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Technical Division
General Electric Company
Hempford Works

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October 14, 1948

W. R. LITTLE

By Authority of C. A. Bauman,
1-14-92, CG-PR-2
by McHarrison, 3-25-92
Verified by T. BURKSTEIN, 3-26-92

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No. 30 - September 26, 1948

GRAPHIC EXPANSION OF THE LITTLE ENGINE

AND DEVELOPMENT REPORT
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-2-

GRAPHITE EXPANSION COMMITTEE MEETING MINUTES

Thirtieth Meeting - September 26, 1948

Attendance

H. Bellarts, E. S. Day, H. A. Fowler, S. B. Jones, W. A. Laddams, E. R. Lewis, J. L. Warren, H. W. Ritchey.

Laboratory Studies

Gas baked coke (GN) samples exposed in the pile 600 INW/c.t. in a paperose showed no expansion within the limits of accuracy of the measurements. This material had been baked at about 1100° C.

Machinery tests were made in the 101 Building on 38 bars of OB CSF graphite which had been purified at 2000° C, 2250° C, and 2500° C. The tests with carbide tools indicated no difficulties with large scale machining.

Tests indicated that the cross breaking and crushing strength of OB CSF material would be as high as the graphite in the present piles.

The reactivity of CSF material when purified at 2250° C or over was reported to be as good as graphitized purified material.

CO₂ Experiment

The nominal CO₂ concentration in the D Pile atmosphere was held at 40% during the past month. Five level measurements indicate that the center of the top shield has risen only 0.1 inches in the past six months. Even though some of the decrease in rate may be due to a saturation effect, the CO₂ addition appears to be responsible for at least part of the reduction.

- The apparent absorption of CO₂ in the graphite increased 36,000 cu. ft. during the month. No increase in thermal effects on the shielding was observed.

The use of CO₂ in the B and F Pile atmospheres was discussed. It was agreed that it would be advisable to have a project prepared within the next month to cover installation of necessary equipment at both B and F Piles. This recommendation will be referred to the 100 Area Program Committee.

Unit Motion Measurements

Project Engineering Division has been requested to prepare a project covering recommendations made at the last meeting of this committee. As this work will have a low priority completion is not expected for several months.

Vertical Rods

An instrument is being made up to measure bowing of vertical thimbles. Several

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possible measures to prevent sticking of the vertical rods such as flexible rods and off center rod guides were discussed. However, it was thought advisable to wait until distortion of the thimbles had been measured.

W. R. Lewis

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File Technology Division

WRL:ms

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