SNUPPS
Standardized Nuclear Unit
Power Plant System

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Executive Director

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SLNRC 84-0130 FILE: 0541
SUBJ: ECCS Check Valve Testing

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docket No.: STN 50-482

Dear Mr. Denton:

In a meeting between Kansas Gas & Electric Co. (KGE), Office of Nuclear Reactor Regulation (NRR), and Region IV personnel on November 28, 1984, KGE described the Wolf Creek preoperational test results concerning the check valves which form the high pressure to low pressure isolation barrier between the reactor coolant system and the lower pressure ECCS systems. Test results for many of these check valves did not meet the acceptance criteria given in FSAR Section 14.2.12.1.38. KGE committed in the meeting to document and submit for NRC approval the proposed resolution of this issue.

KGE has concluded that inappropriate test acceptance criteria were applied during the preoperational test. The applied acceptance criteria are based upon the architect engineer's specifications for valve purchase; a very stringent (i.e., small), cold, bench-test leakage rate was specified. The appropriate leakage criteria (attached) for in plant testing are those specified by the final draft of the Wolf Creek Technical Specification on reactor coolant system operational leakage (Section 3.4.6.2.f). Further, cold testing at pressure is acceptable per the Technical Specifications.

The attached FSAR page has been revised to reflect this conclusion plus eliminate an unnecessary test prerequisite.

NRR review and approval of this change is requested.

Very truly yours,

Nicholas A. Petrick

SLA/nld7a15
Attachment
cc: See Page 2

B001
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cc:

G. L. Koester	KGE
J. M. Evans	KCPL
D. F. Schnell	UE
J. Neisler/B. Little	USNRC/CAL
H. Bundy	USNRC/WC
W. L. Forney	USNRC/RIII
D. R. Hunter	USNRC/RIV

FINAL DRAFT

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 gpm UNIDENTIFIED LEAKAGE,

c. 1 gpm total reactor-to-secondary leakage through all steam generators not isolated from the Reactor Coolant System and 500 gallons per day through any one steam generator,

d. 10 gpm IDENTIFIED LEAKAGE from the Reactor Coolant System,

e. 8 gpm per RC pump CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig, and

f. 1 gpm leakage at a Reactor Coolant System pressure of 2235 ± 20 psig from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1.*

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE and leakage from Reactor Coolant System Pressure Isolation Valves, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any Reactor Coolant System Pressure Isolation Valve leakage greater than the above limit, reduce the leakage rate to within limits within 4 hours, or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 12 hours with an RCS pressure of less than 600 psig.

*Test pressures less than 2235 psig but greater than 150 psig are allowed. Observed leakage shall be adjusted for the natural test pressure up to 2235 psig assuming the leakage to be directly proportional to pressure differential to the one-half power.

14.2.12.1.38 Safety Injection Check Valve Test (S-03EM03)

14.2.12.1.38.1 Objectives

To demonstrate the integrity of accumulator outlet line and loop safety injection line check valves and backup check valves by performing backleakage tests. The operability of the various safety injection line check valves under their design ~~operating~~ pressure conditions is also verified.

14.2.12.1.38.2 Prerequisites

a. Required component testing and instrument calibration are complete.

b. Required electrical power supplies and control circuits are operational.

~~c. A source of compressed air and nitrogen is available.~~

c. ~~d.~~ The reactor coolant system is at normal operating ~~temperature and~~ pressure, ~~and hot functional testing is in progress.~~

14.2.12.1.38.3 Test Method

a. Check valve leak testing is performed with the reactor coolant system at normal operating ~~temperature and~~ pressure.

b. Check valve operability is performed ~~during cooldown from hot functional testing~~ by verifying flow through the check valves at reduced reactor coolant pressure.

14.2.12.1.38.4 Acceptance Criteria

a. Check valve leakage rates are within ~~design~~ limits established by Technical Specifications Section 3.4.6.2.

b. Injection line check valve operability is demonstrated by verification of flow through the check valves in each of the safety injection lines to the reactor coolant system.