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February 5, 2005

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

Subject: Duke Energy Corporation
Catawba Nuclear Station, Unit 2
Docket Number 50-414
Proposed Temporary Change to Technical Specification
(TS) 5.5.11 Ventilation Filter Testing Program (VFTP)

Pursuant to 10 CFR 50.4, 10 CFR 50.90, and 10 CFR 50.91(a)(5), Duke Energy is submitting the attached proposed temporary revision to the acceptance criteria for system bypass leakage for the charcoal adsorber for the 2B Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) train as required in TS 5.5.11, "Ventilation Filter Testing Program" (VFTP). This amendment is being submitted on an emergency basis.

The 2B ABFVES train was taken out of service on February 1, 2005 at 0400 hours for routine maintenance. During the testing performed after the routine maintenance, the 2B ABFVES train failed the acceptance criteria for bypass leakage as required by TS 5.5.11, VFTP. Engineering and Maintenance personnel reviewed the test results to discuss issues that may have contributed to the results. Additional inspections and maintenance were performed on the 2B ABFVES train. The post maintenance testing was completed on February 4, 2005. The results of this test were similar to the previous test and did not meet the acceptance criteria for bypass flow for the charcoal adsorber. Catawba is evaluating the possible issues that could have led to the test results achieved. Based on this evaluation, Catawba is in the process of obtaining additional test equipment to perform additional tests. These tests are being performed to confirm and validate the test results received to date.

If the additional testing confirms the previous test results, then the only additional potential corrective measure would be intrusive activities.

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Due to the nature of these activities, and testing requirements, Catawba does not believe this can be completed prior to the expiration of the required action on February 8, 2005 at 0400.

The additional equipment issues discovered during post maintenance testing could not reasonably have been foreseen or anticipated. Therefore, Duke Energy requests approval of this license amendment application on an emergency basis by February 8, 2005 at 0400 hours in order to avoid an unnecessary shutdown of Unit 2.

Attachment 1 provides marked copies of the affected TS pages for Catawba, showing the proposed changes. Attachment 2 contains reprinted pages of the affected TS pages for Catawba. Attachment 3 provides the technical justification, No Significant Hazards Consideration Determination, and Environmental Analysis that revising the in-place penetration and system bypass leakage from 0.05% to 0.20% for the 2B ABFVES carbon adsorber filters does not create any safety concerns.

Catawba commits to perform another bypass leakage test of the 2B ABFVES train within the next 90 days after approval of this emergency TS. The results of this test will be used to determine if any additional actions are warranted.

In accordance with Duke administrative procedures and the Quality Assurance Program Topical Report, this proposed amendment has been previously reviewed and approved by the Catawba Plant Operations Review Committee and the Duke Corporate Nuclear Safety Review Board.

Pursuant to 10 CFR 50.91, a copy of this proposed amendment is being sent to the appropriate State of South Carolina official.

Should you have any questions concerning this information, please call R.D. Hart at (803) 831-3622.

Very truly yours,



H.B. Barron
Group Vice President Nuclear Generation
and Chief Nuclear Officer

Attachment
RDH/s

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H.B. Barron affirms that he is the person who subscribed his name to the foregoing statement, and that all the matters and facts set forth herein are true and correct to the best of his knowledge.

H.B. Barron

H.B. Barron
Group Vice President Nuclear Generation
and Chief Nuclear Officer

Subscribed and sworn to me: 2/5/05
Date

Anthony P. Jackson
Notary Public

My commission expires: July 2, 2014
Date



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ATTACHMENT 1

MARKED-UP TECHNICAL SPECIFICATION PAGES FOR CATAWBA

NO Changes to this page
For Information Only

5.5 Programs and Manuals (continued)

5.5.10 Secondary Water Chemistry Program

This program provides controls for monitoring secondary water chemistry to inhibit SG tube degradation and low pressure turbine disc stress corrosion cracking. The program shall include:

- a. Identification of a sampling schedule for the critical variables and control points for these variables;
- b. Identification of the procedures used to measure the values of the critical variables;
- c. Identification of process sampling points, which shall include monitoring the discharge of the condensate pumps for evidence of condenser in leakage;
- d. Procedures for the recording and management of data;
- e. Procedures defining corrective actions for all off control point chemistry conditions; and
- f. A procedure identifying the authority responsible for the interpretation of the data and the sequence and timing of administrative events, which is required to initiate corrective action.

