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SUPPLEMENT B TO PRODUCTION TEST IP-669-AC
DEPLETED URANIUM IRRADIATION SMALLER REACTORS

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SUPPLEMENT B TO PRODUCTION TEST IP-669-AC,
DEPLETED URANIUM IRRADIATION SMALLER REACTORS

By

P. D. Gross and K. L. Hladek

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By Authority of RM Otten

CG-PR-2, 4-11-94

By J. E. Savelly 4-17-94

Verified By Jessie Maley,
4-18-94.

June 14, 1965

HANFORD ATOMIC PRODUCTS OPERATION
RICHLAND, WASHINGTON

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SUPPLEMENT B TO PRODUCTION TEST IP-669-AC,
DEPLETED URANIUM IRRADIATION SMALLER REACTORS

OBJECTIVE

The objective of this supplement is to authorize an increase in the maximum goal exposure of the depleted uranium columns to 2400 MWD/T.

BASIS AND JUSTIFICATION

The parent documents,^{1,2} while intending to produce 25 Kg of 18 w/o Pu-240, made it clear that these would be minimum requirements and "every reasonable effort will be made to exceed both 25 Kg and 18 w/o Pu-240."

Operation to date shows excellent performance of the target element,³ and an increase in the depleted uranium goal exposures would both increase the "value" of the product, and help define any problem areas which might arise in extended irradiations of this type. Average exposure as of mid-June was approximately 1600 MWD/T.

HAZARDS

No additional or unusual hazards are introduced by this supplement to the test. Speed-of-control considerations will remain as specified in the parent document.¹ Figure 13 of the parent document shall apply for depleted uranium exposures up to 2400 MWD/T. Total control requirements are slightly more demanding at higher exposures and Figure 1 shall be used by the physicist for all total control calculations while the depleted uranium block is in the reactor.

TEST DETAILS

Goal Exposure

The depleted uranium charges will be irradiated to a maximum exposure of 2400 MWD/T. Should a depleted uranium rupture occur, the entire depleted load may be discharged at the option of the Manager, B Processing. Any reductions in the goal exposure may be specified with the concurrence of the Manager, PARDSS; Manager, Production; and Manager B Processing.

Three of the depleted uranium monitor columns shall be discharged at an average exposure of 1800 MWD/T and three at 2100 MWD/T. The specific columns for discharge shall be selected by the test authors.

¹HW-81379, Production Test IP-669-AC, Depleted Uranium Irradiation Smaller Reactors, PD Gross & KL Hladek, 6-1-64

²HW-82744, Production Test IP-694-A, Depleted Uranium Irradiation, K Reactors, PD Gross & KL Hladek, 8-17-64

³Letter, SM Graves to RE Dunn, "Depleted Uranium Irradiations," 4-30-65

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All details and responsibilities specified in the parent test¹ and not mentioned herein will remain unchanged.

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Figure 1
Temperature Effect for Total Control
B Reactor - E-D Block

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