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CG-PR-2, 2-28-94

By George Miley, 4-20-94

Verified By DK Hanson, 4-20-94

May 8, 1961

O. C. Schroeder, Manager
Manufacturing Section

RECOMMENDED HIGH-TANK TEMPERATURES FOR MAINTENANCE OF HIGH-TANK BACKUP SUPPORT, REVISION 1

- Ref: (1) HW-67080, Greager, OH, "Recommended High-Tank Temperature for Maintenance of High-Tank Backup Support, 10-11-60 (Secret).
- (2) HW-68472, Benson, JL, "Production Test IP-395-I, Removal of High-Tank Discharge Line Strainer Gates, at B, D, and F Reactors," 2-13-61, (Unclassified).

Since the reference (1) document was issued, improvements in the high-tank adequacy have been effected at B, D, and F reactors through removal of the high tank strainer gates authorized under Production Test IP-395-I (2). It is the purpose of this letter to update our recommendations of high-tank temperatures required to insure

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acceptable high-tank backup support. At present, it does not appear practicable to relate the somewhat arbitrary standards of reference for backup support to process operating limits, i.e., reactor power levels, particularly as a mandatory requirement. For this reason, we have chosen at this time not to include these limits as a process standards' requirement. We believe, however, that considerable emphasis should be placed on insuring that the high-tank backup support be maintained in the maximum practical manner. The attached curves showing high-tank temperature versus reactor power level relationships satisfy the intent of our backup criteria and, through compliance, will insure that high-tank flow rates will be adequate during a reactor emergency following the loss of electrical power and steam.

Current reactor power levels are below the maxima in the attached graph for the high-tank temperatures currently being maintained. It is anticipated that bulk outlet temperature or rupture control restrictions on operating levels will preclude operation at power levels above these maxima during the remainder of this year and probably through the calendar year 1962.

It will be noted that the curve for DR reactor is somewhat lower than the curve in the reference⁽¹⁾ document. Re-evaluation of DR trip-out test data has led to some uncertainties regarding the actual DR high-tank flow rates. Therefore, a somewhat conservative flow has been used for DR reactor until a new high-tank flow test can be conducted. Recently, the high-tank lines at DR have been subjected to chemical cleaning (which will significantly improve flow rates) and a high-tank flow test is planned at DR reactor in the next few weeks. We will transmit a revised curve for DR reactor high-tank support levels upon completion of this test.

Similarly, high-tank cleaning with subsequent flow tests is planned for C reactor in the very near future. As higher C high-tank flow rates are expected following line cleaning, a revised C reactor curve will be recommended at an early date.

In addition to the line cleaning and flow tests planned at C and DR reactors, a production test to more accurately determine reactor heat decay after shutdown is planned at an early date at DR reactor. The results of this test can have a significant affect on the known high-tank adequacy at all reactors. A revision in all the curves presented in this letter can therefore be anticipated within the next two or three months.

It should be realized that the high-tank temperature requirements shown on the accompanying graphs are appropriate only so long as the high-tank line strainers can remain essentially free from plugging during an emergency. Recommended high-tank cleaning and flushing schedules are recommended in reference (2) and a revised schedule will be circulated shortly for approval as a supplement to this production test.

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There has been no attempt to factor export line backup support into the relationships presented in this letter. Review of the adequacy and reliability of the export system is now in progress and recommendations relating to this export system, if required, will be presented at a later date.

O. H. Greager

Manager,
Research and Engineering Section

OH Greager:SMG:mf

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