

APR 10 1970

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File (Docket No. 50-172)

THRU: R. J. Schemel, Chief, ORB #1, DRL

SAFETY REVIEW FOR CHANGE NO. 7 TO THE TECHNICAL SPECIFICATIONS FOR THE LOCKHEED RFR

By letter dated March 18, 1970 (which superseded letter dated August 4, 1969), the Lockheed-Georgia Company requested changes to the Technical Specifications of Facility License No. A-66 for its Radiation Effects Reactor (RER). The proposed changes are to (a) eliminate an ambiguity in the previous wording relative to the use of the Fission Products Monitor (FPM) and (b) better define the conditions for personnel access to the inner exclusion area (the area within the 3000-foot fence) while the reactor is operating. The proposed FPM changes are as a result of CG Report No. 50-172/69-1, page 6, submitted on February 11, 1969, and by telephone conversation with Mr. Harry Thomas on February 27, 1969.

The change to the fission product monitoring specification clarifies the requirements for operation of the Fission Products Monitor (FPM) and establishes adequate means for monitoring, including limits, when the FPM is temporarily out of service. Surveillance will be enhanced as a result of the change.

The present specification regarding access of personnel to the exclusion area requires that personnel normally remain in the reactor control room while the reactor is operating regardless of operating configuration. The proposed change will permit personnel to enter the reactor building for the purpose of changing test specimens while the reactor is operating under limited conditions. The maximum dose rate to personnel at the sample changing station is estimated to be less than 260 mR/hr. Exposure of personnel will be limited as required by 10 CFR Part 20. Appropriate administrative controls have been established and approved by the Reactor Safety Committee.

To preclude the possibility of inadvertently elevating the reactor while it is operating and personnel are changing samples, the licensee will: (a) install a mechanically actuated limit switch device which will scram the reactor if its centerline is raised

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higher than 10 feet beneath the surface of the pool, (b) close both manually operated lift pump isolation valves before startup for runs requiring sample changes, and (c) lock out power to the lift pump. The licensee's operating procedures will require that a health physicist accompany personnel at all times within 500 feet of the reactor when it is operating under limited conditions. In addition, a radiation detector will be installed to monitor the background radiation level and provide an audible alarm in the reactor building if the level increases significantly.

The licensee's proposal provides reasonable assurance that exposure of personnel to radiation will be limited in accordance with 10 CFR Part 20.

/s/

Robert W. Goddard
Operating Reactor Branch #1
Division of Reactor Licensing

April 20, 1970

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File (Docket No. 50-172)

THRU: R. J. Schmel, Chief, ORB-1, DRL

SUPPLEMENT TO SAFETY REVIEW FOR CHANGE NO. 7 TO THE LOCKHEED
RADIATION EFFECTS REACTOR (RER) TECHNICAL SPECIFICATIONS

During my telephone conversation on April 17, 1970, with Mr. Floyd Amend and Mr. Mark Han of Lockheed-Georgia Company (L-G), Mr. Han reported that the radiation level was measured 700 feet from the reactor while it was operating at 3 MWt. With the shield tanks empty and with the reactor above the surface of the pool, the radiation level was 10 R/hr. With the shield tanks filled and with the reactor centerline 4 feet below the surface, the radiation level was 12 mR/hr. At 500 feet, these levels would be approximately 20 R/hr and 24 mR/hr. With reasonably competent health physics support, tasks of short duration can be performed in a 30 R/hr field; therefore, we should grant L-G's request to add to Technical Specification A.3 the following sentence:

"In any event, personnel will be excluded from the ground level area within 500 feet of the reactor while the reactor is operating with the core centerline less than 10 feet below the surface of the pool."

L-G has not yet designed the mechanical actuating device for lift-initiated reactor egress. It will probably consist of an arm which will be swung over the reactor when it is shut down and is 10 feet below the surface of the pool. The bypass shown in Enclosure 3-5 of L-G's March 18, 1970 submittal will permit the reactor to be raised on completion of neutron radiography work and after the last specimen has been retrieved. Although L-G has provided for administrative control of the bypass (Item 4.4, RER No. 109, Shift Supervisor's Check Sheet), L-G is willing to let the operator making the entry lockout the bypass and carry the key. L-G is also willing to lockout lift pump power in the same way.

The motor control center and the reactor lift pump are located in the equipment area on the first floor of the operations building and therefore are routinely accessible.

The audible radiation alarm will be tested with a calibrated source prior to each run requiring operator entry (Item 4.2, RER No. 109).

/s/

Roger W. Woodruff
Operating Reactor Branch #1
Division of Reactor Licensing

cc: D. J. Shovholt

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