

#### 4.5.4 Penetration Room Ventilation System

##### Applicability

Applies to testing of the Penetration Room Ventilation System

##### Objective

To verify that the Penetration Room Ventilation System is operable.

##### Specification

#### 4.5.4.1 Operational and Performance Testing

- a. Monthly, each train of the Penetration Room Ventilation System shall be operated for at least 15 minutes at design flow  $\pm 10\%$ .
- b. Every 18 months, it shall be demonstrated that:
  1. The Penetration Room Ventilation System fans operate at design flow ( $\pm 10\%$ ) when tested in accordance with ANSI N510-1975. 1989
  2. The pressure drop across the combined HEPA filters and charcoal adsorber banks is less than six inches of water at the system design flow rate ( $\pm 10\%$ ).
  3. Each branch of the Penetration Room Ventilation System is capable of automatic initiation.
  4. The bypass valve for filter cooling is manually operable.
- c. Leak tests using DOP or halogenated hydrocarbon, as appropriate shall be performed on the Penetration Room purge filters:
  1. Every 18 months;
  2. After each complete or partial replacement of a HEPA filter bank or charcoal adsorber bank;
  3. After any structural maintenance on the system housing;
  4. After painting, fire, or chemical release in any ventilation zone communicating with the system.
- d. The results of the DOP and halogenated hydrocarbon tests on HEPA filters and charcoal adsorber banks shall show  $\geq 99\%$  DOP removal and  $\geq 99\%$  halogenated hydrocarbon removal, respectively, when tested in accordance with ANSI N510-1975.

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