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Subject: Further After Shutdown
Dose Measurements on the Pad

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PROJECT NERVA - REACTOR ANALYSIS TEST REQUEST

INFORMATION CATEGORY

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H. C. Workman 1/19/65
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WANL-TMI-1387

FURTHER AFTER SHUTDOWN GAMMA DOSE MEASUREMENTS ON TEST PAD

Prepared By: H. C. Workman Date: 1/19/65

Approved By: J. B. Gallagher Date: 1/19/65

NERVA TEST PROGRAM
REACTOR ANALYSIS TEST REQUEST

WANL-TMI-1387

RATR 117 Rev. 0

January 19, 1965

FURTHER AFTER SHUTDOWN GAMMA DOSE MEASUREMENTS ON TEST PAD

The measurements of the after shutdown dose rate activities on the test cell wall and pad as requested in WANL-TMI-1366⁽¹⁾ and presented in NTO-R-0017⁽²⁾ have been most helpful in gaining an understanding of the activation problem at test cell A. However, these recent data raise several additional questions which can be only answered by further measurements on the pad. These questions are:

1. Are the dose rates on the pad mainly due to wall activity, pad activity, or activity in the several sets of rails?
2. Does the dose rate on the pad fall off appreciably with distance from the pad?

In order to answer these questions and provide input for further analysis, the following measurements are requested:

1. Repeat measurements on the same x-y coordinates of the test pad (as shown in Figure 1), but at a height of 3 feet above the pad surface. This level should be more characteristic of

dose received by workers exposed during occupation on the pad and should reduce the effects of local shielding such as outrigger rails and other perturbances.

2. Make shielded measurements at (15,-10) and at (20,-10) on the pad by placing film under a lead brick to shield against wall and rail contributions.

3. Make shielded measurements on the pad at (15,-10) and at (20,-10) by shielding out rail contributions by placing a lead brick between rails and film, but allowing film to "see" the wall.

4. Repeat measurements in steps 2 and 3 also at positions (15, 10) and (20, 10) in order to see how these contributions change with distances from the wall.

REFERENCES

1. RATR 115, Rev. 0, WANI-TMI-1366, "Measurement of After Shutdown Dose Patterns on Test Pad and Test Cell Wall", H. C. Woodsum, 12/20/64
2. NTO-R-0017, "NRX-A2 Radiation Study - TCA NERVA Test Operations", B. L. Haertjens, J. R. Miller, Jan. 12, 1965

TEST CELL WALL

LOCATIONS FOR MEASUREMENTS.

(X, y) Coordinates in Feet.

X - Measurements at 3' Above Pad

O Shielded Measurements.

LOCATIONS FOR MEASUREMENTS OF AFTER SHUTDOWN ACTIVITY (DOSE)

FIG. 1