5.5.11 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980, with exceptions as noted in the UFSAR.

- a. Demonstrate for each of the ESF systems that an in-place test of the high efficiency particulate air (HEPA) filters shows the following penetration and system bypass when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the flowrate specified below $\pm 10\%$.

(continued)

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

ESF Ventilation System	Penetration	Flowrate
Annulus Ventilation (Unit 1)	< 1%	9000 cfm
Annulus Ventilation (Unit 2)	< 0.05%	9000 cfm
Control Room Area Ventilation	< 0.05%	6000 cfm
Aux. Bldg. Filtered Exhaust (Unit 1)	< 1%	30,000 cfm
Aux. Bldg. Filtered Exhaust (Unit 2)	< 0.05%	30,000 cfm
Containment Purge (non-ESF) (2 fans)	< 1%	25,000 cfm
Fuel Bldg. Ventilation (Unit 1)	< 1%	16,565 cfm
Fuel Bldg. Ventilation (Unit 2)	< 0.05%	16,565 cfm

b. Demonstrate for each of the ESF systems that an in-place test of the charcoal adsorber shows the following penetration and system bypass when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the flowrate specified below $\pm 10\%$.

ESF Ventilation System	Penetration	Flowrate
Annulus Ventilation (Unit 1)	< 1%	9000 cfm
Annulus Ventilation (Unit 2)	< 0.05%	9000 cfm
Control Room Area Ventilation	< 0.05%	6000 cfm
Aux. Bldg. Filtered Exhaust (Unit 1)	< 1%	30,000 cfm
Aux. Bldg. Filtered Exhaust (Unit 2)	< 0.05%*	30,000 cfm
Containment Purge (non-ESF) (2 fans)	< 1%	25,000 cfm
Fuel Bldg. Ventilation (Unit 1)	< 1%	16,565 cfm
Fuel Bldg. Ventilation (Unit 2)	< 0.05%	16,565 cfm

Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of $\leq 30^\circ\text{C}$ and greater than or equal to the relative humidity specified below.

ESF Ventilation System	Penetration	RH
Annulus Ventilation	< 4%	95%
Control Room Area Ventilation	< 0.95%	95%
Aux. Bldg. Filtered Exhaust	< 4%	95%
Containment Purge (non-ESF)	< 6%	95%
Fuel Bldg. Ventilation	< 4%	95%

(continued)

* The Penetration bypass acceptance criteria for the Charcoal adsorber for the 2B ABFVES train is changed to 0-20%. This will remain in effect until the next Unit 2 refueling outage in the Spring of 2006.

*No Changes to this page.
For Information Only.*

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

- d. Demonstrate for each of the ESF systems that the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers is less than the value specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the flowrate specified below $\pm 10\%$.

ESF Ventilation System	Delta P	Flowrate
Annulus Ventilation	8.0 in wg	9000 cfm
Control Room Area Ventilation	8.0 in wg	6000 cfm
Aux. Bldg. Filtered Exhaust	8.0 in wg	30,000 cfm
Containment Purge (non-ESF) (2 fans)	8.0 in wg	25,000 cfm
Fuel Bldg. Ventilation	8.0 in wg	16,565 cfm

- e. Demonstrate that the heaters for each of the ESF systems dissipate the value specified below when tested in accordance with ANSI N510-1980.

ESF Ventilation System	Wattage @ 600 vac
Annulus Ventilation	45 \pm 6.7 kW
Control Room Area Ventilation	25 \pm 2.5 kW
Aux. Bldg. Filtered Exhaust	40 \pm 4.0 kW
Containment Purge (non-ESF)	120 \pm 12.0 kW
Fuel Bldg. Ventilation	80 + 8/-17.3 kW

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test frequencies.

