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REFUELING OPERATIONS

3/4.9.11 FUEL HANDLING VENTILATION EXHAUST SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.11 At least one train of the Fuel Handling Ventilation Exhaust System shall be OPERABLE.

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

a. With both trains of the Fuel Handling Ventilation Exhaust System inoperable, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until the Fuel Handling Ventilation Exhaust System is restored to OPERABLE status.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.11.1 One train of the Fuel Handling Ventilation Exhaust System shall be determined to be operating and discharging through the HEPA filter and activated carbon adsorbers at least once per 12 hours whenever irradiated fuel is being moved in the storage pool and during crane operation with loads over the storage pool.

4.9.11.2 Both trains of the Fuel Handling Ventilation Exhaust System shall be demonstrated OPERABLE:

a. At least once per 31 days 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;

b. 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 1% (Unit 1), 0.05% (Unit 2) and uses the test procedure guidance in Regulatory Positions C.5.a, C.5.c, and C.5.d* of Regulatory Guide 1.52, Revision 2, March 1978, and the system flow rate is 16,565 cfm ± 10%;

*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.

SURVEILLANCE REQUIREMENTS (Continued)

2) Verifying, within 31 days after removal, that a laboratory analysis of a representative activated carbon sample obtained in accordance with Regulatory Positions 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 ~~1%~~ 0.71% ASTM D3803-86, Test Method "A"; and

3) Verifying a system flow rate of 16,565 cfm ± 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of activated carbon adsorber operation in any train 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~~, ASTM D3803-86, Test Method "A" for a methyl iodide penetration of less than ~~1%~~ 0.71%.

d. At least once per 18 months for each train 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 16,565 cfm ± 10%.

2) Verifying that the system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to ¼ inch Water Gauge relative to the outside amosphere during system operation,

3) Verifying that the filter cooling bypass valves can be manually opened, and

4) Verifying that the heaters dissipate 80 ± 8 kW.

e. After each complete or partial replacement of a HEPA filter bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a DOP test aerosol while operating the system at a flow rate of 16,565 cfm ± 10%; and

f. After each complete or partial replacement of an activated carbon adsorber bank in any train, by verifying that the cleanup system satisfies the in-place penetration and bypass leakage testing acceptance criteria of less than 1% (Unit 1), 0.05% (Unit 2) in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the system at a flow rate of 16,565 cfm ± 10%.

3/4.9.9 and 3/4.9.10 WATER LEVEL - REACTOR VESSEL and STORAGE POOL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the safety analysis.

3/4.9.11 FUEL HANDLING VENTILATION EXHAUST SYSTEM

The limitations on the Fuel Handling Ventilation Exhaust System ensure that all radioactive material released from an irradiated fuel assembly will be filtered through the HEPA filters and activated carbon adsorber prior to discharge to the atmosphere. Operation of the system with the heaters operating to maintain low humidity using automatic control for at least 10 continuous hours in a 31-day period is sufficient to reduce the buildup of moisture on the adsorbers and HEPA filters. The OPERABILITY of this system and the resulting iodine removal capacity are consistent with the assumptions of the safety analyses. ANSI N510-1980 will be used as a procedural guide for surveillance testing. ASTM D3803-86, Test Method "A" will be used for surveillance testing of iodine penetration. This method uses a relative humidity of 95% to verify a methyl iodine penetration. This increased humidity factor permits allowances for degraded bus voltages allowed by Technical Specifications at the 4160 VAC Buses and its affect on the filter heater capacity.

ATTACHMENT II

TECHNICAL SPECIFICATION CHANGE REQUEST

PROPOSED TECHNICAL SPECIFICATION CHANGE

This Technical Specification(TS) change request will change TS Surveilance 4.9.11.2.b.2 and 4.9.11.2.c to read "...meets the laboratory testing criteria of ASTM D3803-86, Test Method 'A' for a methyl iodide penetration of less than 0.71%." The TS Bases for TS 4.9.11 are modified to reflect the above test criteria. Revising the carbon adsorber test method will assure that the Fuel Pool Ventilation filters have a decontamination efficiency of greater than or equal to 95% under all anticipated operating modes.

