

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 50-166; NRC-2010-0250]**

**University of Maryland**

**Maryland University Training Reactor**

**AGENCY:** Nuclear Regulatory Commission.

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

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is considering renewal of Facility Operating License No. R-70, held by the University of Maryland (UMD or the licensee) for the operation of the Maryland University Training Reactor (MUTR) for an additional 20 years. The NRC is issuing an environmental assessment (EA) and finding of no significant impact (FONSI) associated with the proposed renewal of the license.

**DATES:** The EA and FONSI referenced in this document is available on December 22, 2016.

**ADDRESSES:** Please refer to Docket ID **NRC-2010-0250** 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-2010-0250**. 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). For the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents" section of this document.

- **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:** Eben S. Allen, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-4246; e-mail: [Eben.Allen@nrc.gov](mailto:Eben.Allen@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The NRC is considering renewal of Facility License No. R-70, held by the UMD, which would authorize continued operation of the MUTR, located in College Park, Prince George's County, Maryland. Therefore, as required by section 51.21 of title 10 of the *Code of Federal Regulations* (10 CFR), "Criteria for and identification of licensing and regulatory actions

requiring environmental assessments,” the NRC performed an EA. Based on the results of the EA that follows, the NRC has determined not to prepare an environmental impact statement for the renewed license and is issuing a FONSI. The renewed license will be issued following the publication of this notice.

## **II. Environmental Assessment**

### *Description of the Proposed Action*

The proposed action would renew Facility License No. R-70 for a period of 20 years from the date of issuance of the renewed license. The proposed action is in accordance with the licensee’s application dated May 12, 2000, as supplemented by letters dated June 7, August 4, September 17, and October 7, 2004; April 18, 2005; April 25, (two letters), August 28 (two letters), September 7, November 9, and December 18, 2006; May 27, July 28, and September 22, 2010; January 31, February 2, May 2, July 5, July 29, September 26, September 28, and October 12, 2011; February 9, March 14, May 22, and August 29, 2012; March 21, 2013; April 10, June 18, and November 25 (two letters), 2014; December 2, 2015; and January 5, February 18, February 29, and November 17, 2016. In accordance with 10 CFR 2.109, “Effect of timely renewal application,” the existing license remains in effect until the NRC takes final action on the renewal application.

### *Need for the Proposed Action*

The proposed action is needed to allow the continued operation of the MUTR to routinely provide teaching, research, and services to numerous institutions for a period of 20 years.

### *Environmental Impacts of the Proposed Action*

The NRC is preparing its safety evaluation (SE) of the proposed action to issue a renewed Facility Operating License No. R-70 to allow continued operation of the MUTR for a period of 20 years and concludes there is reasonable assurance that the MUTR will continue to operate safely for the additional period of time. The details of the NRC staff's SE will be provided with the renewed license that will be issued as part of the letter to the licensee approving its license renewal application. This document contains the EA of the proposed action.

The MUTR is located on the northeastern quadrant of UMD campus in a dedicated building connected to the Chemical and Nuclear Engineering Building. The reactor is housed in a building constructed primarily of concrete, brick, and steel which serves as a confinement. The reactor site comprises the reactor building and a small area immediately surrounding it. Adjacent to the reactor site are three buildings: the J.M. Patterson Building; the Asphalt Institute, and the Animal and Avian Sciences building. The nearest permanent residences are located approximately 370 meters (1,200 feet) from the site boundary. The nearest dormitories are located approximately 230 meters (750 feet) from the reactor.

The MUTR is a light water open pool type reactor licensed for a maximum 250 kilowatt (thermal) steady state power using low-enriched uranium (less than 20 percent) TRIGA (Training, Research, Isotope Production, General Atomics) fuel. The reactor is not licensed to operate in a pulse mode. The fuel is located at the bottom of an aluminum tank with a volume of approximately 22,700 liters (6,000 gallons) and a depth of 6.5 meters (21.25 feet). The pool tank is surrounded by at least 2.0 meters (6.5 feet) of concrete and 0.6 meters (2 feet) of water. A detailed description of the reactor can be found in the MUTR Safety Analysis Report (SAR).

