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March 15, 1990

Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Catawba Nuclear Station
Docket No. 50-413
LER 413/90-11

Gentlemen:

Attached is Licensee Event Report 413/90-11, concerning TECHNICAL SPECIFICATION 3.0.3 ENTERED DUE TO AN AUXILIARY BUILDING VENTILATION SYSTEM ALIGNMENT INTERACTION WITH THE CONTROL ROOM VENTILATION SYSTEM CAUSING LOSS OF CONTROL ROOM POSITIVE PRESSURE.

This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

Tony B. Owen
Station Manager

keb\LER-NRC.TBO

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IE22
1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Catawba Nuclear Station, Unit 1	0 5 0 0 0 4 1 3	1 OF 1 0

TITLE (4) Technical Specification 3.0.3 Entered Due To An Auxiliary Building Ventilation System Alignment Causing Loss Of Control Room Positive Pressure

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
									CNS, Unit 2	0 5 0 0 0 4 1 4
0 2	1 5	9 0	9 0	0 1 1	0 0	0 3	1 5	9 0		0 5 0 0 0

OPERATING MODE (9): 0

POWER LEVEL (10): 0 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)

20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(i)	50.36(c)(1)	50.73(a)(2)(v)	73.71(c)
20.405(a)(1)(ii)	50.36(c)(2)	X 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
R.M. Glover, Compliance Manager	8 0 3 8 3 1 - 3 2 3 6

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)

		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On February 15, 1990, at approximately 1100 hours, station personnel entering the Control Room (C/R) discovered the C/R doors were more difficult to open than normal. Suspecting that the C/R Ventilation (VC) System was not maintaining the positive pressure required in the C/R, the C/R Operator was informed. An abnormal Auxiliary Building Ventilation (VA) System alignment was suspected and the C/R Differential Pressure Verification procedure was initiated. At 1230 hours, the VC System was found to be incapable of maintaining positive C/R pressure per the Technical Specifications. Unit 2 was operating at 97% power in Mode 1, Power Operation, and entered the Technical Specification 3.0.3 action statement for both trains of VC/YC System inoperability. Unit 1 being in No Mode, Core Defueled, was not affected by this condition. This incident is attributed to Design Deficiency in that the system interaction between the VA System's abnormal alignment and the VC System ability to maintain a positive C/R pressure was not fully understood. The sealing of C/R walls and structures has been improved to reduce the air flow leakage. The open air flow paths between the C/R Area (adjacent to the C/R) and the Auxiliary Building are being evaluated to determine the best alternative in reducing the VA and VC System interaction. Routine inspections of the C/R walls and structures will be initiated to maintain effective seals.

BACKGROUND

CONTROL ROOM AREA VENTILATION SYSTEM

The Control Room Area Ventilation [EIIS:UC] (VC) and Chilled Water [EIIS:UE] (YC) Systems combine to form one system which is designed to maintain a suitable environment in the following plant areas at all times: Control Room (C/R), Cable Room, Battery [EIIS:BTRY] Rooms, Switchgear Rooms, Motor [EIIS:MO] Control Center (MCC) Rooms, and the Electrical Penetration [EIIS:PEN] Rooms at elevation 594+0. The VC/YC System is shared between both Units. There are two 100% redundant trains of VC/YC equipment. Each is capable of being powered by Unit 1 or Unit 2 Essential Auxiliary Power, but under normal conditions both trains are aligned to Unit 1. Two Diesel Generators [EIIS:GEN] (D/Gs) are provided per Unit to energize the Essential Auxiliary Power buses during emergency conditions.

Pressurization of the C/R and C/R Area is affected by the induction of outside air into the air handling systems serving these areas by way of filter [EIIS:FLT] trains and associated fans [EIIS:BLO]. The two outside air intakes are at two separate locations and consist of isolation valves [EIIS:V], a tornado damper, a radiation monitor, two chlorine detectors [EIIS:XT] and a smoke detector in each intake. The radiation monitors and the chlorine and smoke detectors are arranged so as to close their respective air intake valves upon detection of radiation, chlorine or smoke. Train separation provides for one shut-off valve in each intake to be Train A and the other to be Train B. The duct for the outside air intakes is arranged so that the Train A and Train B filter trains can take air from either intake location. This allows the Operator to switch to the alternate intake if one should become contaminated.

