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Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Reference: 1.) Letter D. G. Eisenhut to All BWR Licensees dated July 7, 1981

Dear Mr. Eisenhut:

Subject: NUREG-0803 "Generic Safety Evaluation Report Regarding Integrity of BWR Scram System Piping"

Reference 1 requested all BWR Licensees to provide plant specific responses to the guidance contained in the subject NUREG. The following information is provided for Cooper Nuclear Station in the order presented in Table 5.1 of NUREG-0803.

NRC Guidance Summary:

Periodic in-service inspection and surveillance for the SDV system.

NPPD Response:

The Scram Discharge Volume system will be included in the Cooper Nuclear Station (CNS) In-Service Inspection Program. CNS is currently working with General Electric on the development of the details of the inspection program.

NRC Guidance Summary:

Seismic design verification.

NPPD Response:

The original reactor controls calculations for the scram discharge header dated June 1, 1973 and the calculations for the insert and withdrawal lines dated August 25, 1972, both include seismic loadings.

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NRC Guidance Summary:

HCU-SDV equipment procedures review.

NPPD Response:

The relevant maintenance and surveillance procedures at CNS have been reviewed. From this review it was determined that the procedures contain appropriate cautions specifying the conditions whereby surveillance testing or maintenance may be performed on the SDV system.

NRC Guidance Summary:

Environmental qualification of prompt depressurization function.

NPPD Response:

At Cooper Station the prompt depressurization function is the Automatic Depressurization System (ADS). Of this system, only the electrical cable is located in the Reactor Building outside containment. This electrical cable is qualified for inside containment use.

NRC Guidance Summary:

As-built inspection of SDV piping and supports.

NPPD Response:

The SDV large bore essential piping (8" scram discharge header) supports were inspected, reviewed, and modified per NRC IE Bulletins 79-02 and 79-14. Several essential small bore piping supports and anchor bolts were inspected and reviewed as a statistical sample per IE Bulletin 79-02.

NRC Guidance Summary:

Improvement of procedures.

NPPD Response:

NUREG-0737 required that the Emergency Procedure Guidelines be implemented by the first refueling outage in 1982. Presently, it is the District's intent to refuel during May 1982. Inasmuch as the staff has been kept informed of the BWR Owners Group efforts to develop comprehensive EPG's, it is doubtful whether the Owners Group efforts will be completed in time to allow the District to revise the CNS Emergency Procedures and adequately implement them by the required due date. These Emergency Procedure Guidelines continue to be reviewed and revised by the Owners Group to lead the control room operator into a controlled blowdown when plant conditions indicate a reactor system leak outside the drywell. NPPD will be monitoring the Owners Group effort to determine the appropriate course of action for Cooper Station.

NRC Guidance Summary:

Verification of equipment designed for water impingement.

NPPD Response:

The District has verified that all emergency equipment that could be sprayed with water are provided with spray covers and are thus designed to operate with water impingement.

NRC Guidance Summary:

Verification of equipment qualified for wetdown by 212°F water.

NPPD Response:

See the District response (below) to the NRC guidance concerning qualification for service at 212°F and 100% relative humidity.

NRC Guidance Summary:

Verification of feedwater and condensate system operation independent of the reactor building environment.

NPPD Response:

Feedwater and condensate system electrical components are located outside the reactor building.

NRC Guidance Summary:

Evaluation of availability of HPCI-RCIC turbines due to high ambient temperature trips.

NPPD Response:

The steam lines supplying the HPCI and RCIC turbines have temperature sensing switches set at 190°F that isolate the inboard steam valve. If the north HCU failed, the majority of the water may be ported into the RCIC pump room, causing RCIC isolation. The HPCI system could be isolated if the compartment temperature rose to 190°F in the HPCI room, SW RHR Pump Room, RHR Heat Exchanger Rooms, or the Injection Valve Room. An extensive analysis would be needed to determine the feasibility of one of these compartments reaching 190^{o}F subsequent to a postulated SDV failure. The District believes such an extensive analysis is not justified.

NRC Guidance Summary:

Verification of essential components qualified for service at 212^{o} and 100% humidity.

NPPD Response:

All components in the RHR system are qualified for 212^{o}F and 100% relative humidity. All components of the HPCI system are qualified for 149^{o}F; however, these components are isolated from the reactor building environment. Components in the RCIC system are qualified to 212^{o}F and 100% relative humidity except the turbine controls which are qualified to 150^{o}F and 100% relative humidity. The nuclear instrumentation needed for shutdown is qualified to 212^{o}F and 100% relative humidity.

NRC Guidance Summary

Limitation of coolant iodine concentration to Standard Technical Specification values.

NPPD Response:

Regarding the probability of requiring operator access to the reactor building, the District accepts the staff's quantitative risk assessment (pipe break plus failure to reset scram) as being bounding. It has been determined that at CNS there is approximately 2000 feet of piping downstream of the isolation valves in the SDV System. This is consistent with the number the staff used to arrive at the SDV pipe failure frequency of 10^{-4} per plant year. In investigating the time required to reset the scram condition, it appears that most scrams at CNS (probably greater than 90%) are reset within five to ten minutes. Of the remainder, most are reset within 10 to 30 minutes with only a small number (on the order of 1 to 5%) requiring greater than 30 minutes to reset. The staff's estimate of 30 to 50% of the scrams requiring greater than 30 minutes to reset is definitely considered to be a conservative estimate of the bounding conditions.

In addition, an analysis of operating history reveals that the probability of operating at coolant activity levels in excess of those allowed by STS (.2μ Ci/gm Dose Equivalent I-131) is significantly less than 10^{-3} per reactor year. Sample data for the period (273 sample points) May 5, 1975 through September 28, 1981 were analyzed with the results shown in Table One. As these results indicate the probability of operating at coolant activity levels in excess of those allowed by STS for the seven calendar years evaluated is less than 10^{-3}. Therefore, the District has concluded that the

Standard Technical Specification coolant activity limit is not necessary.

If you have any questions regarding this response please contact my office.

Sincerely,

Jeffrey D. Weaver
for

Jay M. Pilant
Division Manager of Licensing &
Quality Assurance

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Summary of Coolant Activity Levels
Cooper Nuclear Station, 1975-1981

YEAR/OBS	Number of Observations[a]	$(\bar{x})$ Mean	$\hat{\sigma}$ Std. Dev.	$\frac{x - .2}{\hat{\sigma}}$	$P(x) > .2$[b]
ALL YEARS	273	.000229	.001745	- 114	7.63E-05
1975	29	.000036	.000053	-3,773	7.03E-08
1976	41	.000095	.000102	-1,960	2.60E-07
1977	45	.000060	.000129	-1,549	4.17E-07
1978	47	.000042	.000029	-6,895	2.10E-08
1979	47	.000819	.004172	- 48	4.39E-04
1980	35	.000269	.000753	- 265	1.42E-05
1981	29	.000173	.000043	-4,647	4.63E-08

[a]Observations include sample data for periods when the reactor is in operation.

[b]The distribution does not meet the criteria for normality at the test level of significance (α = .001); consequently the probability values are calculated using Chebyshev's inequality theorem [$P(| x - m | \geq t\sigma) \leq 1/t^2$].