UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD
ARLINGTON TX 76011-4511

November 12, 2015

Mr. Don Burman
Department of Veterans Affairs
Nebraska-Western Iowa Health
Care System
4101 Woolworth Avenue
Omaha, NE 68105

SUBJECT: NRC INSPECTION REPORT 050-00131/15-001

Dear Mr. Burman:

This letter refers to the inspection conducted on September 21-23, 2015, at your facility located in Omaha, Nebraska. The purpose of the inspection was to determine whether decommissioning activities were being conducted safely and in conformance with the U.S. Nuclear Regulatory Commission (NRC) requirements. The preliminary results of the inspection were discussed with members of your staff at the conclusion of the onsite inspection on September 23, 2015. A telephonic exit was conducted with Mr. Daniel McVicker of your staff on October 15, 2015.

During this inspection, NRC staff examined activities conducted under your license as they relate to public health and safety to confirm compliance with the Commission's rules and regulations, and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The enclosed report presents the results of this inspection.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's documents system (ADAMS), accessible from the NRC's Web site at https://www.nrc.gov/reading-rm/adams.html. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction.

Should you have any questions concerning this inspection, please contact Dr. Gerald Schlapper, Health Physicist, at 817-200-1273 or the undersigned at 817-200-1191.

Sincerely,

/RA/

Ray L. Kellar, P. E., Chief
Repository and Spent Fuel Safety Branch
Division of Nuclear Materials Safety

Docket No: 050-00131
License No: R-57

Enclosure:
NRC Inspection Report 050-00131/15-001
w/Attachment: Supplemental Information

Should you have any questions concerning this inspection, please contact Dr. Gerald Schlapper, Health Physicist, at 817-200-1273 or the undersigned at 817-200-1191.

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Distribution: See next page

ADAMS ACCESSION NUMBER: ML15316A495

X SUNSI Review By: GAS		ADAMS **X** Yes ☐ No	**X** Publicly Available ☐ Non-Publicly Available		**X** Non-Sensitive ☐ Sensitive	
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NAME	GASchlapper	DLStearns	RLKellar			
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Letter to D. Burman from R. Kellar dated November 12, 2015

SUBJECT: NRC INSPECTION REPORT 050-00131/15-001

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Robert Evans, RSFS
Gerald Schlapper, RSFS
Donald Stearns, RSFS

Ms. Jean Stothert
City of Omaha
Office of Mayor
1819 Farnam Street, Suite 300
Omaha, NE 68183

Ms. Judy Martin, Deputy Director
Division of Public Health
Department of Health and Human Services
P.O. 95007
Lincoln, NE 68509-5007

Dr. Frederick Hamel, Acting ACOS
Veterans Affairs Medical Center
4101 Woolworth Avenue
Omaha, NE 68105

Mr. Will Ackerman, Public Affairs Officer
Veterans Affairs Medical Center
4101 Woolworth Avenue
Omaha, NE 68105

Mr. Daniel McVicker
Veterans Affairs Medical Center
4101 Woolworth Avenue
Omaha, NE 68105

Dr. Timothy O'Leary, Deputy CRADO
Department of Veterans Affairs
Office of Research and Development (ORD)
810 Vermont Ave, NW
Mail Code 10P9
Washington, DC 20420

Ms. Peggy (Margaret) Hannon
Director of Operations
Department of Veterans Affairs
Office of Research and Development (ORD)
810 Vermont Ave, NW
Mail Code 10P9CS
Washington, DC 20420

Mr. Matthew Verna, COTR
Department of Veterans Affairs
Office of Research and Development
810 Vermont Ave. NW
Mail Code 10P9F
Washington, DC 20420

Mr. Chandra Josie
Department of Veterans Affairs
ADD LOCATION HERE
Washington, DC 20001

