

This document consists of 3 Pages,No. 4 of 15 Copies, Series A.

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 13.-14. 100-C File
 15. PRD Central File

~~RESTRICTED DATA~~

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January 3, 1956

TO: C. L. Cowan
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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW		
1ST REVIEW-DATE:	Jan 2002	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY:	DDC 020	<input checked="" type="checkbox"/> 1. CLASSIFICATION RETAINED
NAME:	m. Bunting	<input type="checkbox"/> 2. CLASSIFICATION CHANGED TO:
2ND REVIEW-DATE:	8/30/02	<input type="checkbox"/> 3. CONTAINS NO DOE CLASSIFIED INFO
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NAME:	1/18/01/mmt	<input checked="" type="checkbox"/> 4. CLASSIFICATION CANCELED
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		7. OTHER (SPECIFY):

FAST NEUTRINO PRODUCTIONSUMMARY

At the request of the Los Alamos Neutrino Group (through C. B. Buford), a calculation was made to determine the production rate of fast neutrinos from the reaction:



The attached graph gives the production rate of fast neutrinos in number/MW-sec as a function of the power level in MW for the P reactor. The errors in the estimation are of the order of $\pm 5\%$.

DISCUSSION

The neutrino production rate was obtained from estimated tritium production rates as given in DP-56 and IPSP-55-442. The constants used in the calculation were:

$$\begin{array}{ll} \sigma - (\text{Al}) & 0.22 \text{ b} \\ \sigma - (\text{Li}^7) & 0.033 \text{ b} \\ \sigma - (\text{Li}^6) & 950 \text{ b} \end{array}$$

Energy released/fission 198 Mev

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(2)

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The information contained herein pertains to SRP production and as such must be handled not only as secret but withheld from those not authorized access to production information. Special care should be exercised in this respect in publications of the SRP portion of your experimental data.

F. E. KRUESI

By O. A. Towler
O. A. Towler

FEK:CAT:nmw

Attachment: (1)

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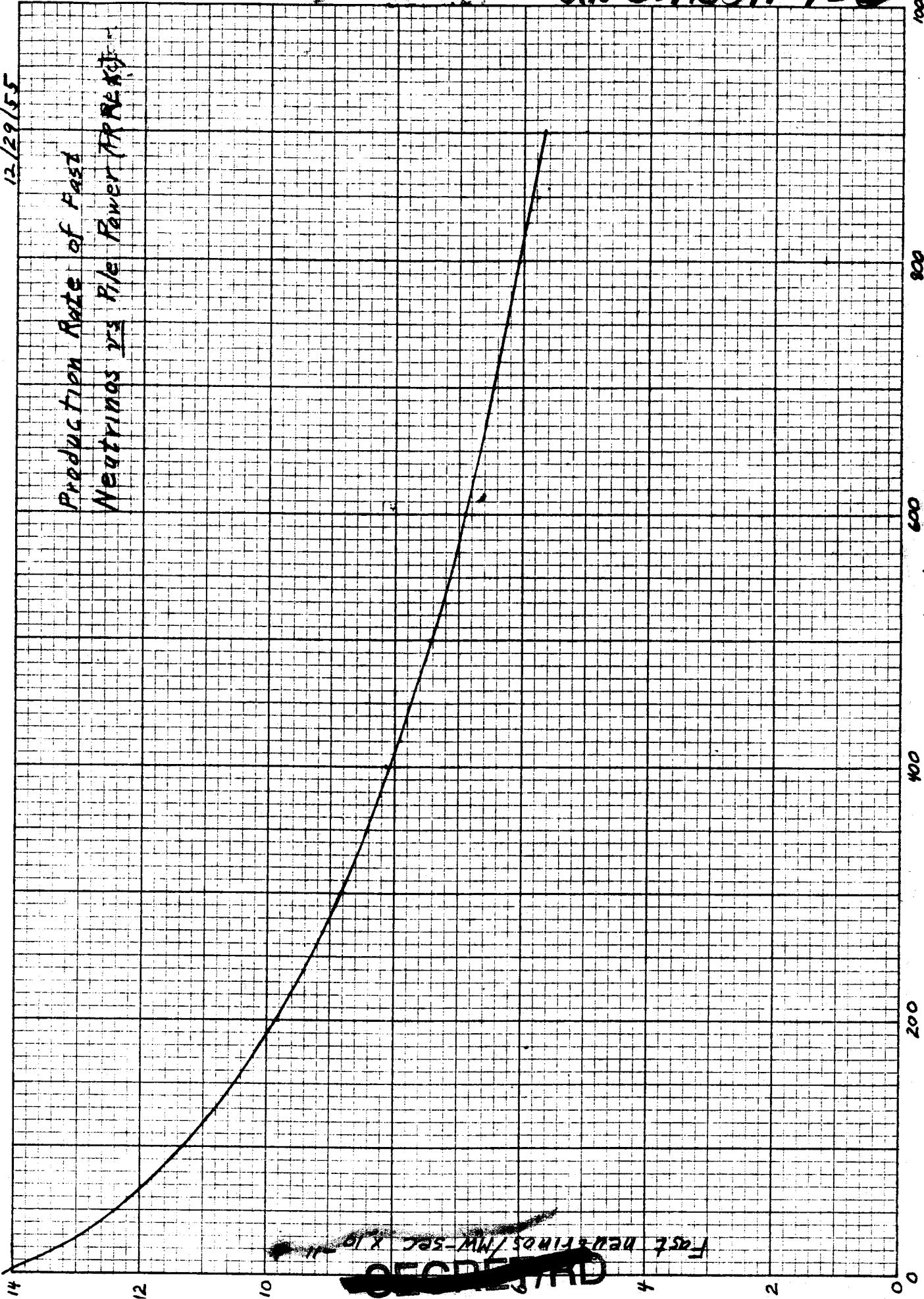
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1000

12/29/55

Production Rate of Fast
Neutrons vs Power (MW)



10 X 10 TO THE INCH
KEUFFEL & ESSER CO.

359-5DG
MANUFACTURED

Fast neutrons/MW-sec X 10⁻¹⁰

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800

600
Power Level (MW)

400

200

0