Technical Specification (T/S) 3.7.6 specifies that two independent trains of VC/YC shall be operable during all operational modes. If one train becomes inoperable while either Unit is in Mode 4, Hot Shutdown, or above, the inoperable train must be restored to operability within seven days, or the operating Units must be shutdown. If both Units are below Mode 4 and one train is inoperable, the train must be restored to operability within seven days or the operable train must be operated in the FILTER mode. If both trains are inoperable, or with the operable train not capable of being powered by an operable emergency power source, all core alterations and positive reactivity changes must be suspended on both Units. The requirement for an operable emergency power source is only specifically stated for Units operating below Mode 4. However, the Bases for Technical Specification 3.7.6 states that the operability of VC/YC ensures that ambient air temperature does not exceed

allowable limits for equipment and instrumentation, and the Control Room will remain habitable, during and following all credible accident conditions. This implies that an operable emergency power supply should be a prerequisite to VC/YC operability in all modes.

The acceptance criteria for VC is as follows; each VC train must be capable of maintaining the Control Room at a positive pressure of greater than or equal to 0.125 inch water gauge (in.wg) relative to adjacent areas with pressurization air flow to the Control Room of less than or equal to 4000 cubic feet per minute (cfm).

AUXILIARY BUILDING VENTILATION SYSTEM

The Auxiliary Building Ventilation [EIIS:VF] (VA) System is designed to provide a suitable environment for equipment operation and personnel access during both normal and accident conditions.

The VA System serves areas of the Auxiliary Building [EIIS:NF] with the exception of the Control Room Area and the Fuel Handling Area. It consists of the following subsystems: 1) Auxiliary Building Ventilation Supply (ABSU) Subsystem, 2) Auxiliary Building Unfiltered Exhaust (ABUX) Subsystem, 3) Auxiliary Building Filtered Exhaust (ABFX) Subsystem, 4) Auxiliary Shutdown Panel Rooms Air-Conditioning Subsystem, 5) Radwaste Area Ventilation Subsystem, and 6) Supplementary Ventilation Subsystem.

The ABSU Subsystem provides supply air from outdoors to the Auxiliary Building by utilizing supply fans with heating coils, cooling coils, and a filter section. Cooling water is supplied to the cooling coils by the Nuclear Service Water [EIIS:BI] (RN) System. A cooling water throttling valve for each supply unit is controlled by a temperature controller [EIIS:XC]. Hot water is supplied to the heating coil by the Plant Heating System. Each Unit has two 50% capacity, independent trains of the ABSU Subsystem (four trains for the station). The subsystem is not Nuclear Safety Related.

The ABUX Subsystem consists of two 50% capacity trains with fans and associated ductwork per Unit (four trains for the station). The subsystem serves areas of the Auxiliary Building that are not subject to contamination. This subsystem is not Nuclear Safety Related.

The ABFX Subsystem consists of two filter trains with fans, two preheater [EIIS:EHTR]/demister sections and associated ductwork per Unit (four trains for the station). This subsystem serves areas of the Auxiliary Building which are subject to potential contamination. The subsystem serves both a non-safety and a safety related function. During normal plant operation, the two filter trains and fans operate as two 50% capacity components of the exhaust system. Each filter train is equipped with a bypass section with the normal mode of operation being in the bypass position. Upon indication of a high radiation level in the

Auxiliary Building, the bypass dampers automatically close and the filter train inlet dampers automatically open to direct air flow through the filter train. Upon high radiation in the Unit vent, the filter fans shut down. The filter fans are also prohibited from operating during the activation of the Tornado Isolation Controls.

During a Loss of Coolant Accident (LOCA) condition, the two Unit related ABFX filters, fans, and preheater/demister sections operate as two 100% capacity components of the exhaust system. Upon receipt of a Sequencer signal, minimum leakage dampers close, shutting off air flow from all areas of the Auxiliary Building except for the rooms which contain safety related pumps [EIIS:P] which are part of the Emergency Core Cooling System (ECCS). Each of the two 100% capacity exhaust ducts will exhaust air from the pump rooms through the associated preheater/demister sections, filter trains, and fans to the Unit vent until one train from each unit has been shut off administratively. This subsystem is Nuclear Safety Related.