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	050-00131
License:	R-57
Report:	050-00131/15-001
Licensee:	Department of Veterans Affairs
Location:	Alan J. Blotcky Reactor Facility Omaha, Nebraska
Dates:	September 21-23, 2015
Inspector:	Gerald A. Schlapper, PhD, CHP, Health Physicist Repository and Spent Fuel Safety Branch
	Donald L. Stearns, Health Physicist Repository and Spent Fuel Safety Branch
Approved by:	Ray L. Kellar, P. E., Chief Repository and Spent Fuel Safety Branch Division of Nuclear Material Safety

Enclosure

EXECUTIVE SUMMARY

Department of Veterans Affairs
NRC Inspection Report 050-00131/15-001

This inspection was a routine, announced inspection of decommissioning activities being conducted at the Alan J. Blotcky Reactor Facility (AJBRF) in Omaha, Nebraska. In summary, the licensee was conducting site activities in compliance with regulatory and license requirements.

Organization and Staffing

The licensee maintained staffing in accordance with license requirements (Section 1.2.a)

Radiation Protection

The licensee implemented its radiation protection program in compliance with 10 CFR Part 20 requirements and the license. Occupational exposures were low, a small fraction of the regulatory limits. (Section 1.2.b)

Radioactive Waste Management

The licensee had prepared compliant containers for shipping of waste material. There were no shipping operations in progress during the inspection. (Section 1.2.c)

Emergency Preparedness/Fire Protection

The licensee had emergency response programs in effect that were appropriate for the current mode of plant operation. (Section 1.2.d)

REPORT DETAILS

Site Status

Operating License R-57 was issued to the Department of Veterans Affairs (VA) during June 1959. At that time, the licensee was authorized to operate the TRIGA research reactor at a power level not to exceed 10 kilowatts (thermal). The power level was subsequently increased to 18 kw (t) during 1963 and 20 kw (t) during 1991. The reactor is located in the basement of a wing of the Omaha Veteran's Administration Medical Center. The reactor was permanently shut down November 5, 2001. The reactor fuel and fission chambers were transferred offsite to the US Geological Survey (USGS) Training, Research, Isotopes, General Atomics (TRIGA) reactor in Denver, Colorado during June 2002 and the startup sources were transferred offsite during 2003.

The licensee submitted a decommissioning plan and requested termination of the license by letter dated September 21, 2004 (ML042740512) as required by 10 CFR 50.82(b)(1). The licensee submitted a site radiological characterization report to the NRC in April 2006 (ML061140054). This report documented a radiological survey that was completed in February 2003. This characterization, conducted by a contractor, Duratek, Inc., included rooms, ventilation systems, drainage systems, cooling systems, storage areas, the reactor structures, and outside areas, as well as a historical site assessment. NRC requested additional information from the licensee by letter dated May 13, 2008 to further support conclusions and objectives (ML081080302, ML11250A056). A revised site characterization report was submitted to NRC in August 2011 (ML1255A334, ML11250A056). The licensee submitted a letter dated May 21, 2014 (ML14150A405) and a supplemental letter dated November 12, 2014 (ML14150A406) requesting an amendment to Facility License No. R-57 to incorporate a Decommissioning Plan (DP). The DP, completed by the VA's design and oversight contractor, AECOM Technical Services (AECOM), proposed decontamination of the facility, dismantlement of the reactor, and termination of the facility license with no restrictions on future site use (ML15299A385). Regulatory requirements for the contents of DPs for research and test reactors are provided in 10 CFR Section 50.82(b) (4). After review by the NRC in accordance with 10 CFR 50.82(b) (5), the application was approved and by letter dated January 8, 2015 Facility License R-57 was amended (Amendment 12) to incorporate the DP into the license (ML14318A872). By letter dated November 4, 2015, the NRC approved the final status survey plan for the facility (ML15302A508).

