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TITLE

LOADING AND OPERATING CONDITIONS FOR A CHARGE
OF EIGHT ENRICHED SINGLE TUBE ELEMENTS,
PT IP-544-A, SUPPLEMENT A

AUTHOR

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LOADING AND OPERATING CONDITIONS FOR A CHARGE OF
EIGHT ENRICHED SINGLE TUBE ELEMENTS,
PT IP-544-A, SUPPLEMENT A

J. T. Knight

HANFORD ATOMIC PRODUCTS OPERATION
RICHLAND, WASHINGTON

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LOADING AND OPERATING CONDITIONS FOR A CHARGE OF
EIGHT ENRICHED SINGLE TUBE ELEMENTS
PT IP-544-A, SUPPLEMENT A

Supplement A, Production Test IP-544-A (1) authorized the irradiation of 1.6 per cent enriched single tube elements in KER-1 and -2 and specified certain limitations on the operating conditions for the elements. The test required that specific operating conditions and trip settings for particular loadings would be approved by the managers of Testing, Process and Reactor Development and Process Technology Subsections prior to charging.

The purpose of this document is to provide the process tube loading, operating limits, and water shutoff times for a charge of eight 12-inch 1.6 per cent enriched single tube elements in KER-1 and -2.

Process Tube Loading

The tube loading shall consist of three 8-inch triangular perms downstream, twenty-seven 8-inch spacers, one modified 8-inch triangular perf, eight 12-inch elements, and one modified 8-inch triangular perf upstream.

Operating Limits

The maximum operating outlet temperature, high outlet temperature trip, and boiling point suppression trip are given in Figure 1 as a function of the observed tube ΔT . The low pressure trip will be set at 1225 psig to simulate N Reactor conditions (See note).

If low pressure recirculation is required, the low pressure trip will be set at 500 psig, the high outlet temperature trip set at 200 C, the low flow trip set at 32 000 lbs/hr, and the boiling point suppression trip set according to Process Standards.

Water Shutoff Times

Water shutoff times with the reactor down are given in HW-76305. (2)

NOTE: Operating conditions for these elements will conform to PT IP-638-D, Operation of KER-1, 2, 3, and 4, Simulating N Reactor Conditions, HW-79808.

J.T. Knight, Engineer
Testing

R. Neidner, Senior Engineer
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REFERENCES:

- (1) Knight, JT, Supplement A, PT IP-544-A, Irradiation of 1.6 Per cent Enriched Thick-Walled Single Tube Elements in KER-1 and -2, HW-79796, 12-12-63 (██████████)
- (2) Kratzer, WK, Loading, Operating Conditions, and Water Shutoff Times For a Charge of Twelve Enriched Single Tube Elements, PT IP-544-A, HW, 76305, 1-21-63 (██████████)

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