The four Auxiliary Shutdown Panel Rooms Air Conditioning Subsystem (two per Unit) have separate air conditioning units to serve each room. The air conditioning units are of a self-contained design utilizing water from the RN System for condenser water. This subsystem is Nuclear Safety Related.

Outside air is supplied to the hot machine shop, waste shipping, laundry, and drum, polymer, and bag storage areas of the Radwaste Area by Auxiliary Building Radwaste Supply Subsystem unit #1. Equipment includes a filter section, preheating coil serviced by the Plant Heating Water System, cooling coil serviced by the RN System, 100% capacity fan, zone electric duct heaters, and the required ductwork.

Outside air is supplied to the personnel decontamination and lab areas by Auxiliary Building Radwaste Supply Units Subsystem units #2 and #3. Equipment includes a filter section, preheating coil serviced by the Plant Heating Water system, cooling coil serviced by the Radwaste Area Chilled Water System, 100% capacity fan, zone electric duct heaters, and the required ductwork for each unit.

Outside air is supplied to the women's decontamination areas, the Radiation Protection Office, and Radiation Protection Lab by Auxiliary Building Radwaste Supply Subsystem unit #4. The equipment is comparable with that associated with units #2 and #3 with the exception that a multi-stage electric duct heater replaces the preheating coil.

Air supplied to the Radwaste Area is exhausted from the clean areas by the ABUX Subsystem and from areas of potential contamination by the ABFX Subsystem. The Radwaste Area Ventilation Supply Units Subsystem is not a Nuclear Safety Related system and operates only during normal plant operation.

The Waste Evaporator Package Room, the Recycle Evaporator Package Room, and both Restricted Instrument Shop Rooms are each provided with a self-contained cooling unit to supplement the Auxiliary Building General Ventilation Supply Subsystem. Water from the Auxiliary Building Cooling Water [EIIS:VF] (YN) System is utilized as condenser water for each unit.

Conditions are maintained in the Counting Room and the Environmental Lab by a single 100% capacity air handling unit consisting of a filter section, cooling coil, fan, electric duct heaters and associated ductwork. Chilled water for the cooling coil is provided by the Radwaste Area Chilled Water System. A Counting Room Filter Unit conditions outside air for use by the Counting Room Supply Unit. Equipment associated with the filter unit includes a multi-stage electric duct preheater, filter unit, fan, and a Fire Detection and Protection System for the absorber section of the filter train.

T/S 3.7.7 specifies that two independent trains of the ABFX Subsystem shall be operable during the respective Units operation in Mode 4 or above. If one train of the ABFX Subsystem becomes inoperable, the inoperable train must be returned to operable status within 7 days or the respective Unit must be in at least Mode 3, Hot Standby, within the next 6 hours and in Mode 5, Cold Shutdown, within the following 30 hours. If two trains are inoperable, the T/S 3.0.3 Limiting Condition for Operation would apply. The ABSU and ABUX Subsystems are not controlled by a T/S Limiting Condition for Operation.

Technical Specification 3.0.3 is required to be entered when the Unit is operating in a condition prohibited by Technical Specifications. This condition exists when a Limiting Condition for Operation is not met except as provided in the associated Action Requirements. It requires that within one hour action shall be initiated to place the Unit in a Mode in which the specification does not apply by placing it, as applicable, in:

a) At least Hot Standby in the next 6 hours,
b) At least Hot Shutdown within the following 6 hours, and
c) At least Cold Shutdown within the subsequent 24 hours.

SYSTEM PERMISSIVES AND BYPASSES

Under normal conditions, all ABSU, ABUX and ABFX Subsystems are in operation. Interlocks are such that the ABUX train must be in operation before the associated ABSU train can be put into operation, and that all four ABFX trains must be in operation before any one of the ABUX trains can be put into operation.

The interlock permissives between the ABSU, ABUX, and ABFX Subsystem utilizes 120 VAC control power. The ABFX safety related and the ABUX non-safety control circuits are separated by an independent circuit to provide safety/non-safety system separation. The independent circuit between the ABUX and ABFX control circuits are energized by the Blackout Auxiliary System 1(2)KPW Power Panel board.