The licensee began active decommissioning activities in May 2015, utilizing a decommissioning contractor, Northstar. Initial activities included control console removal and asbestos abatement. At the time of inspection most asbestos abatement had been completed and the asbestos waste, containing no radioactive component, was stored onsite, awaiting burial at a local landfill authorized to accept asbestos containing waste. Major component removal was complete. Pool water had been removed and after analysis to ensure compliance with limits of 10 CFR 20, Appendix B, Table 2, the water was discharged to the sanitary sewer in accordance with 10 CFR 20.2003. Use of a dilution factor applicable to discharges from the Hospital facilities was not required as levels found during sampling activities met the limits without further credit for dilution. Survey of the cylindrical pool area to include drilling of core samples was underway during the inspection.

1. Research and Test Reactor Decommissioning (69013)

1.1 Inspection Scope

The inspector evaluated the licensee's decommissioning activities to ensure that the licensee was conducting decommissioning activities in compliance with regulatory and license requirements to include the decommissioning plan.

1.2.a Organization and Staffing

The inspectors reviewed licensee's organization and staffing to ensure compliance with the license to include the decommissioning plan.

Observations

The licensee's organizational requirements are presented in Technical Specification (TS) Figure 6-1, "Facility Organization." Positions continued to be filled by hospital staff, including management level positions. As the reactor is shut down and fuel removed from site, there are no licensed reactor operators on staff. Radiation safety functions are implemented by the hospital radiation safety officer and the reactor director/supervisor with support from the oversight contractor, AECOM, supporting the decommissioning effort.

Section 6.7 of the TS provides reporting requirements. Section 6.7.2(2) states that a written report is required to be submitted to the NRC within 30 days for permanent changes in facility organization involving Level 1 or 2 personnel. By letter of March 23, 2015 the licensee noted that a permanent Director for the Nebraska Western Iowa Health Care System (NWIHCS), Mr. B. Don Burman, had been named with an effective date of March 24, 2015 (ML15092A137). Also named in a separate letter of the same date was a new Assistant Chief of Staff for Research (ACOS/R), Dr. Frederick Hamel, with an effective date of April 1, 2015 (ML15092A138). The ACOS/R serves as Chair of the Reactor Safeguards Committee (RSC).

In the NRC approved Decommissioning Plan (DP) the licensee committed to compliance with the NRC license and all applicable regulatory requirements during decommissioning. The licensee in the DP (Section 8) recognized the continuing need for management control and oversight during decommissioning activities. Figure 8.1 of the DP illustrates the Omaha VA Medical Center (VAMC) oversight of the decommissioning activities and the reporting relationships. The inspector reviewed the current on-site staffing and found it to comply with the commitments made in the DP.

The Omaha VAMC Reactor Safequards Committee (RSC) has overall responsibility for radiation safety and adherence to the reactor license requirements. The RSC reports to the Omaha VAMC Director through the Assistant Chief of Staff for Research (ACOS/R). The inspector noted that the RSC reviews decommissioning procedures, decommissioning activities that involve radioactive materials, and radiological controls. The RSC is also charged to evaluate changes to the DP to determine if any un-reviewed safety issues exist. The RSC is required to meet at least on an annual basis per Technical

Specification 6.22 with a quorum of members present. The inspector reviewed meeting minutes of the RSC and noted that meetings were conducted on January 23, 2015 and August 5, 2015 with additional input requested by the Reactor Manager throughout the year. The inspector noted that a quorum was present for the meetings and individuals were responsive to requests for review by the Reactor Manager.

Conclusions

The inspector concluded that the licensee maintained site staffing in accordance with license and regulatory requirements and that audits and safety reviews were conducted as required.

1.2.b Radiation Protection Program

The inspectors reviewed the licensee's implementation of its radiation protection program to ensure compliance with 10 CFR 20.

