ATTACHMENT 1

TS MARK-UPS

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No changes to this page

3/4.7.6 CONTROL ROOM AREA VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6 Two independent Control Room Area Ventilation Systems shall be OPERABLE.

APPLICABILITY: ALL MODES

ACTION: (Units 1 and 2)

MODES 1, 2, 3 and 4:

With one Control Room Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

MODES 5 and 6:

a. With one Control Room Area Ventilation System inoperable, restore the inoperable system to OPERABLE status within 7 days or initiate and maintain operation of the remaining OPERABLE Control Room Area Ventilation System.

b. With both Control Room Area Ventilation Systems inoperable, or with the OPERABLE Control Room Area Ventilation System, required to be operating by ACTION a., not capable of being powered by an OPERABLE emergency power source, suspend all operations involving CORE ALTERATIONS or positive reactivity changes.

c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6 Each Control Room Area Ventilation System shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the control room air temperature is less than or equal to 90°F;

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filters and activated carbon adsorbers and verifying that the system operates for at least 10 continuous hours with the heaters operating;

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or activated carbon adsorber housings, or (2) following painting, fire, or chemical release in any ventilation zone communicating with the system by:

1) Verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 0.05% and uses the test procedure guidance in Regulatory Position C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revisions 2, March 1978, and the system flow rate is 6000 cfm ± 10%;

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%; and

3) Verifying a system flow rate of 6000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

d. After every 1440 hours of activated carbon adsorber operation, by verifying, within 31 days after removal, that a laboratory analysis** of a representative activated carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 2, March 1978, for a methyl iodide penetration of less than 0.175%;

e. At least once per 18 months by:

1) Verifying that the pressure drop across the combined HEPA filters, activated carbon adsorber banks, and moisture separators is less than 8 inches Water Gauge while operating the system at a flow rate of 6000 cfm ± 10%;

2) Verifying that on an alarm is received in the control room. a High Radition Air Intake, or Smoke Density High test signal, ~~the system automatically isolates the affected intake from outside air with recirculating flow through the HEPA filters and activated carbon adsorber banks;~~

3) Verifying that the system maintains the control room at a positive pressure of greater than or equal to 1/8 inch Water Gauge relative to adjacent areas at less than or equal to pressurization flow of 4000 cfm to the control room during system operation;

4) Verifying that the heaters dissipate 25 ± 2.5 kW, and

*The requirement for reducing refrigerant concentration to 0.01 ppm may be satisfied by operating the system for 10 hours with heaters on and operating.
**Activated carbon adsorber samples are tested at 30 degree C.

No changes to this page

INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING FOR PLANT OPERATIONS

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels for plant operations shown in Table 3.3-6 shall be OPERABLE with their Alarm/Trip Setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel Alarm/Trip Setpoint for plant operations exceeding the value shown in Table 3.3-6, adjust the Setpoint to within the limit within 4 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels for plant operations inoperable, take the ACTION shown in Table 3.3-6.

c. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel for plant operations shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ANALOG CHANNEL OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-3.

No changes to this page

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION FOR PLANT OPERATIONS

FUNCTIONAL UNIT	CHANNELS TO TRIP/ALARM	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	ACTION
1. Containment					
a. Containment Atmosphere - High Gaseous Radioactivity (Low Range - EMF-39)	1	1	All	***	30
b. Reactor Coolant System Leakage Detection					
1) Particulate Radioactivity (Low Range - EMF-38)	N.A.	1	1, 2, 3, 4	N.A.	33
2) Gaseous Radioactivity (Low Range - EMF-39)	N.A.	1	1, 2, 3, 4	N.A.	33
2. Fuel Storage Pool Areas					
a. High Gaseous Radioactivity (Low Range - EMF-42)	1	1	**	$\leq 1.7 \times 10^{-4}$ µCi/ml	34
b. Criticality-Radiation Level (Fuel Bridge - Low Range - 1EMF-15, 2EMF-4)	1	1	*	$\leq$ 15 mR/h	32
3. Control Room					
Air Intake-Radiation Level - High Gaseous Radioactivity (Low Range - EMF-43 A & B)	1/intake	2 (1/intake)	All	$\leq 1.7 \times 10^{-4}$ µCi/ml	31
4. Auxiliary Building Ventilation High Gaseous Radioactivity (Low Range - EMF-41)	1	1	1, 2, 3, 4	$\leq 1.7 \times 10^{-4}$ µCi/ml	35
5. Component Cooling Water System (EMF-46 A&B)	1	1	All	$\leq 1 \times 10^{-3}$ µCi/ml	36