During an Auxiliary shutdown event (i.e., C/R evacuation), the VA System can be restored to an operating condition by placing the VC/YC transfer switch in the "LOCAL" mode. Permissives from the filtered exhaust fans, smoke detectors and the Unit vent radiation monitor are bypassed for operation of the filtered and unfiltered exhaust systems. The filtered exhaust system operates in the filter mode. Permissives for operation of the supply units are not bypassed.

EVENT DESCRIPTION

On February 15, 1990, at 1030 hours, with Unit 1 in No Mode for Refueling and Unit 2 at 97% power in Mode 1, Power Operation, Motor Control Center 1MXW was removed from service by opening the normal supply breaker [EIIS:BRK] 1LXI-F05C and the Auxiliary supply breaker 1LXN-F04C. Repairs were being performed to breaker 1MXW-F02A for an overheating condition causing the breaker to trip (reference Work Request 1328 MES). By removing power from 1MXW, power was lost to ABSU Fan (ABSUF) 1A, ABUX Fan (ABUXF) 1A, and the 1KPW Power Panel board. When the 1KPW Power Panel board was de-energized, the Unit 1 ABFX permissive to the Unit 1 and 2 ABUXFs was lost. The ABFX Fans (ABFXFs) continued to operate; however, both Units ABUXFs and ABSUFs were shut down due to their interlock permissives.

At approximately 1100 hours, Performance Engineer A entered the Control Room (C/R) to inspect work in progress to repair C/R Door AX-657G, and discovered that the C/R Door S-400 was difficult to open (indicating that the VC System was not maintaining a positive pressure in the C/R). Work on door AX-657G had required it to be open for an extended period of time using Compensatory Actions in accordance with Station Directive 3.1.14, Operability Determination. Work was suspended and door AX-657G was closed.

Performance Engineer A communicated with the C/R Operators and determined that C/R pressure could be maintained with the present VC System alignment (both outside intakes open and VC Train B inservice). The abnormal VA System alignment was discussed, and the decision was made to test the VC System using procedure OP/0/A/6450/11, C/R Area Ventilation/Chilled Water System, Enclosure 4.13, C/R D/P Verification. At 1230 hours, with Unit 1 in No Mode, Core Defueled, for refueling and Unit 2 at 97% power in Mode 1, a single train of VC Ventilation with a single VC outside intake open was found to be incapable of maintaining positive C/R pressure (C/R D/P = 0.0 in.wg) per T/S 3.7.6. Both trains of VC were considered inoperable, putting Unit 2 in the action statement of T/S 3.0.3. Unit 1, being in No Mode, was not affected by this condition.

At 1253 hours, the ABFXF-1A and 2A were removed from service and the C/R D/P verification was tested again. The C/R D/P reached 0.21 in.wg which is an acceptable condition.

At 1305 hours, three ABFXFs were in service with the ABFXF-2A removed from service and the C/R D/P Verification was tested again. The C/R D/P reached 0.11 in.wg which is an unacceptable condition per T/S 3.7.6.

At 1350 hours, MCC 1MXW was returned to service and the VA System returned to normal operation with all ABSUFs, ABUXFs, and ABFXFs in service.

At 1400 hours, a Compensatory Actions Sheet was issued on the VC/VA Systems. The action sheet required that one train of ABFX be secured from service on both Units 1 and 2 if the VA System was not in a normal alignment (normal is defined as 4 ABSUs and 4 ABUXFs in service). While the Compensatory Action is in effect, no C/R penetration work is allowed that would affect the C/R pressure. Later revisions to this Compensatory Action Sheet required that the ABFX Trains be secured within 5 minutes, and the power supply breaker be opened and the secured ABFXFs within 1 hour. At 1440 hours, the VC System was declared operable and the T/S 3.0.3 action statement was exited.