5.5.12 Explosive Gas and Storage Tank Radioactivity Monitoring Program

This program provides controls for potentially explosive gas mixtures contained in the Waste Gas Holdup System, the quantity of radioactivity contained in gas storage tanks or fed into the offgas treatment system, and the quantity of radioactivity contained in unprotected outdoor liquid storage tanks. The gaseous radioactivity quantities shall be determined following the methodology in Branch Technical Position (BTP) ETSB 11-5, "Postulated Radioactive Release due to Waste Gas System Leak or Failure". The liquid radwaste quantities shall be determined in accordance with Standard Review Plan, Section 15.7.3, "Postulated Radioactive Release due to Tank Failures".

(continued)

ATTACHMENT 2

REPRINTED TECHNICAL SPECIFICATION PAGE FOR CATAWBA

5.5 Programs and Manuals

5.5.11 Ventilation Filter Testing Program (VFTP) (continued)

ESF Ventilation System	Penetration	Flowrate
Annulus Ventilation (Unit 1)	< 1%	9000 cfm
Annulus Ventilation (Unit 2)	< 0.05%	9000 cfm
Control Room Area Ventilation	< 0.05%	6000 cfm
Aux. Bldg. Filtered Exhaust (Unit 1)	< 1%	30,000 cfm
Aux. Bldg. Filtered Exhaust (Unit 2)	< 0.05%	30,000 cfm
Containment Purge (non-ESF) (2 fans)	< 1%	25,000 cfm
Fuel Bldg. Ventilation (Unit 1)	< 1%	16,565 cfm
Fuel Bldg. Ventilation (Unit 2)	< 0.05%	16,565 cfm

- b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows the following penetration and system bypass when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the flowrate specified below $\pm 10\%$.

ESF Ventilation System	Penetration	Flowrate
Annulus Ventilation (Unit 1)	< 1%	9000 cfm
Annulus Ventilation (Unit 2)	< 0.05%	9000 cfm
Control Room Area Ventilation	< 0.05%	6000 cfm
Aux. Bldg. Filtered Exhaust (Unit 1)	< 1%	30,000 cfm
Aux. Bldg. Filtered Exhaust (Unit 2)*	< 0.05%	30,000 cfm
Containment Purge (non-ESF) (2 fans)	< 1%	25,000 cfm
Fuel Bldg. Ventilation (Unit 1)	< 1%	16,565 cfm
Fuel Bldg. Ventilation (Unit 2)	< 0.05%	16,565 cfm

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of $\leq 30^{\circ}\text{C}$ and greater than or equal to the relative humidity specified below.

ESF Ventilation System	Penetration	RH
Annulus Ventilation	< 4%	95%
Control Room Area Ventilation	< 0.95%	95%
Aux. Bldg. Filtered Exhaust	< 4%	95%
Containment Purge (non-ESF)	< 6%	95%
Fuel Bldg. Ventilation	< 4%	95%

*The Penetration bypass acceptance criteria for the charcoal adsorber for the 2B ABFVES train is changed to 0.20%. This will remain in effect until the next Unit 2 refueling outage in the spring of 2006.

(continued)

ATTACHMENT 3

TECHNICAL, REGULATORY, AND ENVIRONMENTAL ANALYSIS

1.0 Description:

This letter is a request to amend Operating License NPF-52 for Unit 2. The purpose of this change is to revise the acceptance criteria for the 2B Auxiliary Building Filtered Ventilation Exhaust System (ABFVES) train charcoal absorber bypass leakage.

The 2B ABFVES train was taken out of service on February 1, 2005 at 0400 hours for routine maintenance. During the testing performed after the routine maintenance, the 2B ABFVES train failed the acceptance criterion for bypass leakage as required by Technical Specification (TS) 5.5.11, "Ventilation Filter Testing Program" (VFTP). TS 5.5.11.b requires demonstration that for each of the ESF systems that an in-place test of the charcoal adsorber shows the following penetration and system bypass when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the flowrate specified $\pm 10\%$. For the Unit 2 ABFVES the penetration bypass acceptance criterion is less than 0.05%. The testing completed on February 2, 2005 resulted in a value of 0.10% which failed the TS 5.5.11.b acceptance criteria.

