

## 2.2

### Alternative Hepa Filter

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### Abstract

DOE has about 300 high-level waste liquid storage tanks at its various sites. These are maintained at a slight negative pressure to prevent leakage of radioactive contamination and avoid buildup of hydrogen in the head space. The vent gas from these tanks is filtered through disposable glass fiber HEPA filters. Replacement of these filters generates both a waste disposal problem and a problem associated with operator exposure during filter replacement.

CeraMem Corporation has developed a ceramic monolith filter with a composite structure. The filter employs a fine-pored ceramic membrane barrier which has HEPA filtration properties. A prototype filter has been supplied to SRS for DOP challenge tests and simulated vent gas tests. Results presented in this paper show >99.99% retention for 0.3  $\mu\text{m}$  aerosol and the ability to be cleaned effectively by acid backflushing.

Continuing work in this program involves the development of "full size" filters and testing on simulated vent gas. Subsequently, a full size vent gas filtration system will be built and evaluated on a high-level waste tank vent line.