

NRC-03-061

10 CFR 50.36

June 9, 2003

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

**KEWAUNEE NUCLEAR POWER PLANT  
DOCKET 50-305  
LICENSE No. DPR-43  
BASES REVISION(S) TO THE KEWAUNEE NUCLEAR POWER PLANT TECHNICAL  
SPECIFICATIONS**

Nuclear Management Company (NMC), licensee for the Kewaunee Nuclear Power Plant (KNPP), hereby submits a revision to the Bases for the Technical Specifications (TS) 4.4, "Containment Tests" and TS 4.12, "Spent Fuel Pool Sweep System." The change to the bases was to the values listed for the clean filter pressure drop. These changes are being revised to state a clean filter bank has a delta P of approximately 3" WC for the shield building ventilation system and auxiliary building special ventilation system filters and approximately 2" WC for the SFP sweep system filters based on clean filter data.

These changes have been screened for evaluation pursuant to the requirements of 10 CFR 50.59 in accordance with approved KNPP procedures and were determined to be acceptable.

Attached is a copy of the revised Technical Specification Bases page(s) for your controlled TS.



Thomas Coutu  
Site Vice-President, Kewaunee Plant

GOR

cc US NRC, Region III  
US NRC, Senior Resident Inspector  
Electric Division, PSCW

Attachment

A001

**ATTACHMENT 1**

**NUCLEAR MANAGEMENT COMPANY, LLC  
KEWAUNEE NUCLEAR PLANT  
DOCKET 50-305**

**June 9, 2003**

**Letter from Thomas Coutu (NMC)**

**To**

**Document Control Desk (NRC)**

**TS Bases Pages**

**TS B4.4-2**

**TS B4.4-3**

**TS B4.12-1**

Maintaining CONTAINMENT SYSTEM INTEGRITY in an OPERABLE state requires, among other conditions, that all the requirements of TS 4.4.a and b, leakage rate testing (Containment Leakage Rate Testing Program), are satisfied. The testing process will include: (1) an overall containment leak rate evaluation (Type A); (2) a determination of the leakage through pressure containing or leakage limiting boundaries (Type B); and (3) an evaluation of the leak rate through containment isolation valves (Type C).<sup>(4)</sup> These tests are intended to check all possible paths for containment atmosphere to reach the outside atmosphere.

#### Shield Building Ventilation System (TS 4.4.c)

Pressure drop across the combined HEPA filters and charcoal adsorbers of < 10 inches of water and an individual HEPA bank pressure drop of < 4 inches of water at the system design flow rate ( $\pm 10\%$ ) will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. A test frequency of once per operating cycle establishes system performance capability. This pressure drop is approximately 3 inches of water when the filters are clean.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52 (Rev. 1) dated July 1976, except that ASTM D3803-89 standard will be used to fulfill the guidelines of Table 2, item 5, "Radioiodine removal efficiency." The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly, and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. The use of multi-sample assemblies for test samples is an acceptable alternate to mixing one bed for a sample. If the iodine removal efficiency test results are unacceptable, all adsorbent in the system should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52 (Rev. 1) dated July 1976.

If painting, fire, or chemical release occurs, the charcoal adsorber will be laboratory tested to determine whether it was contaminated from the fumes, chemicals, or foreign materials. Replacement of the charcoal adsorber can then be evaluated.

Operation of the systems every month will demonstrate operability of the filters and adsorber system. Operation of the Shield Building Ventilation System will result in a discharge to the environment. This discharge is made after at least three samples of the building atmosphere have been analyzed to determine the concentration of activity in the atmosphere.

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<sup>(4)</sup> 10 CFR Part 50, Appendix J, Option B

#### Auxiliary Building Special Ventilation System (TS 4.4.d)

Demonstration of the automatic initiation capability is necessary to assure system performance capability.<sup>(5)</sup>

Pressure drop across the combined HEPA filters and charcoal adsorbers of < 10 inches of water and an individual HEPA bank pressure drop of < 4 inches of water at the system design flow rate ( $\pm 10\%$ ) will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. A test frequency of once per operating cycle establishes system performance capability. This pressure drop is approximately 3 inches of water when the filters are clean.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52 (Rev. 1) dated July 1976, except that ASTM D3803-89 standard will be used to fulfill the guidelines of Table 2, item 5, "Radioiodine removal efficiency." The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly, and obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. The use of multi-sample assemblies for test samples is an acceptable alternate to mixing one bed for a sample. If the iodine removal efficiency test results are unacceptable, all adsorbent in the system should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52 (Rev. 1) dated July 1976.

If painting, fire, or chemical release occurs, the charcoal adsorber will be laboratory tested to determine whether it was contaminated from the fumes, chemicals, or foreign materials. Replacement of the charcoal adsorber can then be evaluated.

Periodic checking of the inlet heaters and associated controls for each train will provide assurance that the system has the capability of reducing inlet air humidity so that charcoal adsorber efficiency is enhanced.

In-place testing procedures will be established utilizing applicable sections of ANSI N510-1975 standard as a procedural guideline.

#### Vacuum Breaker Valves (TS 4.4.e)

The vacuum breaker valves are 18 inch butterfly valves with air to open, spring to close operators. The valve discs are center pivot and rotate when closing to an EPT base material seat. When closed, the disc is positioned fully on the seat regardless of flow or pressure direction. Testing these valves in a direction opposite to that which would occur post-LOCA verifies leakage rates of both the vacuum breaker valves and the check valves downstream.

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<sup>(5)</sup> USAR Section 9.6

## **BASIS**

Pressure drop across the combined HEPA filters and charcoal adsorbers of <10 inches of water and 4 inches across any HEPA filter bank at the system design flow rate ( $\pm 10\%$ ) will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. A test frequency of once per operating cycle establishes system performance capability. This pressure drop is approximately 2 inches of water when filters are clean.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. Replacement adsorbent should be qualified according to the guidelines of Regulatory Guide 1.52 (Rev. 1) dated July 1976, except that ASTM D3803-89 standard will be used to fulfill the guidelines of Table 2, item 5, "Radioiodine removal efficiency." The charcoal adsorber efficiency test procedures should allow for the removal of one adsorber tray, emptying of one bed from the tray, mixing the adsorbent thoroughly, and obtaining at least two samples. Each sample should be at least 2 inches in diameter and a length equal to the thickness of the bed. The use of multi-sample assemblies for test samples is an acceptable alternate to mixing one bed for a sample. If the iodine removal efficiency test results are unacceptable, all adsorbent in the system should be replaced. Any HEPA filters found defective should be replaced with filters qualified pursuant to Regulatory Position C.3.d of Regulatory Guide 1.52 (Rev. 1) dated July 1976.

If painting, fire, or chemical release occurs such that the charcoal adsorbers become contaminated from the fumes, chemicals, or foreign materials, the same tests and sample analysis should be performed as required for operational use.

Degradation of the HEPA filters due to painting, fire or chemical release in a communicating ventilation zone would be detected by an increased pressure drop across the filters. Should the filters become contaminated, engineering judgment would be used to determine if further leakage and/or efficiency testing was required.

Demonstration of the automatic initiation capability is necessary to assure system performance capability.

In-place testing procedures will be established utilizing applicable sections of ANSI N510 - 1975 standard as a procedural guideline only.