TABLE 3.3-6 (Continued)

TABLE NOTATIONS

* With fuel in the fuel storage pool areas.

** With irradiated fuel in the fuel storage pool areas.

*** When venting or purging from containment to the atmosphere, the trip setpoint shall not exceed the equivalent limits of Specification 3.11.2.1 in accordance with the methodology and parameters in the ODCM. When not venting or purging in Modes 5 or 6, the alarm setpoint concentration (μCi/ml) shall be such that the actual submersion dose rate would not exceed 5mR/hr without alarm. When not venting or purging in Modes 1 through 4 the alarm setpoint shall be no more than 3 times the containment atmosphere activity as indicated by the radiation monitor.

ACTION STATEMENTS

ACTION 30 - With less than the Minimum Channels OPERABLE requirement, operation may continue provided the containment purge and exhaust valves are maintained closed.

ACTION 31 - With the number of operable channels one less than the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of the ~~isolate the affected~~ Control Room Area Ventilation System ~~intake from outside air~~ with flow through the HEPA filters and activated carbon adsorbers.

ACTION 32 - With less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided an appropriate portable continuous monitor with the same Alarm Setpoint is provided in the fuel storage pool area. Restore the inoperable monitors to OPERABLE status within 30 days or suspend all operations involving fuel movement in the fuel building.

ACTION 33 - Must satisfy the ACTION requirement for Specification 3.4.6.1.

ACTION 34 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Fuel Handling Ventilation Exhaust System is operating and discharging through the HEPA filters and activated carbon adsorbers. Otherwise, suspend all operations involving fuel movement in the fuel building.

ACTION 35 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue provided the Auxiliary Building Filtered Exhaust System is operating and discharging through the HEPA filter and activated carbon adsorbers.

ACTION 36 - With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirement, operation may continue for up to 30 days provided that, at least once per 12 hours, grab samples are collected and analyzed for radioactivity (gross gamma) at a lower limit of detection of no more than 10^{-7} μCi/ml.

ATTACHMENT 2

TECHNICAL JUSTIFICATION AND NO SIGNIFICANT HAZARDS ANALYSIS

Duke Power Company
Catawba Nuclear Station
Units 1 and 2

Request For Emergency Change to the Technical Specifications

Technical Specifications to be Changed

1. TS Surveillance 4.7.6 e.2) will be changed to indicate that on a "High Radiation-Air Intake" or "Smoke Density-High" test signal, an alarm is received in the control room.

2. TS Table 3.3-6, Item 3, Action 31 is modified to delete the requirement to isolate a Control Room Area Ventilation System Air Intake because of an inoperable radiation monitor channel.

Discussion of Circumstances and Need for Prompt Action

The Control Room area ventilation system is shared by both Units 1 and 2 and is designed to maintain a suitable environment for equipment operation and safe occupancy of the control room under all plant operating conditions. The system consists of two redundant full capacity equipment trains each containing intake smoke, radiation, and chlorine detectors; prefilters; high efficiency particulate air filters, carbon adsorber filters; supply fans; pressurizing fans; and chilled water cooling units. The system is fully redundant except for some passive interconnecting duct headers.

