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October 15, 1981

Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Dresden Station Unit 2
Quad Cities Station Unit 1
Completion of Current Cycles
without ODYN Reanalyses
NRC Docket Nos: 50-237 and 50-265

- References (a): J. S. Abel letter to D. G. Eisenhut dated May 22, 1981.
- (b): D. M. Crutchfield letter to L. O. DelGeorge dated September 10, 1981.
- (c): E. D. Swartz letter to H. R. Denton dated July 27, 1981.



Dear Mr. Eisenhut:

In response to our Reference (a) request, the NRC staff concurred in Reference (b) that mid-cycle reanalyses using General Electric's ODYN transient code are not required for Dresden Unit 2 and Quad Cities Unit 1. This approval was contingent on receiving documentation that scram time performance at Dresden 2 and Quad Cities 1 is adequate to comply with ODYN Option B scram time conformance criteria if it were applied (i.e. if ODYN analyses were available and Option B was chosen).

This letter provides the requested documentation of the scram time data review and conclusions. Table 1 provides a comparison of the average 20% insertion times with the 5% significance level value (T_B) which was conservatively chosen for ease of implementation in the proposed Quad Cities 2, Cycle 6 Technical Specification changes of Reference (c). Identified in the discussion provided with the Reference (c) changes are the various conservatisms which CECO has chosen to incorporate in the selected T_B value. The largest conservatism was introduced by making T_B independent of the number of CRDs scrambled. Even with these additional conservatisms, Table 1 demonstrates that Dresden 2 and Quad Cities 1 data fall within T_B .

*Appl
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October 15, 1981

If the general form of the 5% significance criteria is applied, considerably more margin exists to T_B as indicated in Figure 1.

Please address any questions concerning this matter to this office.

One (1) signed original and fifty-nine (59) copies of this transmittal are provided for your use.

Very truly yours,

Thomas J. Rausch

Thomas J. Rausch
Nuclear Licensing Administrator
Boiling Water Reactors

Attachments

cc: Region III Inspector - Dresden
Region III Inspector - Quad Cities

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2687N

TABLE 1

Dresden 2

Cumulative avg. 20% insertion time from 12 data sets *(1977-1981)	.717 secs
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Cumulative avg. 20% insertion time during Cycle 8 to date	.722 secs
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Quad Cities 1

Cumulative avg. 20% insertion time from 15 data sets *(1976-1981)	.680 secs
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Cumulative avg. 20% insertion time during Cycle 6 to date	.680 secs
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REDY Basis

Tech. Spec. limit ('67B') for 20% insertion time	.900 secs
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ODYN Option B Basis

Mean value for 20% insertion	.710 secs
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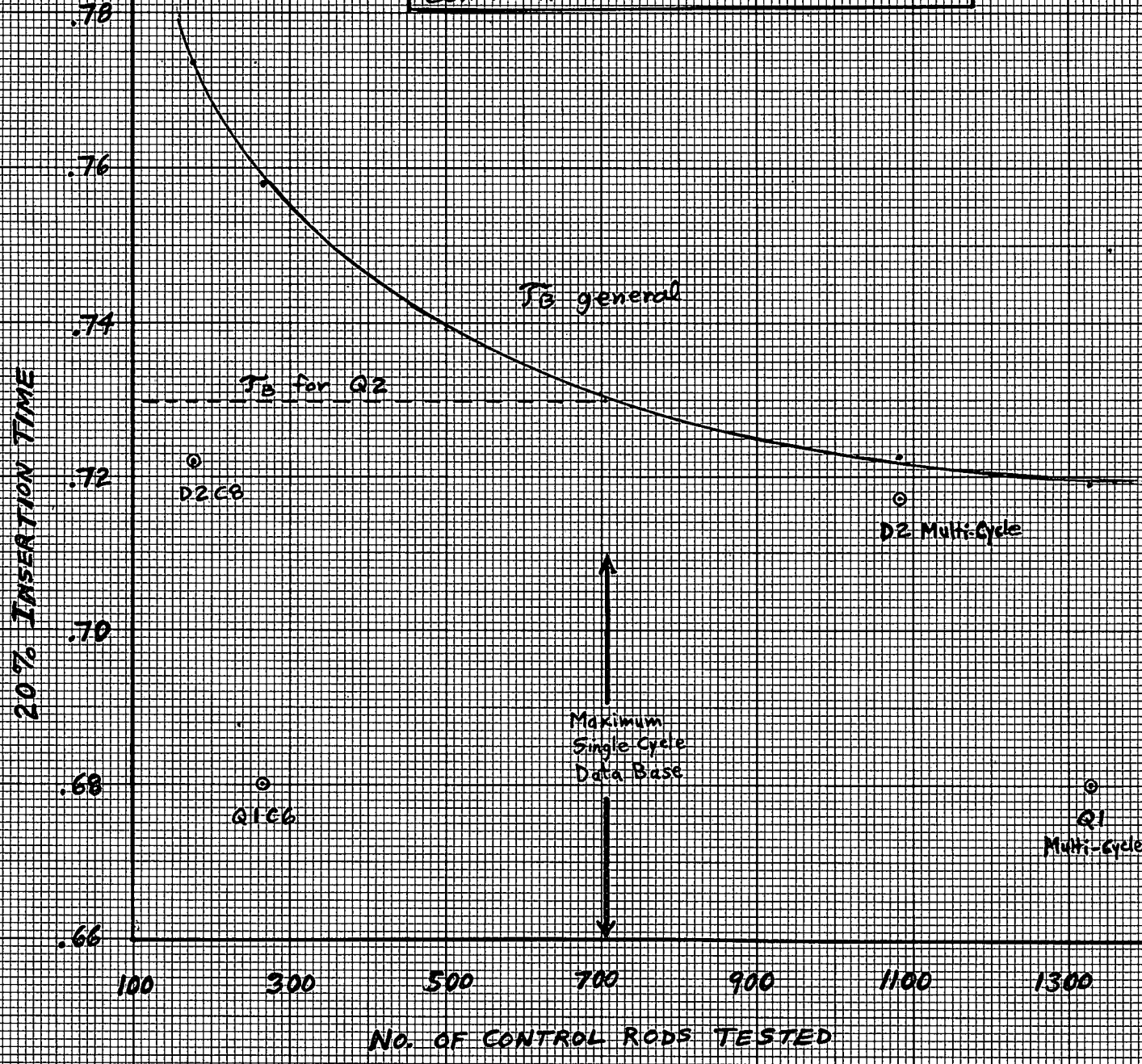
Mean plus 2σ for 20% insertion	.816 secs
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Conservative 5% significance criteria (τ_B) proposed for Quad Cities 2:	<u>.730 secs</u>
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* Only hot data (> 800 psig) has been included. A "data set" consists of the individual scram times of ~ 1/2 of the 177 control rods. Full core testing done at BOC has therefore been considered as two data sets for these averages.

FIGURE 1

Dresden 2 and Quad Cities 1
 Control Rod Scram Time Performance



— T_b general = $\mu + 1.65 \left[177 / \sum N_i \right]^{1/2} \sigma$

- - - T_b For Q2 = .73 secs

when $\mu = .688$ } based on dropout of pos. 39
 $\sigma = .052$ }
 $\sum N_i = 708$ } based on maximum single cycle data base
 (i.e. 2 year cycle at max. surveillance rate)