff finds that a PSP is no longer required for License No. R-23.

The SNM, used in connection with the operation of the AGN-201M reactor, that had required the PSP, has been transferred to the TEES/TRIGA License No. R-83. The transfer of the SNM was

authorized by Amendment No. 18 to License No. R-83 which increased the TEES/TRIGA possession limits to allow receipt and storage of the AGN-201M reactor SNM. The TEES/TRIGA has an NRC-approved PSP to protect the SNM at the TEES.

As discussed in the SE which supported License Amendment No. 15 to License No. R-23, only trace quantities of SNM are expected to be present in the AGN-201M reactor non-fuel components. The trace quantities of SNM the licensee is authorized to possess are much lower than a quantity of SNM of moderate or low strategic significance. Because the AGN-201M license no longer authorizes possession of a quantity of SNM that requires the licensee to maintain a PSP under 10 CFR 73.67, "Licensee fixed site and in-transit requirements for the physical protection of special nuclear material of moderate and low strategic significance," license conditions that require the licensee to maintain an NRC-approved PSP can therefore be deleted from the AGN-201M license.

TS 6.4.3.c states:

- c. The Facility Security Plan and implementing procedures, at least every two years.

TS 6.6.f states:

- f. Implementation of the Security Plan and Emergency Plan.

The licensee has proposed to delete TS 6.4.3.c. and to revise TS 6.6.f to read as follows:

- f. Implementation of the Emergency Plan.

The NRC staff reviewed proposed TS 6.4.3.c and TS 6.6.f., which would delete TS requirements to audit and maintain procedures of the facility's PSP. The NRC staff's radiation survey activities confirmed that the reactor and associated components have been relocated as authorized by License Amendment No. 15 and SNM previously possessed for operation of AGN-201M has been transferred to another NRC license, which is subject to an NRC-approved PSP. The NRC staff finds that, as discussed in the SE, supporting License Amendment No. 15, only trace quantities of SNM are expected to be present in the AGN-201M reactor non-fuel components. The trace quantities of SNM the licensee is authorized to possess are much lower than what would be considered to be a quantity of SNM of moderate or low strategic significance. Since 10 CFR 73.67 does not require the licensee to maintain a PSP for the AGN-201M license, the requirements related to the PSP procedures and audits can be deleted from the TSs. Based on the above, the NRC staff concludes that the proposed changes to TS 6.4.3.c and TS 6.6.f are acceptable.

5.0 NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC staff considered whether the proposed amendment involves a significant hazards consideration under 10 CFR 50.92(c). As noted above, the proposed amendment deletes the Zachry Engineering Center location where the AGN-201M reactor was previously located, authorizes the unrestricted release of that site, and removes PSP license conditions and PSP related TS requirements. The staff finds that, because no radiation levels distinguishable from background were found by radiations surveys at the site where the AGN-201M reactor once operated, the license no longer authorizes possession of a quantity of SNM that requires a PSP, SNM previously used for reactor operation is subject to a PSP under another NRC license, PSP license conditions and TSs are not needed in the AGN-201M license to achieve safety or security, and the disassembled AGN-201M reactor, its SNM and related components are being securely stored at the TEES/TRIGA site, the proposed amendment would not (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident, and (3) involve a significant reduction in the margin of safety. Therefore, the staff concludes that the amendment involves no significant hazards.

6.0 ENVIRONMENTAL CONSIDERATION

The NRC staff separately evaluated the environmental impacts the issuance of a license amendment to Facility Operating License No. R-23, in accordance with 10 CFR Part 51. The NRC staff published an Environmental Assessment and Finding of No Significant Impact in the *Federal Register* on January 19, 2017 [82-6660], which concluded that the issuance of the license amendment will not have a significant impact on the quality of human life and the environment.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: January 19, 2017