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REFERENCE

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WANL-TME-III

From Ground Support Engineering

Date August 29, 1962

Subject Test Cell A Gas Storage Requirements

Astronuclear Laboratory

M. T. Johnson

cc: W. Esselman H. McCreary
H. Faught F. Retallick
R. Kaisner K. Rieke
S. Krasik S. Stein

Ref.: (a) REON TWX No. 760..1411..JG
dated 8/3/62
(b) Letter, Faught to Miller,
dated 8/24/62
(c) WANL-TME-105

Reference (a) requested that we inform AGC of the reactor run time which could be supported by the present gas storage capacity at Test Cell A.

We replied in reference (b) that additional gas storage capacity would be required and agreed to supply information on gas storage requirements by the end of the year.

On 8/28/62, S. Krasik agreed by telecon with W. House to TWX gas storage requirements to AGC by 8/29/62. These requirements would be on the upper limit and for budgeting use only. A more accurate tabulation of the gas storage requirements will be submitted by January 1, 1963.

In accord with the above, the total gas storage requirements for NRX testing including use of present storage banks are:

Hydrogen

Dewar pressurization	2000 lb.
Turbo-pump	8900 lb.
	<u>10,930 lb.</u>

This is based on maximum pressure of 3200 psi and minimum pressure of 800 psi. The total above is net hydrogen available between the two pressures given at 100°F storage temperature.

Helium

Reactor cooldown	5000 lb.
Purging	150 lb.
	<u>5150 lb.</u>

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This is based on maximum pressure of 3200 psi and minimum pressure of 300 psi. The total above is net helium usable between the two pressures given at 100°F.

Nitrogen

Reactor cooldown	100,000 lb.
Inerting	30,000 lb.
	<u>130,000 lb.</u>

This is based on maximum and minimum pressure of 3200 and 300 psi. The total is usable nitrogen between these pressures at 100°F.

The requirements for reactor cooldown are based on reference (c) except that 5000 pounds of helium instead of 4000 is requested in order to allow sufficient capacity to handle the entire initial cooldown phase with helium if this proves feasible. Reference (c) was transmitted to AGC on 8/23/62.

A. M. Poindexter, Manager
Ground Support Engineering

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