



February 22, 2008

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South Carolina Department of Health and
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Saltstone Disposal Facility Vault 4 Passive Vent Enhancements (U)

References:

1. *Modified Permit for the Savannah River Site (SRS) Z-Area Saltstone Disposal Facility, Facility ID No. 025500-1603, Aiken County, 1/23/07*
2. Letter, ESH-WPG-2006-00122, *Z-Area Industrial Solid Waste Landfill Vault 4 Enhancements, 11/21/06*
3. Letter, J. M. McCain (SCDHEC) to K. Liner (WSRC), *Vault 4 Modifications, 2/15/07*

This letter is intended to update the South Carolina Department of Health and Environmental Control (hereafter referred to as the Department) on two enhancements (i.e. Radiological Containment Structure Upgrades and Passive Vent Filter Installation) being implemented on the Saltstone Disposal Facility (SDF) Vault 4 passive vents for radioactive contamination control.

SDF Vault 4 cell air is passively exhausted through two cell vents via displacement due to incoming grout and the natural circulation of air currents through the cell. Installed on each vent is a filter housing that does not currently contain a filter element. The filter element was removed as it was not required for radioactive contamination control or to ensure safe operation of the SDF. As previously discussed with the Department, the cell air is humid due to natural environmental conditions within the cell (References 2 and 3). Water vapor naturally condenses in the cell during grout pouring operations. The condensate drops by gravity into the cell and either is hydrated into the curing grout or removed via the drain water collection system for treatment by the Saltstone Production Facility (SPF). The exhaust enhancements described in this letter will not alter this phenomenon.

Radiological Containment Structure Upgrades

As seen during the Department's recent site visit, radiological containment structures, using plastic sheeting, are erected around the SDF Vault 4 passive vents for radioactive contamination control. The radiological containment structures do not currently employ a forced ventilation system; rather, a screened vent allows air to naturally exhaust from the radiological containment structure. A series of plastic sheeting baffles are planned to be added downstream of the screened vent to allow for better radioactive contamination control. In addition, a small, portable, forced ventilation system with a HEPA filter is being installed on each radiological containment structure, as necessary, which will be used to

exhaust the air from the radiological containment structure. As a means to protect the HEPA filter from the water vapor discussed above, a combination of HEPA/heater, demister, and moisture separator assemblies may also be installed. Any condensate that accumulates in the ventilation system ducting will be returned to the cell using temporary piping through an existing three inch opening in the SDF Vault 4 roof.

Passive Vent Filter Installation

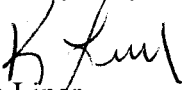
The existing filter housings on the SDF Vault 4 passive vents do not currently have filter elements installed. In order to improve radioactive contamination control a filter element has been identified and will be installed within the existing filter housing. Any condensation that accumulates on the filter element will drop by gravity into the cell as discussed above. It is anticipated that the filter elements will require periodic replacement, which will generate low-level radioactive waste. In the future, approval may be requested from the Department to dispose of the filter elements within the SDF Vault 4.

The Savannah River Site (SRS) does not consider the SDF Vault 4 passive vent enhancements to require a permit modification (Reference 1) for implementation. The enhancements are similar to those previously discussed and approved by the Department (References 2 and 3). Installation is scheduled to begin in late February 2008.

It is also important to note that these measures are being taken for radioactive contamination control and are not required in order to satisfy the National Emission Standards for Hazardous Air Pollutant (NESHAP) requirements for radioactive emissions. Radioactive-NESHAPs calculations have determined the SDF Vault 4 to be a Potential Impact Category (PIC) 3 source.

If you have any questions, please contact Keith Liner at (803) 208-6466.

Yours very truly,



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SRS-REG-2008-00011

Page 3 of 3

February 22, 2008

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K.A. Hauer, WSRC, 766-H, Rm. 2006
E. Patten, WSRC, 704-Z, Rm. 6
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