The licensee has not requested any changes to the facility design or operating conditions as part of the application for license renewal. No changes are being made in the

types or quantities of effluents that may be released off site. The licensee has systems in place for controlling the release of radiological effluents and implements a radiation protection program to monitor personnel exposures and releases of radioactive effluents. As discussed in the NRC staff's SE, the systems and radiation protection program are appropriate for the types and quantities of effluents expected to be generated by continued operation of the reactor. Accordingly, there would be no increase in routine occupational or public radiation exposure as a result of license renewal. A separate SE to determine the probability and consequence of accidents of the proposed action is being drafted by NRC staff. If the NRC staff concludes in the SE that the probability and consequence of accidents are within NRC requirements, then the proposed license renewal will not have a significant environmental impact with respect to accidents.

Therefore, with the exception of the impacts associated with accidents which the NRC staff is evaluating separately from this EA, license renewal would not change the environmental impact of facility operation. The NRC staff evaluated information contained in the licensee's application and data reported to the NRC by the licensee for the last 5 years of operation to determine the projected radiological impact of the facility on the environment during the period of the renewed license. The NRC staff found that releases of radioactive material and personnel exposures were all well within applicable regulatory limits. Based on this evaluation, the NRC staff concluded that continued operation of the reactor would not have a significant environmental impact.

A. Radiological Impacts

*Environmental Effects of Reactor Operations*

Gaseous radioactive effluents are discharged by the facility exhaust system via vents located on the roof of the reactor building, through a rollup door, and personnel door located on the north side of the facility. The current primary path for gaseous effluents is through those two

doors. The only significant nuclide found in the gaseous effluent stream is argon-41. The licensee estimates argon-41 releases from a calculated release of argon-41 based on hours of reactor operation. Licensee calculations indicate that annual argon-41 releases result in an offsite concentration of argon-41 which is below the limit of  $1.0E-8$  microcuries per milliliter specified in 10 CFR part 20, Appendix b, "Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) of Radionuclides for Occupational Exposure; Effluent Concentrations; Concentrations for Release to Sewerage," for air effluent releases. The NRC staff reviewed the licensee's calculations and found them to be reasonable. Total gaseous radioactive releases reported to the NRC in the licensee's annual reports were less than the air effluent concentration limits set by 10 CFR part 20, Appendix b. The potential radiation dose to a member of the general public resulting from this concentration is less than 2 millirem (0.02 milliSieverts) and complies with the dose limit of 100 millirem (1 milliSievert) set by 10 CFR 20.1301, "Dose limits for individual members of the public." Additionally, this potential radiation dose complies with the air emissions dose constraint of 0.1 milliSievert (10 millirem) specified in 10 CFR 20.1101(d).

The licensee disposes of liquid radioactive wastes by discharge to the sanitary sewer, in accordance with the requirements of 10 CFR 20.2003(a). During the past 5 years, the licensee has reported in its annual reports, no routine releases of liquid radioactive waste. No significant solid low-level radioactive waste was generated at the MUTR. According to the licensee, no spent nuclear fuel has been shipped from the site to date. To comply with the Nuclear Waste Policy Act of 1982, UMD has entered into a contract with the U.S. Department of Energy (DOE) that provides that DOE retains title to the fuel utilized at the MUTR and that DOE is obligated to take the fuel from the site for final disposition.

Data reported to the NRC by the licensee shows that personnel exposures are well within the total effective dose equivalent limit of 5,000 millirem (50 milliSievert) set by

10 CFR 20.1201, "Occupational dose limits for adults," and as low as reasonably achievable. Fixed mounted dosimeters are mounted on the east and west exterior walls of the reactor building and provide gross quarterly readings (not adjusted for background) of total radiation exposures at those locations. These dosimeters typically measure average annual doses of approximately 87 millirem (0.87 milliSievert). No changes in reactor operation that would lead to an increase in occupational dose are expected as a result of the proposed action.

The licensee conducts an environmental monitoring program to record and track the radiological impact of MUTR operation on the surrounding unrestricted area. The program consists of quarterly exposure measurements at four locations on the site boundary and at two control locations away from any direct influence from the reactor. The Radiation Protection Officer administers the program and maintains the appropriate records. Over the past 5 years, the survey program indicated that radiation exposures at the monitoring locations were not significantly higher than those measured at the control locations. Year-to-year trends in exposures are consistent between monitoring locations. Also, no correlation exists between total annual reactor operation and annual exposures measured at the monitoring locations.

Based on the NRC staff's review of the past 5 years of the licensee's annual reports, the NRC staff concludes that continued operation of the MUTR would not have a significant radiological impact on the surrounding environment. No changes in reactor operation that would affect off-site radiation levels are expected as a result of license renewal.

