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CNIM-3911

November 30, 1961

TO: Mr. H. C. Gray

FROM: R. J. Spahl

CC: J. Krasnitski
D. E. Robison
R. A. DoakSUBJECT: Request For Design of A Fuel
Element Assembly Soak Test

W. O. 302031

CLASSIFICATION

AUTHORIZED CLASSIFIER

DATE

It is requested that the design be completed for a full-scale fuel element soak test. The test assembly must be designed to permit the fuel element test specimen to be submerged in a lithium bath under a pressure of 60 psi. The maximum temperature of the lithium is to be 2000°F.

A total of four (4) test units will be required to complete the test program. Two specimens will be exposed to a thermal cycle between 2000°F and 1400°F with the remaining two specimens being exposed to a thermal cycle between 2000°F and 1000°F. Heating will be done at the rate of 200°F/hour preceded by a 150 hour soak at 2000°F. Heat will be supplied by clam-shell type heaters. The test specimen - lithium system will be contained by a Cb-1Zr vessel which will be surrounded by a 310 steel container. The heating units will be mounted on the outside of this 310 S.S. container.

A bottom fill line is requested in order to insure a lithium system free from gas pockets. A slow lithium fill will be made up through the specimen to a level indicated by a probe in the expansion tank.

The fuel element test specimen will be furnished by R. M. Kuhns and will not be part of this design.

This document is
PUBLICLY RELEASABLE

Authorizing Official
Date: 10-27-10

SPECIAL REREVIEW FINAL DETERMINATION		Reviewers	Class.	Date
Class: U		JRP	U	04/15/82
		RCD	U	06/30/82

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Mr. H. C. Gray

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It is requested that all design work be completed by 1 March 1962.

R. J. Spahl

R. A. Doak

Approved

E. R. Lytko

RJS/kas

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