Additional maintenance was performed on the 2B ABFVES train and post maintenance testing was completed on February 4, 2005. The results of this test for the charcoal adsorber indicated a bypass leakage of 0.14% which did not meet the acceptance criterion of TS 5.5.11.b. Catawba is evaluating the possible issues that could have led to the test results achieved. Based on this evaluation, Catawba is in the process of obtaining additional test equipment to perform additional tests. These tests are being performed to confirm and validate the test results received to date. If the additional testing confirms the previous test results, then the only additional potential corrective measure would be intrusive activities. Due to the nature of these activities, and testing requirements, Catawba does not believe this can be completed prior to the expiration of the required action on February 8, 2005 at 0400.

Unit 2 entered into TS 3.7.12, "Auxiliary Building Filtered Ventilation Exhaust System (ABFVES)", required action A.1 on February 1, 2005 at 0400. The Action Statement for Technical Specification 3.7.12 requires that two (2) trains of Auxiliary Building Filtered Ventilation Exhaust System be restored to OPERABLE status within 7 days or be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within 36 hours. Therefore, Duke Energy requests approval of this Emergency TS change prior to February 8, 2005 at 0400 to avoid an unnecessary shutdown of Unit 2.

2.0 Proposed Change:

Duke Energy proposes to add a footnote to TS 5.5.11.b acceptance criterion for the Unit 2 ABFVES penetration bypass leakage on a temporary basis. The footnote will allow the bypass leakage to be raised from 0.05% to 0.20% for the 2B ABFVES train. This temporary change will remain in place until the next Unit 2 refueling outage when the 2B ABFVES train can be overhauled to restore the bypass leakage to less than 0.05%.

Catawba commits to perform another bypass leakage test of the 2B ABFVES train within the next 90 days following approval of this emergency TS change. The results of this test will be used to determine if any additional actions are warranted.

3.0 Background:

System Description

The ABFVES filters air exhausted from all potentially contaminated areas of the auxiliary building, which includes the Emergency Core Cooling System (ECCS) area and non safety portions of the auxiliary building. The ABFVES, in conjunction with other normally operating systems, also provides ventilation for these areas of the auxiliary building. The ABFVES consists of two independent and redundant trains. Each train consists of a heater demister section and a filter unit section. Ductwork, dampers, and instrumentation also form part of the system. Following receipt of a safety injection signal, the system isolates non safety portions of the ABFVES and exhausts air only from the ECCS pump rooms.

Upon receipt of the actuating Engineered Safety Feature Actuation System signal(s), the ABFVES exhausts air from the ECCS pump rooms while remaining portions of the system are isolated. This exhaust air goes through the pump room heater demister. The pump room heater demister removes both large particles within the air and entrained water droplets present in the air. The heater demister also preheats air and reduces the relative humidity of the air prior to entry into the filter unit. The pump room heater demister prevents excessive loading of the HEPA filters and carbon adsorbers within the filter unit.

TS 5.5.11 delineates the requirements for the VFTP. The VFTP requires, in part, in place testing of the high efficiency particulate air (HEPA) filters and charcoal adsorbers, and pressure drop testing across the HEPA filters, the prefilters,

and the charcoal adsorbers.. The VFTP specifies that these tests be performed at a flow rate of 30,000 cfm ± 10% for the ABFVES.

Reason for requesting change on an emergency basis

The 2B ABFVES train was taken out of service on February 1, 2005 at 0400 hours for routine maintenance. During post maintenance testing performed per procedure PT/0/A/4450/001C, "Auxiliary Building Filtered Exhaust Filter Train Performance Test," the 2B ABFVES train failed the acceptance criteria for carbon adsorber bypass leakage. The test results for bypass leakage were 0.10% versus an acceptance criterion of less than 0.05%. Engineering and Maintenance personnel reviewed and discussed issues surrounding this testing. The issues included bypass leakage, carbon filter issues, and testing methodology. As a result of this, Engineering and Maintenance personnel inspected the filter unit. This inspection discovered some portions of the bypass damper seal degraded and these were repaired. Additionally, Maintenance personnel added some additional charcoal.

