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HW--22305

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PNL 10-90

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October 15, 1951

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REMOVAL OF RUPTURED SLUG FROM TUBES 1860-D, 1479-D & 1766-D

SUMMARY

The 100-D reactor was shutdown on September 10, September 19, and September 29, 1951, to remove ruptured slugs from tubes 1860-D 1479-D and 1766-D respectively. All tubes were discharged with the charging machine using normal discharge pressures. Subsequently the tubes were swabbed and recharged with the regular production loading. Each tube required less than one hour to discharge but the reactor remained down for the minimum down time prevailing at the time of rupture. This was 26.5 hours for tube 1860-D, 27.7 hours for tube 1479-D, and 25.9 hours for tube 1766-D.

DETECTION

The ruptures were first indicated by the effluent monitoring system. Subsequent analysis of the header water samples confirmed the rupture in each case and the reactor was shutdown.

REMOVAL

The procedure for removal of the charges from each of the tubes was the same. After placing a funnel over the outlet nozzle of the tube containing the ruptured slug, the charge was pushed out, using normal forces, with the charging machine. The tubes were later swabbed and recharged with regular production metal.

DATA ON THE CHARGE

The metal in tube 1860-D was charged February 14, 1951, and had reached a concentration of 382 MWD/T. The ruptured slug was canned on December 15, 1950, on "G" line, of MR Material; processed on truck #10 and autoclaved. Investigation indicated that it was the 22nd slug from the front of the charge.

DATA ON THE CHARGE (CONT'D)

The metal in tube 1479-D was charged January 16, 1951, and had reached a concentration of 467 MWD/T. The ruptured slug was canned on December 8, 1950, on "G" line, of MR Material; processed on truck #1 and autoclaved. Investigation revealed that it probably was the 33rd slug from the front of the charge.

The metal in tube 1766-D was charged on February 14, 1951, and had reached a concentration of 439 MWD/T. The ruptured slug was canned December 15, 1950, on "G" line of MR Material; processed on truck #3 and autoclaved. Investigation determined that it probably was the 46th slug from the front of the charge.

All ruptures were cap failures.

SLUG DISPOSAL

The ruptured slugs have been canned preparatory to shipment to 111-B for further study.

R.M.U. ASPECTS

Contamination was confined to established danger zones and no over-exposures to personnel occurred.

OPERATION UNIT
REACTOR SECTION

b/m

END

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