#### *Environmental Effects of Accidents*

Accident scenarios are discussed in Chapter 13 of the MUTR SAR. The maximum hypothetical accident is the uncontrolled release of the gaseous fission products contained in the gap between the fuel and the fuel cladding in one fuel element to the reactor confinement and into the environment. The licensee conservatively calculated doses to facility personnel,

the maximum potential dose to a member of the public, and the dose at the nearest residence. The NRC staff checked the licensee's calculations to verify that the doses represent conservative estimates for the maximum hypothetical accident. Occupational doses resulting from this accident would be 12 millirem (0.12 milliSievert), below the 10 CFR part 20, "Standards for Protection Against Radiation," annual limit of 5,000 millirem (50 mSievert). Maximum doses for members of the public resulting from this accident would be 99 millirem (0.99 mSievert), below the 10 CFR part 20 annual limit of 100 millirem (1.0 mSievert). The proposed action will not increase the probability or consequences of accidents.

B. Non-Radiological Impacts

The MUTR core is located near the bottom of the reactor pool. The pool contains approximately 22.7 m<sup>3</sup> (6,000 gallons) of water which acts as a coolant for the reactor core and provides a large heat sink. The water in the pool is cooled by a primary cooling system consisting of a primary pump, a heat exchanger, a filtration and demineralizer water processing system, and associated piping. Cooling of the reactor core is by natural convection of the water through the reactor core. The water enters the cooling channels at the bottom of the core, warms as heat from the fission process is transferred to the water, and rises out of the core and into the bulk pool water. The reactor can run for several hours without operating the primary cooling system to remove heat from the reactor pool because of the large heat sink provided by the volume of water in the pool. When heat needs to be removed from the reactor pool the primary cooling system is operated. The primary coolant is cooled by secondary coolant in the heat exchanger, the secondary coolant is an open loop of city water that is discharged to the sanitary sewer. The MUTR facility annual usage of city water is minimal, less than 1 percent of the total University consumption. During operation, the secondary system is maintained at a higher pressure than the primary system to minimize the likelihood of primary system contamination entering the secondary system, and ultimately the environment. Additional



controls are included in the facility design, as indicated in the MUTR Environmental Report, included in the licensee's application, "...to preclude the contamination of the city water supply by the reactor facility, the city water supply passes through a backflow prevention valve after entering the reactor pump room before it is distributed to the make-up water and cooling systems."

The reactor's low power level results in a small amount of heat that is released to the environment. Release of this heat (thermal effluent) from the MUTR facility will not have a significant effect on the environment. As stated above, minimal amounts of secondary water discharges to the sanitary sewer system after passing through the primary heat exchanger.

The Department of Environmental Safety, Sustainability, and Risk provides the University of Maryland community with information to comply with Federal, State, local and university requirements for managing hazardous and other regulated wastes. Because there is no cooling tower, secondary water treatment chemicals are not used at the MUTR facility. Small amounts of chemicals may be used at the MUTR facility that are typical of what is used in a university research environment. What chemicals or hazardous waste that is produced in conjunction with operation of the facility is disposed of in accordance with campus hazardous waste procedures maintained by the Department of Environmental Safety, Sustainability, and Risk.

Because the proposed action does not involve any change in the operation of the reactor, water use at the reactor is a small percentage of the university's water use, chemical use is small and disposal complies with all requirements, and the heat dissipated to the environment is minimal, the NRC staff concludes that the non-radiological impacts from proposed action will not have a significant impact on the environment.

#### *National Environmental Policy Act (NEPA) Considerations*

The NRC has responsibilities that are derived from NEPA and from other environmental

laws, which include the Endangered Species Act, Coastal Zone Management Act, National Historic Preservation Act (NHPA), Fish and Wildlife Coordination Act, and Executive Order 12898, Environmental Justice. The following presents a brief discussion of impacts associated with these laws and other requirements.

1. Endangered Species Act

The Wildlife and Heritage Service of the Maryland Department of Natural Resources has stated that there are no State or Federal records documenting rare, threatened, or endangered species within the boundaries of the MUTR site. Based on this information, the NRC staff finds that the potential impacts of the proposed action would have no adverse effect on rare, threatened, or endangered species within the MUTR site boundary.