CONCLUSION

It is concluded that the VC system would have been capable of maintaining C/R pressure and habitability under accident conditions (i.e. with VA in its accident alignment). Inability of VC to preform its function in non-accident conditions with VA in an abnormal alignment is attributed to Design Deficiency due to unanticipated system interaction (system interaction was expected but the degree of interaction was not fully understood). Operating the VA System in other than normal alignments can have an adverse affect on the VC System ability to maintain the C/R at a positive pressure within the requirement of T/S 3.7.6. Not understanding the degree of VA/VC interaction lead to not properly sealing some structures and not maintaining the sealed structures, due to not recognizing the need. In this incident, the operation of the ABFXFs without the ABSUFs caused the Auxiliary Building pressure to reduce below its normal condition. The reduced Auxiliary Building pressure resulted in increased air leakage past the sealed C/R walls and structures. Work Request 7397 PRF was initiated and efforts have been made to decrease this air leakage. These efforts have been successful to the point where air flow to the C/R has shown a noticeable decrease while air flow to the C/R Area has shown a noticeable increase.

The C/R Area includes rooms and structures that are adjacent to the C/R which house equipment considered vital to nuclear safety. The C/R Area rooms are supplied by the VC System to maintain their habitability during accident conditions (during accident conditions the VA supply and unfiltered exhaust fans are isolated, and the VA filtered exhaust fans are aligned to the Emergency Core Cooling System pump rooms). The C/R Area Rooms are sealed from the Auxiliary Building except for the VC/YC Train A and Train B Equipment Rooms (560 and 570), and the Unit 1 and 2 MCC EMXA/EMXI Rooms (469 and 478). With all sealed walls presently identified secured and functional, these openings provide for interaction between the VC and VA Systems. By this interaction, a change in the Auxiliary Building pressure caused by a change in VA System alignment could affect the VC System flow balance. The affect this interaction could have on VC System operability is being evaluated, with consideration being given to sealing the remaining C/R Area rooms from the Auxiliary Building.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

This incident occurred when power was removed from MCC 1MXW for maintenance, which resulted in loss of power to the 1KPW Power Panel board. The interlock permissives between ABFXF 1A and 1B to all four ABUXFs (1A, 1B, 2A, and 2B) are powered from the 1KPW Power Panel board (the ABFXF 2A and 2B interlock permissives are powered from the 2KPW Power Panel board). The interlock permissive functions to shut down all ABUXFs if any one of the ABFXFs are removed from service. The ABUXFs are interlocked with their associated Unit and Train ABSUF, and the permissive will shut down the ABSUF when the ABUXF is removed from service (i.e., ABSUF-1A will shut down if ABUXF-1A is removed from service). When power was removed from the 1KPW panel board, all of the ABUXFs lost the signal that ABFXFs 1A and 1B were in service, and all ABUXFs shut down. The ABSUFs followed the ABUXFs and also shut down. The VA System was then in an abnormal alignment with the ABFXFs pulling air from all areas of the Auxiliary Building. The VA System is intended to have no effect on the VC System to maintain a C/R positive pressure. Operating the VA System in this abnormal alignment should not have resulted in a loss of C/R pressure. Therefore, loss of power in the 1KPW Power Panel board is not identified as a cause to this incident.

Reviewing the tagout history identified three previous incidents where MCC 1MXW was removed from service (reference 17-7217, 17-8609, and 18-1044). No history of removing MCC 2MXW was identified. Each of the tagouts on 1MXW were in place for less than a 24 hour duration. During these time periods, the air leakage from the C/R could not be determined. The C/R air temperature was monitored in accordance with T/S Surveillance 4.7.6a (per PT/1(2)/4600/02A, Mode 1 Periodic Surveillance Items) during the periods 1MXW was out-of-service. The C/R habitability was maintained in that personnel and equipment were unaffected.

A review of the OEP data base for the past 24 months identified one previous incident where unanticipated system interaction affected a ventilation system (LER 414/89-020). This incident identified the induction of lint from the Radiation Protection clothes dryers into the VA Filtered Exhaust subsystem, causing an air flow monitor to clog which resulted in system inoperability. A T/S violation occurred due to not recognizing the condition and taking appropriate action within the T/S action statement requirements. Lint induction into the VA System is being controlled by increased preventive maintenance and inspections. A permanent solution is being developed by Design Engineering.