After completion of this work, another test was performed on February 4, 2005. The results of this test also did not pass the acceptance criterion. The results of the second test were 0.14%. Catawba is evaluating the possible issues that could have led to the test results achieved. Based on this evaluation, Catawba is in the process of obtaining additional test equipment to perform additional tests. These tests are being performed to confirm and validate the test results received to date.

If the additional testing confirms the previous test results, then the only additional potential corrective measure would be intrusive activities. Due to the nature of these activities, and testing requirements, Catawba does not believe this can be completed prior to the expiration of the required action on February 8, 2005 at 0400.

A review of previous test data for the 2B ABFVES train was conducted and there are no indications or trends that would indicate any issues with the charcoal adsorber prior to this test.

As demonstrated above, this issue with the charcoal adsorber bypass leakage acceptance criterion could not have been reasonably foreseen or anticipated. Therefore, Duke Energy requests approval of this license amendment application on an emergency basis by February 8, 2005 at 0400 hours (the end of the current 2B ABFVES allowed outage time) in order to avoid an unnecessary Unit 2 plant shutdown.

Condition that the proposed amendment is intended to resolve

The purpose of this proposed temporary amendment is to revise the acceptance criterion of TS 5.5.11.b for charcoal adsorber bypass leakage to allow the 2B ABFVES train to be declared OPERABLE. This amendment request is being submitted to address an isolated equipment issue. Catawba previously submitted a TS change request on November 25, 2002 that would in part revise this acceptance criterion. That TS amendment is still undergoing review by the NRC Staff.

4.0 Technical Evaluation

The Unit 2 ABFVES consists of two filter trains with fans, two 100 percent capacity preheater/demister sections and associated ductwork for each unit. This system serves areas of the Auxiliary Building that are subject to potential contamination. This system serves an engineered safety features function during accident conditions.

During accident conditions the two filter trains, fans, and preheater/demister sections for each unit will operate as two-100 percent capacity subsystems of the Filtered Exhaust System for its respective unit. Upon receipt of a signal, isolation dampers will close, shutting off air flow from all areas of the Auxiliary Building except for the rooms which contain safety related pumps which are part of the Emergency Core Cooling System (ECCS). One of the two 100 percent capacity exhaust ducts will exhaust air from the pump rooms through the associated preheater/demister section, filter train, and fan to the unit vent. This assures the integrity and availability of one train of the Filtered Exhaust System in the event of any single active failure.

This proposed temporary change will not have any effect on the operation of the system. Both trains of the system will respond to signals as designed and still perform their intended function. This proposed temporary change affects only the penetration bypass leakage acceptance criteria for the 2B train. The following discussion shows how this change in acceptance criteria does not have an adverse impact on any accident analyses nor the radiological consequences.

The bases for the carbon filter penetration and bypass leakage limit is to limit the release of elemental iodine and organic iodide after a design basis event.

Overall, the impact of a 0.20% carbon adsorber filter penetration and system bypass leakage on the dose analyses is small relative to all other design inputs and assumptions.

No credit is taken for the ABFVES in the analyses of the radiological consequences of the design basis LOCA. Credit is taken for the ABFVES in the calculation of the radiation doses of the design basis rod ejection accident and for the program that determined allowable ESF leakage rates. The ABFVES performance model used for these calculations assumes a value for filter penetration and bypass (1% from Unit 1) that substantially bounds a value of 0.20% for Unit 2.

The Catawba Nuclear Station is licensed to Regulatory Guide 1.52, Revision 2, and performs carbon bed filter in-place penetration and bypass leakage testing in accordance with ANSI N510-1980.

In the carbon filter in-place penetration and system bypass tests, Refrigerant 11 (R-11) competes with water vapor and other contaminants for adsorption sites on the carbon filter media. New carbon is known to adsorb R-11 quite effectively and release its R-11 very slowly, while used/wet carbon tends to adsorb R-11 poorly and release its adsorbed refrigerant quite rapidly. This effect is due to adsorbed organic material and water blocking the carbon's adsorption sites. As the carbon filter media ages and is exposed to contaminants and high humidity air, the R-11 adsorptive properties are reduced. The collection of contaminants and moisture within the carbon filter media reduces the available internal surface area for the adsorption of R-11. Thus, the carbon filter media R-11 tracer gas de-sorption rate increases and penetration through the carbon filter media increases.