2. Coastal Zone Management Act

The MUTR is not located within any managed coastal zones; nor would the MUTR effluents and emissions impact any managed coastal zones. Based on this information, the NRC staff finds that the potential impacts of the proposed action would not adversely affect managed coastal zones.

3. National Historic Preservation Act

The NHPA requires Federal agencies to consider the effects of their undertakings on historic properties. The National Register of Historic Places lists historic properties in the vicinity of the MUTR and the UMD. The State Historic Preservation Office (SHPO) was contacted and a project review form was submitted. The SHPO determined that license renewal would have no adverse effect on historic properties in the vicinity of the MUTR. Based on this information, the NRC staff finds that the potential impacts of the proposed action would have no adverse effect on historic and archaeological resources.

4. Fish and Wildlife Coordination Act

The licensee is not planning any water resource development projects, including any of

the modifications relating to impounding a body of water, damming, diverting a stream or river, deepening a channel, irrigation, or altering a body of water for navigation or drainage. Based on this information, the NRC staff finds that the potential impacts of the proposed action would not adversely affect water resource near the MUTR site boundary.

5. Executive Order 12898 – Environmental Justice

The environmental justice impact analysis evaluates the potential for disproportionately high and adverse human health and environmental effects on minority and low-income populations that could result from the relicensing and the continued operation of the MUTR. Such effects may include human health, biological, cultural, economic, or social impacts.

Minority Populations in the Vicinity of the MUTR – According to the 2010 Census, approximately 49 percent of the total population (total of approximately 7,900,000 individuals) residing within a 50- mile radius of MUTR identified themselves as minority. The largest minority population were Black or African American (2,172,000 persons or 27 percent), followed by Hispanic, Latino, or Spanish origin of any race (approximately 871,000 persons or 11 percent). According to the U.S. Census Bureau’s 2010 Census, about 85.1 percent of the Prince George’s County population identified themselves as minorities, with persons of Black or African American origin comprising the largest minority group (64.5 percent). According to the U.S. Census Bureau’s 2014 American Community Survey 1-Year Estimates, the minority population of Prince George’s County, as a percent of the total population, had increased to 85.9 percent.

Low-income Populations in the Vicinity of the MUTR – According to the U.S. Census Bureau’s 2010–2014 American Community Survey 5-Year Estimates, approximately 124,000 families and 736,000 individuals (6.4 and 9.2 percent, respectively) residing within a 50-mile radius of the MUTR were identified as living below the Federal poverty threshold. The 2014 Federal poverty threshold was \$24,230 for a family of four.

According to the U.S. Census Bureau's 2014 American Community Survey 1-Year Estimates, the median household income for Maryland was \$73,971, while 7.1 percent of families and 10.1 percent of the state population were found to be living below the Federal poverty threshold. Prince George's County had a lower median household income average (\$72,290) and a similar percentage of families (7.0 percent) and individuals (10.2 percent) living below the poverty level, respectively.

Impact Analysis—Potential impacts to minority and low-income populations would mostly consist of radiological effects, however radiation doses from continued operations associated with the license renewal are expected to continue at current levels, and would be below regulatory limits.

Based on this information and the analysis of human health and environmental impacts presented in this environmental assessment, the NRC staff concludes that the proposed license renewal would not have disproportionately high and adverse human health and environmental effects on minority and low-income populations residing in the vicinity of the MUTR.

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

As an alternative to license renewal, the NRC considered denying the proposed action. If the NRC denied the request for license renewal, reactor operations would cease and decommissioning would be required. The NRC staff notes that, even with a renewed license, the MUTR will eventually require decommissioning, at which time the environmental effects of decommissioning will occur. Decommissioning will be conducted in accordance with an NRC-approved decommissioning plan which would require a separate environmental review under 10 CFR 51.21. Cessation of facility operations would reduce or eliminate radioactive effluents and emissions. However, as previously discussed in this environmental assessment, radioactive effluents and emissions from reactor operations constitute only a small fraction of

the applicable regulatory limits. Therefore, the environmental impacts of license renewal and the denial of the request for license renewal would be similar. In addition, denying the request for license renewal would eliminate the benefits of teaching, research, and services provided by the MUTR.

#### *Alternative Use of Resources*

The proposed action does not involve the use of any different resources or significant quantities of resources beyond those previously considered in the issuance of Amendment No. 7 to Facility Operating License No. R-70 for the MUTR, dated August 7, 1984, which renewed the Facility Operating License for a period of 20 years.