Observations

The inspector reviewed a selection of Radiological Survey forms for equipment and material to be released from the site. Survey forms reflected measurements in units of disintegrations per minute per 100 square centimeters of removable alpha, removable beta, total alpha, total beta, gross gamma in units of counts per minute (CPM) and beta-gamma dose rate, micro R/hour. Typical surveys of alpha and beta activity reflected values less than minimum detectable activity. Dose rates measured were essentially background levels, in the micro R per hour level. Measurements on reactor components removed from the pool area were somewhat higher, as would be expected, with maximum values in the range of 100 to 175 millirem per hour at contact. The inspector also noted that airborne activity measurements were taken during work activities that had the potential for release of airborne activity, such as removal of equipment from the bridge and pool. In order to control air flow out of the reactor facility, and minimize the potential for any airborne radioactivity from flowing into the basement of the hospital, the decommissioning contractor utilizes two HEPA filtration units to provide negative ventilation to the reactor facility. Air within the reactor facility is continuously monitored for airborne activity with the use of two continuous air monitoring units. The filtration units discharge filtered air to the outside of the hospital. All documents reviewed by the inspector supported that there were no releases of activity that would contribute to an occupational or public exposure exceeding regulatory limits.

During the inspection, as the contractor was conducting a routine dose rate survey in the reactor room area, the inspector validated the contractor's measurements using an NRC issued Thermo Scientific Rad Eye B20, NRC Serial Number 096531, Calibration Due Date; September 24, 2015. Results of the measurements agreed within 10 percent which is within instrument accuracy variations.

The inspector noted that the contractor utilized a Job Hazard Analysis (JHA) approach to ensure safety during operations that potentially involved radioactive

material or a potential for exposure to radiation. Analysis presented on the JHA form included a description/title of the job or task, recommended personal protective equipment, any special equipment needed to include testing and monitoring requirements and any special precautions. The form also specified the sequence of events, potential accidents or hazards and appropriate preventive measures. When necessary training was conducted prior to initiation of work and attendance to training documented. The inspectors were provided training as appropriate prior to entering the reactor room area.

The licensee does not conduct occupational monitoring, bioassay and whole-body counting programs that are specific to the reactor facility. The licensee suspended the programs, as allowed by 10 CFR 20.1502, due to the lack of work involving radioactive materials in the reactor facility. The reactor director continues to be occupationally monitored due to his activities related to the broad scope license of the medical facility.

During a review of DP Section 10.2, Monitoring Program, the inspectors identified an issue associated with direct radiation monitoring. Section 10.2.1 of the DP states, in part, that direct radiation levels in the AJBRF will be monitored by VA with Thermoluminescent Dosimeters or OSLs continuously positioned at a minimum of five pre-determined locations in the environment outside the AJBRF. (OSL is an Optically Stimulated Luminescent dosimeter.) At the time of the inspection, the licensee was using 3 OSLs and one electronic dosimeter to monitor ambient gamma radiation levels. One of the five specified locations, radioactive waste loading, was not being monitored by the licensee due to the fact that radioactive waste loading evolutions had not commenced. During a review of the remaining 4 locations specified in the DP, the inspectors noted that the licensee did not have a thermoluminescent dosimeter or OSL placed in the optometry clinic directly above the reactor facility, and (2) that the background, or control dosimeter, was not placed in a location at least 100 meters from the AJBRF.

The optometry clinic was provided with a fully calibrated electronic dosimeter on August 25, 2015. The dosimeter was set to “0” when it was placed in the clinic. This dosimeter has a digital display and provided real-time indication of the accumulated radiation in the clinic. At the time of the inspection on September 23, 2015, the dosimeter indicated an accumulated dose of 4.8 millirem. This reading is consistent with background radiation levels in the facility.

The background, or control dosimeter, was located in the office of the Radiation Safety Officer along with control badges for other departments in the hospital. This office was approximately 60 meters from the AJBRF instead of the prescribed 100 meters.

In both instances, the licensee took immediate action to comply with the requirements stated in the DP. An OSL was placed in the optometry clinic in addition to the electronic dosimeter and the background dosimeter was relocated to an office at least 100 meters from the reactor facility. Background radiation levels at the Radiation Safety Officer office were consistent with the new location for the background dosimeter as verified by the inspectors.

