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HW-7-1948

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E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

P. O. Box 100 RICHLAND, WASHINGTON

EXPLOSIVES DEPARTMENT - TNX

A I R M A I L

J. W. TILLEY, ASSISTANT MANAGER
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EXPLOSIVES DEPARTMENT - TNX

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SE. G. J. E. O. N. 11-2-90
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W. W. B. 9-27-92

PILE POWER LEVEL

see 7-1936

Attached is copy of a memorandum prepared by the Technical Department discussing the technical considerations involved in raising Pile power above the present level of 280 M.W. At a meeting attended by W. O. Simon, B. H. Mackey, L. Squires, H. Worthington, C. N. Gross, W. E. Jordan and M. H. Smith the details of this memorandum were reviewed and the following plan proposed for operation of the piles subsequent to August 1, 1945:

Warm Inlet Water Period

<u>Date</u>	<u>River Temperature</u>	<u>B</u>	<u>D</u>	<u>I</u>
August 1	18.3°C	250	290	280
September 1	18.8°C	250	300	280
October 1	17.8°C	265	310	290

Cold Inlet Water Period

November 1	11.1°C	280	320	300
December 1	6.7°C	290	330	310
January 1	1.7°C	300	340	320
February 1	4.4°C	310	350	330
March 1	5.6°C	320	360	340
April 1	7.8°C	330	370	350

This program has taken into account the following requirements:

1. A rise of not more than 10 M.W. per step beyond 280 is considered desirable to permit close observation of the condition of the graphite and prevent sudden increases in temperature.
2. Each new level is to be explored thoroughly on one pile before the other two follow suit. D has been selected for the initial trials.
3. The outlet water temperature will be kept within the design limit of 65°C. The highest calculated normal exit temperature on this schedule is 61°C.

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4. Fluctuations in the normal expected activity in the effluent water are not thoroughly understood at present and indicate that changes in level above present experience should be made cautiously to avoid exceeding the .1 R/24 hours permitted by the Operating Standards.

Complete observations will be made following each change in level and it is anticipated that indication of unexpected behaviour could be detected in sufficient time to avoid difficulty.

Careful attention will be paid to:

1. Film Formation and Corrosion
2. Effluent Activity
3. Pile Structural Movements
4. Adequacy of Pile Shielding
5. Condition of the Graphite

It is believed that the proposed program can be carried out as outlined. Dates of level changes are approximate and would be adjusted slightly to meet operating needs. In no case would there be hesitancy in delaying the level increase to explore unexplained manifestations or to obtain additional necessary information.

W. O. SIMON, MANAGER
MANFORD ENGINEER WORKS

M. H. Smith

M. H. Smith
Production Superintendent

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**DATE
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12/18/92