#### *Agencies and Persons Consulted*

In accordance with the agency's stated policy, on December 9, 2016, the NRC staff provided the Maryland State Nuclear Emergency Preparedness Coordinator an e-mail of the staff's environmental assessment for publishing in the *Federal Register* regarding the environmental impact of the proposed action. The correspondence involved a thorough explanation of the environmental review, the details of this environmental assessment, and the NRC staff's findings. The State official responded by e-mail December 16, 2016 and indicated the state of Maryland had no comments with this action.

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

The NRC staff has prepared this EA as part of its review of the proposed action. On the basis of the EA included in Section II above and incorporated by reference in this finding, the NRC finds that there are no significant environmental impacts from the proposed action, and the proposed action will not have a significant effect on the quality of the human environment. The

NRC staff has determined that a FONSI is appropriate, and decided not to prepare an environmental impact statement for the proposed action.

#### **IV. Availability of Documents**

The following table identifies the environmental and other documents cited in this document and related to the NRC's FONSI. These documents are available for public inspection online through ADAMS at <http://www.nrc.gov/reading-rm/adams.html> or in person at the NRC's PDR as described previously.

<b>DOCUMENT</b>	<b>ADAMS Accession No.</b>
University of Maryland, Request for Renewal of Class 104 Operating License R-70., May 12, 2000	ML052910399
University of Maryland - Request for Additional Information Re: Renewal of License R-70, October 10, 2002	ML022690533
Transmittal of the University of Maryland's Response to the Request for Additional Information Pertaining to Sections Six through Ten of the Safety Analysis Report (SAR), June 7, 2004	ML041800348
University of Maryland's Response to the Request for Additional Information Re: Environmental Report for Training Reactor, August 4, 2004	ML042240227
Submittal of Additional Information as it Pertains to Section Eleven of the Safety Analysis Report for the Maryland University Training Reactor, September 17, 2004	ML042940317
Response to the Request for Additional Information as it Pertains to Section Twelve of the Safety Analysis Report for the Maryland University Training Reactor, October 7, 2004	ML042940408
University of Maryland - Response to RAI Regarding the Technical Specifications for the Maryland University Training Reactor, April 18, 2005	ML051160054
University of Maryland's Response to Request for Additional Information, as it Pertains to Section Two of Safety Analysis Report for Maryland University Training Reactor, April 25, 2006	ML061250233
University of Maryland's Response to Request for Additional Information, as it Pertains to Section Two of Safety Analysis Report for Maryland University Training Reactor, April 25, 2006	ML061280383
University of Maryland Responses to RAIs on the SAR, August 28, 2006	ML101970209
University of Maryland's Response to Request for Additional Information, September 7, 2006	ML16083A222
University of Maryland's Responses to RAIs on the SAR, November 9, 2006	ML101970210
University of Maryland's Response to Request for Additional Information as it Pertains to Technical Specifications for Maryland University Training Reactor, December 18, 2006	ML101480913
University of Maryland, Request for Additional Information Regarding the License Renewal for the Maryland University Training and Research Reactor, December 10, 2009	ML093420068
University of Maryland, Request for Additional Information Regarding License Renewal Technical Matters (TAC ME1592), April 6, 2010	ML100840239
University of MD Training Reactor (MUTR) - Submitting Responses to NRC 12/10/09 Request for Additional Information Regarding Financial Qualifications for Renewal of License, May 27, 2010	ML101670413