The control room area is normally maintained at a slightly positive pressure relative to all adjacent areas by taking makeup air from either or both of two outside intakes located on opposite sides of each reactor building, away from the respective unit vent. Each outside air intake is monitored for the presence of radioactivity, chlorine, and smoke. Isolation of the outside air intake occurs automatically upon detection of one or more of these conditions. Should both intakes close, the operator can override the intake smoke and radiation monitors and open the desired intake based upon plant conditions to ensure control room pressurization. Pressurization is necessary to ensure control room habitability and compliance with GDC 19 following a design basis accident. Refer to Section 9.4.1 of the Catawba FSAR for additional information.

On February 19, 1991, based on problem identification at McGuire Nuclear Station, Catawba Nuclear Station identified a similar problem concerning the isolation of the control room air intakes on a loss of offsite power (LOOP). This problem would prevent sufficient outside air flow to pressurize the control room. The outside air isolation valves would close when re-energized by the D/G load sequencer following a LOOP because the smoke detector and radiation detector control power is non-safety. Upon

loss of the control power, the detectors are currently designed to fail in the conservative (alarm) direction, which would cause the valves to close. As long as the intake air isolation valves were opened within three minutes, however, the GDC 19 dose limit or its equivalent (30 REM Thyroid) would not be violated. Therefore, manual compensatory measures were defined and implemented whereby the outside air isolation valves would be opened by the operator immediately following a simultaneous LOOP and LOCA event.

On February 25, 1991, an additional scenario was identified that caused further concern. A combination of the LOOP and LOCA scenario described above and the failure of an Emergency Diesel Generator after a successful start could prevent post-accident pressurization of the control room. If the diesel generator providing power to the outside air isolation valves failed after the isolation valves went closed (due to the detectors failing), but before manual operator action could be taken to open the valve, the outside air isolation valves could not be opened quickly enough to prevent the calculated Design Basis Dose from exceeding GDC 19 limits.

This most recent postulated failure was reviewed by Duke Power's Design Engineering Department at approximately 2:15 p.m. on February 25, 1991, and the station was notified that the Control Room Ventilation System should be declared inoperable shortly after 4:00 p.m. the same day. Because both trains were affected, the station was in TS 3.0.3 on both Units. Subsequent opening of the outside air isolation valves and removing motive power resolved the GDC 19 operability concerns, but the station was still in TS 3.0.3 because it could not meet the TS surveillance requirements associated with the automatic isolation functions of the smoke, chlorine, and radiation detectors. The NRC Resident Inspectors were notified of the potential need for a Waiver of Compliance, and a telephone conference was arranged with the NRC Staff at approximately 5:00 p.m. to request a waiver of compliance with the associated TSs. Although the Catawba TSs presently require that the air intake radiation, chlorine, and smoke detectors be operable and capable of closing the air intake valves when in alarm, these functions do not affect the design basis radiation dose to the control room operators following a design basis event.

The NRC staff approved a temporary waiver of compliance with the associated TSs per their letter dated February 27, 1991. The temporary waiver of compliance is an interim measure until a license amendment request could be submitted and approved reflecting modification of the outside air intake valves preventing automatic closure due to high smoke density or radiation.

Technical Justification

Technical Specification 3.3.3.1 requires radiation monitors EMF-43A and EMF-43B to be operable in all modes of operation or the associated control

room intakes must be closed. The Bases for this specification indicate the monitors determine if predetermined limits are being exceeded and initiate alarms or automatic actions. This change will delete the requirement to isolate a control room air intake based on an inoperable radiation monitor. Technical Specification 4.7.6.e.2 requires automatic closure of the control room intake valves on the affected side of the plant if high airborne activity or high smoke density is detected. This TS change will delete the requirement for automatic closure of the control room air intakes on high radiation or smoke density. A plant modification will be implemented by March 6, 1991 to allow this to be a manual operator action, based on a control room alarm.

The design of the VC system is such that the maximum radiation dose received by control room personnel under accident conditions is within the limits of General Design Criterion 19 of Appendix A to 10CFR50. Maintaining all four valves in an open position will not affect the calculated control room operator dose.