DISCUSSION

During the HVAC Review currently in progress at Catawba Nuclear Station it was discovered that the Safety-Related Fuel Pool Ventilation System Heaters were not conservatively sized for all postulated operating modes. During low voltage conditions sufficient power is not supplied to the Fuel Pool Ventilation System Heaters for them to maintain the relative humidity of the air entering the Fuel Pool Ventilation System filter train below 70%.

The Electrical Distribution System at Catawba can be powered from either offsite power or the Safety-Related Diesel Generators. Station Technical Specifications allow the Diesel Generators to operate at 4160 VAC $\pm$ 420 VAC and offsite power to drop under degraded bus conditions to approximately 3685 VAC. Under these conditions, the minimum calculated voltage supplied to the Fuel Pool Ventilation Heaters would be 541.18 VAC.

The design basis of the Fuel Pool Ventilation System Heaters is to ensure that the relative humidity of the air entering the Fuel Pool Ventilation System carbon adsorber beds is less than 70% relative humidity. Under low voltage conditions, with the maximum TS allowed Fuel Pool Ventilation flow rate of 18,222 cfm the relative humidity of the air entering the carbon adsorber beds was calculated to be approximately 74%. In order to satisfy the design basis maximum relative humidity of 70% the maximum allowed Fuel Pool Ventilation flow rate has been limited to less than 17,400 cfm and Fuel Building Temperatures limited to less than 100 F at 100% relative humidity.

With a temporarily restricted upper limit of 17,400 cfm and a lower limit per Technical Specifications of 14,909 cfm this places an unnecesarily restrictive operating margin on the system.

TECHNICAL JUSTIFICATION

The proposed amendment to TS will change the carbon adsorber test method to ensure that the Fuel Pool Ventilation filters have a decontamination efficiency of greater than or equal to 95% under all anticipated operating conditions. The maximum expected relative humidity under the worst case of highest flow and lowest voltage is 74%. The laboratory test of carbon samples will be conservatively tested at 95% relative humidity, instead of the 70% which is currently required. Changing the allowable penetration for the carbon beds to 0.71% instead of 1% raises the safety factor the Fuel Pool Ventilation System.

Using the methodology of Regulatory Guide 1.52, Revision 2, March 1978, changing the allowable methyl iodide penetration to 0.71% ensures that the decontamination factor of 95% that is assumed in the existing Catawba FSAR, Dose Analysis for the Annulus Ventilation System, is met. Using the laboratory test method ASTM D3803-86, Test Method "A", adds further conservatism. For the reasons described above, this change will conservatively ensure that calculated offsite and onsite doses are not adversely affected while allowing the 16,565 cfm ±10% Fuel Pool Ventilation flow rate.

NO SIGNIFICANT HAZARDS ANALYSIS

10 CFR 50.92 states that a proposed amendment involves no significant hazards considerations if operation 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 anew or different kind of accident from any accident previously evaluated; or

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

This proposed TS amendment will not increase the probability or consequences of an accident which has been previously evaluated. Offsite and onsite doses will remain the same because of the added conservatism in the laboratory test method and the penetration factor. This change will be in accordance with the decontamination factor which is assumed in the FSAR Chapter 15 Analysis.

This proposed TS amendment will not create the possibility of a new or different kind of accident from any accident previously evaluated. This change makes no physical changes to the plant or operating procedures, because of this no new or different accidents are created.

This proposed TS amendment does not involve a significant decrease in the margin of safety. This change makes no physical changes to the plant or operating procedures. Changing the allowable penetration of the carbon beds to 0.71% raises the safety factor of the Fuel Pool Ventilation System, this ensures that the current FSAR Chapter 15 analysis for the Fuel Pool Ventilation System is not affected, and that existing decontamination factor, 95%, can be used. Because the decontamination factor is the same no revision to the On or Offsite Dose analysis is required and therefore the margin between the current dose analysis and 10 CFR 100 is not affected.

ENVIRONMENTAL IMPACT STATEMENT

The proposed Technical Specification 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.