Since the optometry clinic was continuously monitored with an electronic dosimeter, and the background radiation levels at the Radiation Safety Officer office were consistent with the radiation levels at the new location for the background dosimeter as verified by the inspectors, the NRC has determined that this issue is a minor violation of the regulatory requirements. In accordance with Section 2.3.1 of the NRC Enforcement Policy, this failure constitutes a violation of minor significance and is not subject to formal enforcement action.

The licensee implemented its radiation protection program in compliance with requirements of 10 CFR Part 20. Occupational exposures were essentially at background levels, a small fraction of regulatory limits. One minor violation was noted in that the selection and placement of dosimeters did comply with commitments made in the approved Decommissioning Plan.

1.2.c Radioactive Waste Management

During the inspection, the inspector reviewed the licensee's handling and storage of radioactive wastes to ensure compliance with license requirements.

Observations

The licensee continues to monitor, segregate and store waste material that contains radioactive material in a room separated from but adjacent to the reactor room. Non-radioactive waste, containing asbestos, was bagged and stored, covered with a tarp, in the reactor room prior to shipment. At the time of inspection all solid waste containing low levels of radioactivity had been collected and stored in B-25 boxes awaiting shipment to an authorized burial site. No shipments had been made as of the date of inspection. The licensee stated that personnel authorized by the Department of Transportation (DOT) would be required to sign for all shipments of radioactive waste.

Conclusions

The licensee's program for storage of solid waste material was found to be performed in accordance with license and regulatory requirements.

1.1.d Emergency Planning

The inspector reviewed the licensee's emergency planning program for compliance with regulatory and license requirements.

Observations

Conduct of an emergency exercise is an annual requirement. The licensee noted that for 2013 an exercise was conducted on December 6, 2013. In compliance with the license requirement, the licensee conducted a Reactor Water Alarm Exercise for the reactor facility on December 5, 2014 to test communication, security and staff response to an abnormal condition. As stated by the licensee the goal of the exercise was to test the adequacy of existing plans, policies, procedures and individual roles in the event or receipt of a water alarm in the area of the reactor facility. Prior to the exercise participants were

provided a tour of the facility to include alarm indications. Also noted to the participants was the fact that decommissioning of the reactor facility was to begin in 2015. Participants in the exercise were the reactor manager, safety officer, industrial hygienist, VA police emergence managers and the public affairs officer. The licensee noted that difficulty was experienced in contacting the hospital radiation safety officer but response of other parties was timely.

Conclusions

The licensee conducted emergency planning and conducted drills in accordance with license requirements.

2. Exit Meeting

The inspectors reviewed the scope and preliminary findings of the inspection during the exit meeting conducted at the conclusion of the on-site inspection of September 23, 2015. The licensee did not identify as proprietary any information provided to or reviewed by the inspectors. The inspectors conducted a telephonic exit call with the licensee on October 15, 2015.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Brautigam, ENERCON (Contractor) Health Physicist
H. Cope, VA Resident Engineer
F. Hamel, VA, ACOS for Research
C. Higgins, AECOM (Contractor) Project Engineer
C. Josie, VA Project Manager
D. McVicker, VA Reactor Manager
M. Mountain, NORTHSTAR (Contractor) Site Supervisor

INSPECTION PROCEDURES (IP) USED

IP 69013 Research and Test Reactor Decommissioning

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AJBRF	Alan J. Blotcky Reactor Facility
ACOS/R	Assistant Chief of Staff for Research
CFR	*Code of Federal Regulations*
CPM	Counts Per Minute
DOT	Department of Transportation
DP	Decommissioning Plan
IP	NRC Inspection Procedure
JHA	Job Hazards Analysis
NWIHCS	Nebraska Western Iowa Health Care System
NRC	U.S. Nuclear Regulatory Commission
OSL	Optically Stimulated Luminescence
RSC	Reactor Safeguards Committee
RSO	Radiation Safety Officer
TRIGA	Training, Research, Isotopes, General Atomics
USGS	US Geological Survey
VA	Veterans Affairs
VAMC	VA Medical Center