The VC system utilizes dual air inlets as part of its design to minimize post-accident contamination in the control room. The dual air inlet design affects the amount of atmospheric dispersion (X/Q) credit that can be taken in the control room dose consequences analysis. Standard Review Plan 6.4, Control Room Habitability System, outlines the considerations that may be applied to the evaluation of the control room X/Qs for the following inlet designs:

1. Dual inlet designs without manual or automatic selection control,

2. Dual inlet designs limited to manual selection control, and

3. Dual inlet designs with automatic selection control features.

SRP 6.4 allows the least amount of dispersion credit for the Case 1 design. Although the dual inlets for the VC System at Catawba can be closed by manual action per the proposed modification (case 2), the dose consequence analysis assumes that the inlets are open for the duration of the accident after 10 hours. The 10 hour delay is assumed in order to cover the contingency of a single active failure to an intake per SRP 6.4. Therefore, deleting automatic close function will not affect the existing control room dose consequence analysis. Manual closure is appropriate from an ALARA point of view, but is not necessary for the Catawba design to meet the acceptance criteria outlined in SRP 6.4, Control Room Habitability System.

Automatic closure of the VC intake valves upon the detection of smoke will be deleted by the proposed modification. The smoke detectors are not required by SRP 6.4, Control Room Habitability System, but are recommended by NFPA 90A, Standard for the Installation of Air Conditioning and Ventilation Systems. Automatic isolation is not required by SRP 9.4, Control Room Area Ventilation System, which specifically allows for manual

isolation. Automatic closure is not required to meet the acceptance criteria of the standards referenced above. Since there are no industrial-chemical plants or storage facilities, oil and gas pipelines, or transportation routes adjacent to the site, consequences from fires are not considered justifiable for impact evaluation. Brush and forest fires would be handled by the station and are not considered to cause any impact; therefore, these fires were not evaluated. Additionally, HEPA filters will effectively remove particles of combustion as will the carbon adsorbers.

The filter trains are normally in service, the smoke detection alarms will not be defeated, and the impact of fires is considered to be minimal. Therefore, automatic closure of the intake valves on high smoke concentration is unnecessary.

Control room habitability is assured by the presence of self-contained breathing apparatus, and the ability to manually close the outside air intake valves if deemed necessary by control room personnel.

No Significant Hazards Analysis and Environmental Impact Statement

10 CFR 50.92 states that a proposed amendment involves no significant hazards consideration if operation in accordance with the proposed amendment would not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

2) Create the possibility of a new or different kind of accident from any accident previously evaluated.

3) Involve a significant reduction in the margin of safety.

This change to the TS does not involve a significant increase in the probability or consequences of an accident previously evaluated. The VC system is not an accident initiator and this modification does not affect any accident initiators. It does not affect any of the chapter 15 analysis. The consequences of an accident are not increased because no fission product barriers or source term evaluations are affected by this modification. Post LOCA control room dose calculations are unaffected by operation with all control room intake isolation valves open.

This change to the TS, which deletes the requirement for autoclosure of the control room intake isolation valves on high smoke or radiation, will not create the possibility of a new or different accident from any previously evaluated. VC is not an accident initiator, a failure will not create a situation which has not been considered in the FSAR.

This change to the TS will not cause a significant reduction in the margin of safety. No setpoints, design limits or operating parameters are affected by this modification. The control room operator dose calculations assume that both control room area intakes are open after 10 hours. The 10 hour delay is assumed in order to cover the contingency of a single active failure to an intake per SRP 6.4. Even though there is not an autoclosure, the intakes can be isolated manually, if necessary. This change does not cause a significant decrease in the margin of safety.

The proposed TS change has been reviewed against the criteria of 10 CFR 51.22 for environmental considerations. As shown above, the proposed change does not involve significant hazards considerations nor increase individual or cumulative occupational radiation exposure. Based on this, the proposed amendment meets the criteria given in 10 CFR 51.22(c)(9) for categorical exclusion from the requirements for an Environmental Impact Statement.