University of Maryland Responses Request for Additional Information Regarding the License Renewal for Maryland University Training Reactor, July 28, 2010	ML102110049
University of Maryland Training Reactor, Request for Additional Information Regarding License Renewal Revised Technical Specifications dated December 18, 2006 (TAC No. ME1592), August 20, 2010	ML102230338
University of Maryland, Request for Additional Information Regarding the License Renewal for the Maryland University Training Reactor, September 22, 2010	ML102710556
University of Maryland, Maryland University Training Reactor (MUTRA), Request for Additional Information (RAI) Regarding Remaining Technical Specifications, January 31, 2011	ML110320459
University of Maryland, Maryland University Training Reactor, Response to Request No. #2 to the NRC's April 6, 2010 Request for Additional Information, February 2, 2011	ML110350175
University of Maryland, Maryland University Training Reactor ("MUTR"), Technical Specifications, Response to February 18, 2011, Request for Additional Information ("RAI") Regarding Remaining Technical Specifications, May 2, 2011	ML11124A124
University of Maryland, NRC Response to Letter Dated May 2, 2011, June 22, 2011	ML11171A566
University of Maryland, Maryland, Response to Request for Additional Information in Regard to Remaining Technical Specifications, July 5, 2011	ML11189A065
University of Maryland, Response to Request for Additional Information Regarding Dose to General Public in the Event of Maximum Hypothetical Accident (MHA), July 29, 2011	ML11215A130
University of Maryland - Request for Additional Information Regarding the License Renewal for the Maryland University Training Reactor (Related to May 2, 2011) (TAC No. ME1592), August 26, 2011	ML112130086
University of Maryland - Request for Additional Information Regarding Dose Calculations, September 8, 2011	ML112380621
University of Maryland, Request for Additional Information Regarding License Renewal for Maryland University Training Reactor (TAC No. ME1592), September 28, 2011	ML11277A026
University of Maryland - Request for Additional Information Regarding the License Renewal for the Maryland University Training Reactor, October 12, 2011	ML11286A337
University of Maryland - Response to NRC Request for Additional Information Regarding the License Renewal for the Maryland University Training Reactor, February 9, 2012	ML12060A344
University of Maryland - Request for Additional Information Re: Reactor Operator Requalification Program, February 15, 2012	ML102660113
University of Maryland - Request for Additional Information Re: Reactor Operator Requalification Program (TAC No. ME2431), March 14, 2012	ML12081A017



University of Maryland, Request for Additional Information Regarding the License Renewal for the Maryland University Training Reactor ("MUTR"), May 22, 2012	ML12172A139
University of Maryland - Request for Additional Information, Re: Reactor Operator Requalification Program (TAC ME2431), July 16, 2012	ML121870709
University of Maryland, Response to Request for Additional Information Regarding the License Renewal for the Training Reactor ("MUTR"), August 29, 2012	ML12255A400
University of Maryland - Review and Approval of the Requalification Training Program for Licensed Operators (TAC No. ME1592), November 15, 2012	ML12306A112
University of Maryland - License Renewal for the Maryland University Training Reactor (MUTR), TAC ME1592), March 21, 2013	ML13095A006
University of Maryland, College Park Request for Additional Information Re: Financial Update for License Renewal for the University of Maryland (TAC ME1592), June 2, 2014	ML14141A630
University of Maryland Training Reactor - Report on AR-41 Mitigation, June 18, 2014	ML14176A078
University of Maryland - Request for Additional Information Re: Review of the Argon-41 Radiological Dose Assessment for License Renewal (TAC ME1592), September 25, 2014	ML14266A658
University of Maryland, Response to Request for Additional Information Regarding Financial Update for License Renewal, November 25, 2014	ML14342A563
University of Maryland - Request for Additional Information Re: Review of the ARGON-41 Radiological Dose Assessment for License Renewal of the Maryland University Training Reactor (TAC No. ME1592) November 25, 2014	ML14332A300
University of Maryland - Revised Physical Security Plan For License Renewal of The Maryland University Training Reactor (TAC ME1592) License No. 70; Docket No. 50-166, December 19, 2014	ML14364A086
Letter Request for Additional Information RE: Physical Security Plan Review for License Renewal (TAC No. ME1592), March 12, 2015	ML15058A276
University of Maryland- Request for Additional Information for License Renewal of the Maryland University Training Reactor (TAC No. ME1592), August 21, 2015	ML15083A383
University of Maryland - Request for Additional Information for License Renewal of the Maryland University Training Reactor Pertaining to Thermal Hydraulics, September 10, 2015	ML15219A471
University of Maryland - Request for Additional Information for License Renewal Pertaining to Thermal Hydraulics, December 2, 2015	ML15349A894
University of Maryland - Response to Request for Additional Information for License Renewal, January 5, 2016	ML16008A072
University of Maryland - Request for Additional Information Re: For the Renewal of Facility Operating License No. R-70 the Maryland University Training Reactor Docket No. 50-166, February 29, 2016	ML16061A003

UNIVERSITY OF MARYLAND - Request for Additional Information Re: For the Renewal of Facility Operating License No. R-70 the Maryland University Training Reactor Docket No. 50-166, November 17, 2016	ML16323A447
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Dated at Rockville, Maryland, this 16<sup>th</sup> day of December 2016.

For the Nuclear Regulatory Commission.

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