ATTACHMENT 1

G. The Main Control Room Chlorine Detection System shall be operable at all times. The number of operable channels, alarm/trip setpoint, and required operator actions shall be as specified in Table 3.7-7. This capability shall be demonstrated by the surveillance requirements specified in Table 4.1-1.

TABLE 3.7 -7

MAIN CONTROL ROOM CHLORINE DETECTION SYSTEM

1		2	3	4
No.	Functional Unit	Total No. of Channels	Alarm/Trip Setpoint	Operator Action if Condition in Column 2 Cannot be Met
1.	Chlorine Detector	2	≤ 5 ppm chlorine	With one channel inoperable, restore the inoperable channel within seven days; or within the next 6 hours, initiate and maintain operation of the control room emergency ventilation system. With two channels inoperable, within one hour initiate and maintain operation of the control room emergency ventilation system.

monitor indication. The pressurizer safety valves utilize an acoustic monitor channel and a downstream high temperature indication channel. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light Water Cooled Nuclear Power Plants to Assess Plant Conditions During and Following an Accident", December 1975, and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations".

Control Room Chlorine Detection System

The operability of the chlorine detection system ensures that sufficient capability is available to promptly detect and automatically initiate protective action in the event of an accidental chlorine release. This capability is required to protect control room personnel, and is consistent with the recommendations of Regulatory Guide 1.95, "Protection of Nuclear Power Plant Control Room Operators Against an Accidental Chlorine Release," February 1975.

References

(1) FSAR - Section 7.5

(2) FSAR - Section 14.5

(3) FSAR - Section 14.3.2

(4) FSAR - Section 11.3.3

TABLE 4.1-1 (Continued)

Channel Description	Check	Calibrate	Test	Remarks
34. Loss of Power				
a. 4.16 KV Emergency Bus undervoltage (Loss of voltage)	N.A.	R	M	
b. 4.16 KV Emergency Bus undervoltage (Degraded voltage)	N.A.	R	M	
35. Control Room Chlorine Detectors	S	R	M	

ATTACHMENT 2

DISCUSSION OF PROPOSED CHANGE

BACKGROUND

NUREG-0737 Item III.D.3.4, Control Room Habitability, requires licensees to assure that control room operators will be adequately protected against the effects of the accidental release of toxic or radioactive gases and that the facility can be safely operated or shutdown under accident conditions. This discussion addresses toxic gas detection systems.

Vepco has designed and installed redundant chlorine detection systems at the Surry Power Station, Units 1 and 2, which meets the requirements specified in Item III.D.3.4. Descriptions of these modifications were submitted to NRC in Vepco's response to NUREG-0737 Post-TMI Requirements, dated December 10, 1980, as revised May 31, 1981, October 31, 1981, and May 31, 1982.

By letter dated November 1, 1983, NRC requested licensees to submit proposed Technical Specifications for certain NUREG-0737 items, including Item III.D.3.4, Control Room Habitability.

EVALUATION

As part of a special case study of chemical shipments along the James River submitted to NRC on June 30, 1981, Vepco agreed to make certain modifications at the Surry Power Station to meet the requirements of Item III.D.3.4. These modifications included installation of a redundant main control room bottled air bank, and installation of two independent chlorine gas detection systems at the main control room ventilation intake.

The current main control room ventilation system consists of a normal ventilation system, an emergency ventilation system, and a single bottled dry air bank available under accident conditions to pressurize the control room to a positive differential pressure with respect to adjoining areas of the auxiliary, turbine and service buildings. A redundant bottled dry air bank has been installed and a proposed Technical Specification will be submitted seperately to reflect that addition.

Two chlorine gas detection systems, capable of detecting less than or equal to 5 ppm and automatically isolating normal control room ventilation, have also been installed at the main control room ventilation intake. A new proposed limiting Condition for Operation and appropriate surveillance requirements consistent with the guidance provided in the staff's November 1, 1983 Generic Letter are attached.

Pursuant to 10CFR50.59, an evaluation to determine whether an unreviewed safety question exists has been made. The proposed changes do not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report. The proposed change does not affect the probability of occurrence of an accident since it serves only as an aid to operators alerting them that a hazardous condition has already occurred, and can reduce the consequences of the accident by automatically initiating protective action in the event of an accidental chlorine release.

The proposed change does not create the possibility for an accident or malfunction of a different type than any previously evaluated in the SAR.

Rather, the proposed change adds an alarm/isolation function for chlorine gas detection; this does not create any new accident type.

The proposed changes do not reduce the margin of safety as defined in the bases for any Technical Specifications. Rather, the margin of safety is considered increased by adding additional alarm/isolation functions to alert and protect control room operators from accidental chlorine releases. The human factors aspect of these alarms will be considered during Vepco's control room design review as part of our response to Item I.D.1 Control Room Design Review, of NUREG-0737.

We have also determined whether the proposed changes involve significant hazards considerations. The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (48 FR 14870). The examples of actions involving no significant hazards consideration include: ". . .(ii) A change that constitutes an additional limitation, restriction or control not presently included in the Technical Specifications; for example, a more stringent surveillance requirement." The proposed changes are encompassed by this example in that the addition of the new LCO and surveillance requirements for the chlorine detection systems constitute additional limitations not presently found in the specifications and thus are similar to the example cited above.

CONCLUSIONS

Because the proposed change does not increase the probability of occurrence or the consequences of an accident or equipment malfunction, create the possibility of an accident not previously analyzed, nor reduce a safety margin, we conclude that no unreviewed safety question exists with respect to the proposed change.

Because the proposed change is similar to an example provided by the Commission for which no significant hazards consideration exists, we conclude that the proposed change involves no significant hazards consideration.

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