Recent ASTM D3803-1989 laboratory penetration values for the 2B ABFVES train are well below the technical specification 4% limit. The test results from January 2005 were 0.63%. Two (2) samples were tested from sampling performed in February 2005. The test results are 0.42% for the first sample and 0.34% for the second sample. These samples demonstrated substantial margin to the 4% limit in TS 5.5.11.c. This shows that the carbon adsorber material has not experienced substantial degradation.

The ABFVES operates in the continuous filtration mode to eliminate a single failure concern associated with operating in the filter bypass mode and thus increases reliability and availability of the system. The majority of the airflow is unheated and the carbon filter media is continuously exposed to contaminants and water vapor. Since the ABFVES operates in a continuous filtration mode, the collection of contaminants and water vapor within the carbon filter media can affect the retention of R-11 on the carbon filter media and increase the

penetration through the carbon filter media during field tests. The 0.05% in-place penetration and system bypass leakage limit then results in premature carbon filter media replacement even though the samples meet the ASTM D3803-1989 test acceptance criterion of less than 4%. The inability to meet the 0.05% carbon filter in-place penetration and system bypass leakage criterion is a de-sorption issue and not a leakage issue.

Increasing the carbon filter in-place penetration and system bypass leakage technical specification from 0.05% to 0.20% will help avoid an unnecessary Unit 2 shutdown without significantly reducing the margins in the calculations associated with radiological offsite and onsite releases after a design basis event. The carbon bed filtration unit efficiency used within the relevant dose analyses assumes that 5% of the radioactive particulate and elemental iodine penetrates or bypasses the carbon filter bed and 20% of the radioactive organic iodide penetrates or bypasses the carbon filter bed. The radioactive iodine and iodide that penetrates and/or bypasses the carbon filters is conservatively treated as an unfiltered release within the dose analyses.

Therefore, changing the in-place penetration and system bypass leakage to 0.20% for the 2B ABFVES carbon adsorber filters does not create any safety concerns. With carbon samples tested per the ASTM D3803-1989 low temperature and high humidity pre-equilibrium conditions, a 0.20% penetration and bypass leakage limit would not impact the carbon bed filtration efficiency margin historically utilized within the relevant dose analyses. The 95% carbon bed elemental iodine and 80% organic iodide filtration efficiency has always been the design basis input for the relevant dose analyses.

Radiological Consequences:

The design basis accidents (DBAs) at Catawba Nuclear Station postulated to be followed by ESF leakage are the design basis loss of coolant accident (LOCA) and the design basis rod ejection accident. Analyses of radiological consequences of these DBAs have been completed (Ref. 2-4). These current license basis analyses were reviewed to evaluate the effect of the proposed amendment on the radiation doses following each of these DBAs.

No credit is taken for the ABFVES in the analyses of the radiological consequences of the design basis LOCA. Thus, the proposed amendment would not affect the analysis of radiological consequences of the design basis LOCA.

A single model for ESF leakage is employed in the analyses of radiological consequences of the design basis rod ejection accident at Unit 1 and Unit 2. In this model, credit is taken for the ABFVES with the ABFVES filter efficiencies set to 95% for removal of elemental iodine and 80% for organic iodine compounds. This is consistent with the analysis presented in the NRC Safety Evaluation for Facility Operating License Amendment 90/84 (Ref. 5). The rate of ESF leakage was set to 1 gpm.

It is implicitly assumed in the calculations of radiation doses for the design basis rod ejection accident that 5% of the fission products in the airflow to the ABFVES filters either penetrate or bypass the filters. This corresponds to the sum of allowed limits of 4% for the methyl iodide test and 1% for the system penetration and bypass test of the Unit 1 ABFVES filters. The assumption bounds the sum of the 4% methyl iodide penetration limit and the proposed limit of 0.20% for the system penetration and bypass of the Unit 2 ABFVES filters.

