SAMPLE TECHNICAL SPECIFICATIONS

For Plants With Improved Standard Technical Specifications

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 30 °C [86 °F] and the relative humidity specified below.

ESF Ventilation System	Penetration	RH
	see note below	**see note below**

Note: The use of any standard other than ASTM D3803-1989 to test the charcoal sample may result in an overestimation of the capability of the charcoal to adsorb radioiodine. As a result, the ability of the charcoal filters to perform in a manner consistent with the licensing basis for the facility is indeterminate.

ASTM D3803-1989 is a more stringent testing standard because it does not differentiate between used and new charcoal, it has a longer equilibration period performed at a temperature of 30 °C [86 °F] and a relative humidity (RH) of 95% (or 70% RH with humidity control), and it has more stringent tolerances that improve repeatability of the test.

$$\textit{Allowable Penetration} = \frac{[100\% - \textit{Methyl Iodide Efficiency}^{*} \textit{ for Charcoal Credited In Licencee's Accident Analysis}]}{\textit{Safety Factor}}$$

When ASTM D3803-1989 is used with 30 °C [86 °F] and 95% RH (or 70% RH with humidity control) is used, the staff will accept the following:

Safety factor $\geq$ 2 for systems with or without humidity control.

Humidity control can be provided by heaters or an NRC-approved analysis that demonstrates that the air entering the charcoal will be maintained less than or equal to 70 percent RH under worst-case design-basis conditions.

*This value should be the efficiency that was incorporated in the licensee's accident analysis which was reviewed and approved by the staff in a safety evaluation.

For Plants With Older Technical Specifications

Each engineered safety features (ESF) ventilation system shall be demonstrated OPERABLE:

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

   1) Verifying, within 31 days after removal, that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than [see note in preceding section titled "For Plants With Improved Standard Technical Specifications"]% when tested in accordance with ASTM D3803-1989 at a temperature of 30 °C [86 °F] and a relative humidity of [see note in preceding section titled "For Plants With Improved Standard Technical Specifications"]%.

b. Within 31 days of completing 720 hours of charcoal adsorber operation, verify that a laboratory test of a sample of the charcoal adsorber, when obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 2, March 1978, shows the methyl iodide penetration less than [see note in preceding section titled "For Plants With Improved Standard Technical Specifications"]% when tested in accordance with ASTM D3803-1989 at a temperature of 30 °C [86 °F] and a relative humidity of [see note in preceding section titled "For Plants With Improved Standard Technical Specifications"]%.