AIM

Association for Information and Image Management

1100 Wayne Avenue, Suite 1100
Silver Spring, Maryland 20910
301/587-8202

Centimeter

Inches

MANUFACTURED TO AIM STANDARDS
BY APPLIED IMAGE, INC.

1 of 1

HL-NRD-179 RD

DATE _____

December 1, 1964

(CLASSIFICATION)

DECLASSIFIED

GENERAL ELECTRIC

HANFORD ATOMIC PRODUCTS OPERATION - RICHLAND, WASHINGTON

XX

THIS DOCUMENT CONTAINS RESTRICTED DATA
DEFINED BY THE ATOMIC ENERGY ACT
AND ITS REGULATIONS, THE DISCLOSURE OF ITS
CONTENTS IN ANY MANNER TO AN UNAUTHORIZED
PERSON IS PROHIBITED.

TITLE

H-REACTOR CONVERSION RATIO ESTIMATES VS. OBSERVED VALUES

☐ OTHER OFFICIAL CLASSIFIED INFORMATION

THIS MATERIAL CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, U. S. C., SECS. 793 AND 794, THE TRANSMISSION OR REVELATION OF WHICH IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

AUTHOR

R.A. Bennett

ISSUING FILE

THIS DOCUMENT MUST NOT BE LEFT UNATTENDED OR WHERE AN UNAUTHORIZED PERSON MAY HAVE ACCESS TO IT. WHEN NOT IN USE, IT MUST BE STORED IN AN APPROVED SECURED REPOSITORY OR AN APPROVED SECURED AREA. WHILE IT IS IN YOUR POSSESSION, AND UNTIL YOU HAVE OBTAINED A SIGNED RECEIPT FROM A CLASSIFIED OFFICE, IT IS YOUR RESPONSIBILITY TO KEEP IT AND ITS CONTENTS WITHIN YOUR PREMISES. THIS PROHIBITS AND FORBIDS UNAUTHORIZED PERSONS. TRANSMITTAL TO AND FROM YOUR OFFICE OF REFERENCE IS PROHIBITED. IT IS NOT TO BE REPLICATED. IF ADDITIONAL COPIES ARE REQUIRED, OBTAIN THEM FROM THE RELATED ISSUING OFFICE. PERSONS READING THIS DOCUMENT ARE REQUESTED TO SIGN IN THE SPACE PROVIDED BELOW.

ROUTE TO: *BNW-*

PAYROLL NO.

LOCATION[illegible]

SIGNATURE AND DATE

A	60000	70000	3740
---	-------	-------	------

122

MASTER

54-3000-052 (7-59)

A.E.C.-G.E.-RICHLAND, WASH.

(CLASSIFICATION)

DECLASSIFIED

DECLASSIFIED

RL-NRD-179

This document consists of 1 page.

Classification Cancelled and Changed To

DECLASSIFIED

By Authority of DS Lewis

CG-PR-2, 4-22-94

By DK Hanson, 5-11-94

Verified By Q-E Sawyer, 5-16-94

TO: M.C. Leverett, Manager
Research and Engineering

DISTRIBUTION

1. MC Leverett
2. RA Bennett
3. 700 Files

December 1, 1964

FROM: R.A. Bennett
Reactor Physics

H-REACTOR CONVERSION RATIO ESTIMATES VS. OBSERVED VALUES

Ratios of conversion ratios of H-pile E-N fuel load to those for the natural fuel load have been estimated and inferred from experiments under a number of conditions. The estimated and inferred values are listed in the table below. Inferred ratios are both over- and-under estimated with a statistical average of approximately $\pm 3.3\%$.

Estimates for N-Reactor can be expected to be better than $\pm 3.3\%$. This expectation results from the relative simplicity of the N-Reactor target being coaxial with the driver fuel rather than distributed along the E-N load, as in H-Reactor.

H-PILE - CONVERSION RATIOS FOR THE E-N LOAD RELATIVE TO THOSE OF THE NATURAL URANIUM LOAD

	<u>Estimated</u>	<u>Inferred from Experiments</u>	<u>% Difference</u>
Pre-Block Test*	1.095	1.125	+ 3
Block Test	1.125	1.164 (central) 1.189 (whole pile)	+ 3.4
Full Pile Load (central)	1.164	1.140	- 2.1
(whole pile)	1.189	1.157	- 2.75
AVERAGE:			± 3.3

*HW-73615, RD Carter, et al.

DECLASSIFIED

DATE

FILMED

9/12/94

END