NOTICE

**CERTAIN DATA
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HW-7197

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By Authority of RLO CG-4

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PM Eick 10-6-92

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TO: J. D. Haider
P Department

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HW-7197

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July 28, 1947

PROCESS TUBES AT E PILE

Reflanging of the corroded rear Van Stone flanges at the B Pile after cutting 3/8-inch off the rear gun barrel should place the E Pile in a condition as good as, or better than that of the D or F Piles after their first 100,000 U.D. of operation. Based on experience at D and F this program should provide at least an additional 100,000 U.D. operation of the E Pile without major maintenance. Continued operation beyond this point may be limited by excessive graphite expansion; therefore it would be advantageous to provide such additional clearance between the gun barrel and graphite as can be easily obtained during the reflanging operation. This may be done by cutting off from the rear gun barrels more than the 3/8-inch required for reflanging the tube.

The recommended amount of additional clearance to be provided is limited by the possibility of damage to the bellows by the key in the gun barrel. If design clearances prevailed at start up, if endwise expansion in the B Pile is about 1/2-inch, and if this expansion is distributed symmetrically towards the front and rear of the pile, then the rear gun barrel could be shortened by one inch, thereby providing 5/8-inch additional gun barrel gun clearance. However, the B shields deviate from nominal dimensions so measurements of the actual clearances involved must be made on representative tubes to establish the desirable amount of shortening of the rear gun barrels.

A procedure for determining the amount which could be cut off the gun barrel is included in the Appendix. It is recommended that the P Department and Maintenance Department use this procedure for some ten to twenty tubes. The exact number would depend upon the magnitude of the variation found between tubes. A Technical Department representative would be present to advise on the specific tubes to be tested and to assist in making the measurements. It is expected that the above tests would require about one week. On the basis of these tests together with the expected graphite expansion a further recommendation can be made, by the Technical Department, of the length to cut off the rear gun barrels of all tubes to be reflanged.

MASTER

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W.R. Lewis
H. E. Lewis
100 Technical

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APPENDIX

Test Procedure for Representative Tubes in the A File

1. Measure gun barrel gun clearance (C)
2. Cut off rear Van Stone
3. Measure inlet gun barrel travel (A)
4. Measure outlet gun barrel travel (B)

Use the lower value of either A or B.
The amount that can be cut off of the gun barrel
(A or B) - C $\geq 3/8$ " - $1/8$ ".

The increase in gun barrel gun clearance (A or B) - C $\geq 1/8$ ".
 $3/8$ " is cut off for new Van Stone flange.
 $1/8$ " would be the minimum clearance between key and bellows flange.

1.1.1.1

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12/18/92