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DATE: April 18, 1972

SUBJECT: Radioactive Operations Committee Review of the  
Intermediate-Level Waste Evaporator Facility, Building 2531  
February 17, 1972

TO: Alvin M. Weinberg; F. L. Culler

FROM: Radioactive Operations Committee

This document has been reviewed and is determined to be  
APPROVED FOR PUBLIC RELEASE.

NAME/TITLE: Leesa Laymance, ORNL TIO  
DATE: 10/27/16

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RADIOACTIVE OPERATIONS COMMITTEE REVIEW OF THE INTERMEDIATE-LEVEL  
WASTE EVAPORATOR FACILITY, BUILDING 2531, FEBRUARY 17, 1972

A subcommittee of the Radioactive Operations Committee met with the Operators of the Intermediate Level Waste Evaporator Facility on February 17, 1972, to discuss the status of the facility and its operations since the review of October 7, 1970, and reported in ORNL-CF-70-11-12. Present were:

<u>Committee Members</u>	<u>Operator</u>
P. W. Hembree	G. J. Dixon
B. Lieberman	
R. D. Seagren	

Discussion Points and Facility Status

This review was made to determine the status of the ILWEF since the last review, to discuss compliance with previously recommended changes, and to review any new items of safety significance.

Facility Status

Facility Operation - There were no significant operational changes. The type and volume of projected ILW waste will be basically the same as that presently being processed.

Approximately 5000 gallons of waste were transferred from TRU and stored in high level waste tank C-1. Operations since the last review have been without incident and the average personnel radiation exposures have been well within allowable limits.

Compliance with Previous Recommendations

A recommendation was made in the 1970 review that a system be devised for determining whether any of the steam coils in the evaporator was leaking is under study. All other Committee recommendations have been implemented.

New Items

Three items in this category were considered:

- a. Available storage in the six 170,000 gallon Gunite storage tanks as of February 29 was 201,000 gallons. In order to comply with safety practices (which require that one tank volume be available in the event of a ruptured tank) space remains for five months of operation. This statement takes into consideration that 6000 gallons of concentrate are produced per month. Also, assuming that 250,000 gallons of ILW waste are generated per month, failure of the evaporator would result in using up all available storage in less than one month. It is estimated that a spare evaporator, presently on order, would require approximately three months for installation.

Laboratory management is aware of this situation and is pressing the AEC for permission to start hydrofracturing the 259,000 gallons of concentrate now in storage.

- b. Transfer of ILW waste from Melton Valley to the Gunitite hold tank (W-5) in Bethel Valley is made through the old cast iron line. The line is pressure tested before each transfer and inspectors walk-the-line with radiation monitors during the transfer. The new stainless steel line is urgently needed.
- c. Following the formal discussion with the Operators, Committee members felt that "containment" of the crane bay area of Building 2531 should be given further consideration.

The continuous  $\beta, \gamma$  air monitor in the sample room adjacent to the crane bay actuates containment by automatically stopping the unfiltered roof ventilation fan when radioactivity is sensed. Whether the monitor can sense activity in the crane bay soon enough to prevent discharge of activity to the outside is the salient point. To provide greater assurance the new CAM in the crane bay should be connected in coincidence with the CAM in the sample room so that either one or both on sensing radioactivity would cause shutdown of the roof fan.

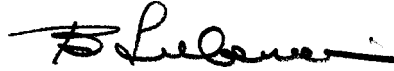
#### Recommendations and Comments

As a result of this review the Committee recommends approval for continued operation.

The Committee also makes the following additional recommendations and comments:

1. A radiation survey of Building 2531 and the immediate environment is needed to determine if storage of high level waste in Tank C-1 adversely affects the radiation background.
2. A report on the study of the "leaking steam coil problem" is requested.
3. Connect the new CAM in the crane bay into the containment circuit in coincidence with the CAM in the Sample Room.
4. The Committee recognizes the potential danger of using the old cast iron ILW waste transfer line and requests ORNL management to press for completion of the new stainless steel line.
5. The Committee also feels that ORNL management should take such steps as necessary to determine if and/or when the AEC will permit resumption of hydrofracturing. The answer is vital to continued operation of ORNL radiochemical facilities.

The Operators are requested to submit a written response on plans for implementation of the above recommendations to the Radioactive Operations Committee with a copy to Safety and Radiation Control.



B. Lieberman  
Radioactive Operations Committee



R. E. Brooksbank, Chairman  
Radioactive Operations Committee

REB:BL:bb

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