

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No.: 50-142/92-01
Docket No.: 50-142
Licensee: University of California at Los Angeles
Los Angeles, California 90024
Facility Name: UCLA Research Reactor Site
Inspection at: UCLA Campus

Inspection Conducted: August 27-29, 1992

Inspector: M. Callis
M. Callis, Senior Radiation Specialist

9/22/92
Date Signed

Approved by: Robert J. Pate
Robert J. Pate, Branch Chief
Safeguards, Emergency Preparedness
and Non-Power Reactor Branch

9/28/92
Date Signed

Summary:

Areas Inspected: Special announced inspection of the licensee's radiation protection program during the implementation of Phase II of the Decommissioning Plan. Inspection procedure 83743B was addressed.

Results: The licensee's performance of the program areas inspected was determined to be capable of accomplishing all of their safety objectives. Strengths were noted in: the ALARA program, contamination control program, communications, documentation of decommissioning activities, organization and staffing, training, and in the performance of decommissioning activities. No violations or deviations were identified.

DETAILS

1. Persons Contacted

a. Licensee

- *J. M. Takahashi, Radiation Safety Officer
- *A. Huda, Senior Reactor Health Physicist
- *L. Kowalski, Executive Officer, School of Engineering and Applied Sciences
- *B. Johns, Project Manager, Capitol Programs

b. Nuclear Energy Services (NES)

- *L. G. Penny, Phase II Decommissioning Project Manager
- E. W. Abelquist, Project Manager, Radiological Services

c. Dames & Moore

- *S. C. State, P.E., Nuclear Engineer

*Denotes those individuals present at the exit interview.

In addition to the individuals noted above, the inspector met and held discussions with other members of the vendor's and licensee's staff.

2. Radiation Protection (83743)

Telephone discussions held with the licensee during the later part of July 1992, disclosed that Phase II of the decommissioning would start on or about August 10, 1992 and was expected to be completed within an approximate 120 day period. The Region V staff was informed that Phase II decommissioning was to be performed by a private contractor and that the contractor selected had experience in the performance of similar operations at other facilities.

On July 14, 1986, an NRC Order authorizing Phase I of the dismantling of the UCLA Argonaut Reactor was issued. Decommissioning activities associated with Phase I are addressed in Region V Inspection Report 50-142/89-01. Phase I was successfully completed for approximately one fifth of the person-rem goals that had been established. The inspection report identified that the requirements of a three party Settlement Agreement had been met with the exception of approximately 5250 pounds of slightly radioactive lead. The licensee was unable to find a burial site that would accept the lead by the cut-off date agreed to in the Agreement.

On July 28, 1989, an NRC Order was issued authorizing Phase II of facility dismantlement and disposition of component parts of the UCLA Argonaut Reactor Facility in accordance with the UCLA application dated June 10, 1988, and supplemented on June 21, 1988, December 7, 1988, and March 31, 1989.

An examination of Phase II decommissioning was conducted during this inspection for the purpose of determining compliance with the requirements of the NRC approved Decommissioning Plan (DP), 10 CFR Part 20, licensee procedures and recommendations outlined in various industry standards. In addition, the inspector conducted tours of the licensee's facility while decommissioning activities were in progress.

The examination included a review of the decommissioning schedule, personnel training records, personnel exposure records, radiation detection instrument calibration records, log entries, daily and weekly decommissioning status reports, Radiation Work Permits (RWP) and implementing procedures. The inspector also reviewed the qualifications of the licensee's and contractor's staff. The inspector interviewed workers during the tours.

The following observations were made:

- a. The licensee had assigned two highly qualified individuals to provide constant surveillance and to perform quality assurance activities over all decommissioning work.
- b. The contaminated lead left over from Phase I had been shipped to an approved burial ground for disposal.
- c. Radiation detection instruments observed during the tours were found to be in current calibration.
- d. Personnel were cognizant of the RWP's and implementing work procedures. The inspector reviewed ten RWP's and eighteen procedures that had been implemented for the decommissioning project.
- e. Personnel exposures were very low. It appears like the entire Phase II decommissioning project will be completed for less than 1.5 person-rem. An ALARA goal of 8 person-rem had been established for the project.
- f. Loose surface radioactive contamination levels and airborne concentrations resulting from the demolition of the irradiated monolith and pedestal were mostly non-detectable. On two accessions levels slightly higher than background were obtained. Personnel performing the demolition wore protective clothing and respiratory equipment. The activated monolith and pedestal surfaces were maintained wet during the demolition process to control the dust and the radioactive airborne activity level. All liquids generated from this process were collected and sampled prior to disposal. Tents equipped a HEPA filtered exhaust system, meeting the requirements prescribed in 10 CFR Part 20.103, had been installed to accomplish the demolition of the monolith and pedestal, and removal of the liquid collection system in the pit.

The respiratory program was examined and was found to be in

compliance with 10 CFR Part 20.103 requirements and were consistent with the guidelines prescribed in NUREG-0041, "Manual of Respiratory Protection Against Airborne Radioactive Materials." Training, medical, and fit test records for qualified respiratory users assigned to the decommissioning project were all found to be current.

- g. Posting and labeling were found to be in compliance with 10 CFR Parts 19.11 and 20.103
- h. Records involving the shipment of two shipments of radioactive wastes generated from the demolition of the monolith and pedestal were reviewed and were found to be consistent with Department of Transportation (DOT) regulations prescribed in 49 CFR Parts 100-178.
- i. The qualifications and training of the decommissioning project personnel were examined and found to be consistent with the guidelines prescribed in the industry standard, ANSI/ANS-3.1, "Selection and Training of Nuclear Power Plant Personnel."
- j. All decommissioning activities observed during the inspection were consistent with the DP and 10 CFR Part 20 requirements.
- k. All decommissioning activities completed to date were well documented and maintained. These records included: survey reports, work schedules, meeting minutes, personnel exposure files, transportation of radioactive materials, and other miscellaneous documents that had exchanged between the licensee and the contractor. All of the records were legible and well organized.

In addition to the above, the inspector noted that the chain of communications between the UCLA staff and the contractor was excellent. Daily Plan-of-the-Day meetings were held each morning with all workers in attendance. Weekly decommissioning status meetings had been held by the contractor and the UCLA management staff denoted in Section 1, above. The inspector attended a weekly status meeting that was held on August 28, 1992. An agenda of various topics to discuss is prepared for each meeting. Meeting minutes are documented and issued in a final form prior to the start of the next weekly meeting.

The inspector noted that decommissioning activities were progressing approximately one week ahead of schedule at the conclusion of the inspection. Subsequent telephone discussions with the licensee after the inspection revealed that all of the monolith and pedestal had been removed and either disposed of as radioactive waste or clean waste. In addition, all of the activated steel channels, and the liquid set-up process in the pit, including the drain lines, had been removed and properly disposed of as either contaminated or clean waste. One remaining activity to be performed was the survey and release of the storage pits. The licensee expected to start their final surveys on

September 28, 1992, and complete the survey by approximately October 23, 1992, at which time the licensee will review the data and prepare a final survey report. The licensee expects to submit the final survey report to the NRC sometime between November 1-30, 1992.

The inspector determined that the licensee's radiation protection program during the decommissioning of the Argonaut Reactor was more than capable of meeting its safety objectives. The inspector also concluded that decommissioning activities met or exceeded the commitments addressed in the licensee's DP. No violations or deviations were identified.

3. Exit Interview (30703)

The inspector met with the licensee representatives, denoted in Section 1, at the conclusion of the inspection. The scope and findings of the inspection were summarized. The licensee was informed that no violations or deviations were identified.