The NRC Staff has presented a correlation for determining the safety factor associated with the absorption of organic iodine compounds. The corresponding safety factor for the Unit 2 ABFVES with the proposed amendment is 4.76. This exceeds the lower bound safety factor of 2 endorsed by the NRC Staff for those plants who test their ESF grade carbon bed absorbers in conformance with Generic Letter 99-02. (Ref. 6, cf. Ref. 7)

The analysis of radiological consequences of the design basis rod ejection accident incorporates an additional conservatism that can be used to justify the proposed amendment. Catawba has in place a program to minimize ESF leakage in conformance to TS 5.5.3 (Ref. 1). The criterion for ESF leak rate is 40% less than the ESF leak rate of 1 gpm assumed for the design basis rod ejection accident. The difference more than offsets the effect of the proposed increase in the criterion for system penetration and bypass of the ABFVES filters.

It follows from the above evaluation that the radiological consequences of the design basis LOCA and rod ejection accidents as currently analyzed remain bounding with the proposed amendment. The effects of the proposed amendment on radiological consequences of the design basis accidents at Catawba are negligible.

Summary

The requested temporary change to the acceptance criterion for penetration and bypass leakage for carbon adsorber in TS 5.5.11.b for the 2B ABFVES train is reasonable considering the redundant capabilities of the system and the radiological consequences evaluated above. Therefore, the requested temporary change to TS 5.5.11.b is acceptable.

5.0 Regulatory Evaluation:

No Significant Hazards Consideration Determination

The following discussion is a summary of the evaluation of the changes contained in this proposed amendment against the 10 CFR 50.92(c) requirements to demonstrate that all three standards are satisfied. A no significant hazards consideration is indicated if operation of the facility 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, or
3. Involve a significant reduction in a margin of safety.

First Standard

Does operation of the facility in accordance with the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated? No.

This license amendment request proposes an amendment to the VFTP TS requirements for the 2B ABFVES train. The ABFVES is in operation during normal plant operations. However, the ABFVES is not used in direct support of any phase of power generation or conversion or transmission, shutdown cooling, fuel handling operations, or processing of radioactive fluids. Therefore, it is not an accident initiator. No accident initiators are associated with the change proposed in this license amendment request. For these reasons, operation of the facility in accordance with this proposed amendment does not involve a significant increase in the probability of any accident previously evaluated.

The changes proposed to the VFTP TS for the 2B ABFVES train will not result in a significant increase in any accident consequences. The change to the penetration value for the charcoal adsorber for the 2B ABFVES train is acceptable because the appropriate safety factors as delineated in the applicable regulatory guideline documents are still maintained. Therefore, the proposed amendment is determined to not result in a significant increase in accident consequences.

Operation of the facility in accordance with the proposed amendment does not involve a significant increase in the consequences of an accident previously evaluated.

Second Standard

Does operation of the facility in accordance with the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated? No.

This proposed amendment does not involve addition, removal, or modification of any plant system, structure, or component. This change will not affect the operation of any plant system, structure, or components as directed in plant procedures. Operation of the facility in accordance with this amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

Third Standard

Does operation of the facility in accordance with the proposed amendment involve a significant reduction in the margin of safety? No.

Margin of safety is related to confidence in the ability of fission product barriers to perform their design functions following any of their design basis accidents. These barriers include the fuel cladding, the Reactor Coolant System, and the containment. The performance of these barriers either during normal plant operations or following an accident will not be affected by the changes associated with the license amendment request.

The operation of the ABFVES either during normal plant operations or following an accident will not be affected by implementation of the amendment to its TS.

As described in section 4.0 of Attachment 3, an evaluation of radiological consequences of the design basis LOCA and rod

ejection accident at Catawba Nuclear Station has been performed in support of this license amendment request. The input assumptions in the current analyses of record bound this proposed change and the radiological consequences are within the regulatory guideline values with significant margin.