A review of the OEP data base for the past 24 months identified two previous incidents where T/S 3.0.3 was entered due to inoperability of the VC/YC system (LERs 413/88-023 and 413/89-023). LER 413/88-023 involved the inoperability of the VC System due to a design deficiency regarding the selection of a manual chiller lube oil temperature control valve. LER 413/89-023 involved inoperability of both trains of the VC System due to an incomplete pre-operational test procedure.

Technical Specification violations involving ventilation systems are a recurring problem, and to deal with this, a review is currently in progress at Catawba to verify that ventilation system testing is meeting the intent of Technical Specifications, the Final Safety Analysis Report (FSAR), and Regulatory Guides dealing with ventilation systems. In LER 414/89-020, a comprehensive response was described to deal with ventilation system problems involving design deficiencies. Parts of the comprehensive response will ensure that ventilation testing is meeting design requirements (i.e., Performance, Operations and Design Engineering will review available plant parameters for addition to the Performance Monitoring Database System to enhance the analysis and trending of ventilation systems performance data). Also, Design Engineering will perform a thorough and systematic review of ventilation system design requirements and compare them against nominal operating data to ensure consistency with the FSAR and Technical Specification parameters.

CORRECTIVE ACTION

SUBSEQUENT

1) The C/R D/P Verification (OP/0/A/6450/11, Enclosure 4.13) procedure was performed to evaluate VC/YC operability.

2) A Compensatory Action Sheet was initiated to identify the required response to maintain VC/YC operable status when the VA System is not in its normal alignment.

3) The C/R walls and structures were inspected and sealed as appropriate to reduce the amount of air leakage (reference Work Request 7397 PRF).

PLANNED

1) The affect that the open air flow paths between the C/R Area and the Auxiliary Building is having on VC/YC operability is being evaluated. Considerations are being given to:

   * Sealing the remaining C/R Area rooms from the Auxiliary Building.

   * Continuing to improve the seal in the C/R walls and structures.

   * Adjusting the VC System flow balance to insure additional C/R air flow is available to meet demand.

   * Testing the VC/YC System under the most conservative assumption in VA System alignment.

2) Routine inspection of the C/R wall and structure seals will be initiated in an attempt to identify unacceptable conditions prior to their progression into a VC/YC System inoperability.

3) Design Engineering will perform a thorough and systematic review of ventilation system design requirements and compare them against normal operating data, to ensure consistency with the FSAR and Technical Specification parameters.

4) An Abnormal Plant Event meeting will be conducted to discuss the recent ventilation system problems to determine any additional corrective actions required.

SAFETY ANALYSIS

Upon receipt of an Engineered Safety Feature Actuation signal, the ABFX subsystems of the affected Unit operate as 100% capacity components of the exhaust system. The ABSU and ABUX subsystems are removed from service on the affected Unit. Ventilation dampers will close off air flow from all areas of the Auxiliary Building except for the rooms which contain the ECCS pumps. During normal plant operation the air flow rate through each filter train is approximately 30,000 cfm. During accident conditions that air flow rate through each filter train is reduced to 6540 cfm (Unit 1 side) and 6230 (Unit 2 side), minimum. With the reduced air flow rate requirements of the VA system, the VC system would have been capable of maintaining C/R positive pressure and C/R habitability during accident conditions.

The Compensatory Action required removing one train of ABFX on each Unit from service if the VA System is not in a normal alignment. This action is to be taken to prevent loss of C/R positive pressure and prevent entering the T/S 3.0.3 action statement for inoperable trains of VC/YC. Removing the ABFX from service (turning the ABFXF off) does not render the subsystem inoperable. On an ESF Actuation signal, the ABFX would be returned to service to function as described above. After one hour, the Compensatory Action required that the power supply breaker be opened to de-energize the out-of-service ABFXFs. The ABFX Trains would be declared inoperable and the T/S 3.7.7 action statement would apply with the Unit operating in Mode 4 or above. The action statement would require the ABFX trains be returned to service or the Unit reduce power within the applicable time frame identified in the T/S (7 days).

During the course of this incident, C/R habitability was maintained. C/R air temperature was monitored per T/S Surveillance 4.7.6a (PT/2/A/4600/02A) prior to and following the period of inoperability. C/R personnel and equipment were unaffected by this incident.

The health and safety of the public were unaffected by this incident.