The change proposed to the VFTP TS for the 2B ABFVES train will not result in a significant reduction in the margin of safety. This change is supported by regulatory guidance documents, and is consistent with existing system operation. Operation of the facility in accordance with the proposed amendment does not involve a significant reduction in the margin of safety.

Based upon the preceding discussion, Duke has concluded that the proposed amendment does not involve a significant hazards consideration.

6.0 Environmental Evaluation:

Pursuant to 10 CFR 51.22(b), an evaluation of this license amendment request has been performed to determine whether or not it meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) of the regulations.

Implementation of this amendment will have no adverse impact upon the Catawba units; neither will it contribute to any additional quantity or type of effluent being available for adverse environmental impact or personnel exposure.

It has been determined there is:

1. No significant hazards consideration,
2. No significant change in the types, or significant increase in the amounts, of any effluents that may be released offsite, and
3. No significant increase in individual or cumulative occupational radiation exposures involved.

Therefore, this amendment to the Catawba TS meets the criteria of 10 CFR 51.22(c)(9) for categorical exclusion from an environmental impact statement.

7.0 REFERENCES

- 1) Catawba Nuclear Station Technical Specifications, with Amendments Through 218/212.
- 2) H.B. Barron to U.S. Nuclear Regulatory Commission, "Duke Energy Corporation Catawba Nuclear Station Units 1 & 2, Dockets Nos. 50-413, 50-414 Proposed Amendments to the Facility Operating License and Technical Specifications to Allow Insertion of Mixed Oxide (MOX) Lead Fuel Assemblies (Revised Dose Calculations)," September 20, 2004.
- 3) W.R. McCollum to U.S. Nuclear Regulatory Commission, "Duke Energy Corporation Catawba Nuclear Station Units 1 & 2, Dockets Nos. 50-413, 50-414 Proposed Amendments to the Facility Operating License and Technical Specifications to Allow Insertion of Mixed Oxide (MOX) Lead Fuel Assemblies (Response to Request for Additional Information on Revised Dose Calculations)," October 29, 2004.
- 4) H.B. Barron to U.S. Nuclear Regulatory Commission, "Duke Energy Corporation Catawba Nuclear Station Units 1 & 2, Dockets Nos. 50-413, 50-414 Proposed Amendments to the Facility Operating License and Technical Specifications to Allow Insertion of Mixed Oxide (MOX) Lead Fuel Assemblies (Additional Information on Revised Dose Calculations)," December 10, 2004.
- 5) R.E. Martin (USNRC) to M.S. Tuckman, "Issuance of Amendment No. 90 to Facility Operating License NPF-35 and Amendment No. 84 to Facility Operating License NPF-52 - Catawba Nuclear Station, Units 1 and 2 (TAC 80122/ 80123)," August 23, 1991.
- 6) NRC Generic Letter 99-02: Laboratory Testing of Nuclear-Grade Activated Charcoal.
- 7) G.R. Peterson to U.S. Nuclear Regulatory Commission, "Duke Energy Corporation Catawba Nuclear Station, Units 1 and 2 (Docket Nos. 50-413 and 50-414, Proposed Technical Specifications and Bases Amendment, Technical Specification and Bases 3.6.10 Annulus Ventilation System (AVS), Technical Specification and Bases 3.6.16 Reactor Building, Technical Specification and Bases 3.7.10 Control Room Area Ventilation System (CRAVS), Technical Specification and Bases 3.7.12 Auxiliary Building Filtered Ventilation Exhaust System (ABFVES), Technical Specification and Bases 3.7.13 Fuel Handling Ventilation Exhaust System (FHVES), Technical

Specification and Bases 3.9.3 Containment Penetrations,
Technical Specification 5.5.11 Ventilation System Testing
Program," November 25, 2002.

- 8) M.S. Tuckman to USNRC, "Catawba Nuclear Station Units 1 & 2
Docket Nos. 50-413, 414 McGuire Nuclear Station Units 1 & 2
Docket Nos. 50-369, 370 Oconee Nuclear Station Units 1, 2, &
3 Docket Nos. 50-269, 270, and 287 Response to Generic Letter
99-02: Laboratory Testing of Nuclear-Grade Activated
Charcoal," November 30, 1999.