Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- What overall performance criteria will by NRC in reviewing individual proposed plant selections of filters and related system designs? For example:
  - Instantaneous filter DF over entire operating range?
  - Integrated filter DF over a period of time or over the duration of an event?
  - Could instantaneous and integrated DFs be combined?
  - What period of time or event?
  - Would there be credit for operator actions?
- What testing would be required to demonstrate filter performance?
  - Under what conditions would testing need to be carried out?

Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- How are the design boundary conditions to be set for the filter? For example:
  - Vent gas temperature and pressure?
  - Content of vent gas, such as steam, hydrogen and non-condensable gases
  - Aerosol makeup & size distribution, etc.
- What external event design requirements would apply to the filter, the needed appurtenances and structures that might house the filter? For example:
  - Seismic loads
  - External flooding considerations
  - Extreme temperatures
  - Tornado missiles
  - High winds, etc.

Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- What beyond design basis conditions must the filter, appurtenances, housing structures, human—machine interfaces be designed for?
- What severe accident conditions must be accounted for in the system design and operator interactions?
- How are impacts on the plant onsite emergency response capability to be accounted for in the design? For example:
  - Timing of release
  - Need for plant access
  - Access to other plant systems and structures near the filter, etc.
- Can changes to the plant emergency plans be made in conjunction with installation of a filter, as suggested in Enclosure 1 of the SECY? If so, what criteria would be applied to changes in evacuation plans?

Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- Should pressure suppression pressure (PSP) be factored into the specification of the rupture disk burst pressure?
- What assumptions should be used regarding rupture disc inspections/replacement?
- If the rupture disk is set at containment design pressure, would there be a need to revisit design basis analysis to assess the impact on containment safety margin?
- What part of the piping, valves, rupture disk, filter, and appurtenances considered part of the primary containment?
- What part of the piping, valves, rupture disk, filter, and appurtenances will be considered part of the secondary containment?

Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- Would the installation of a filter impact design basis analyses on control room habitability?
- Would the installation of a filter impact any Part 100-related analyses?
- I am also wondering about testing requirements. The staff said that the European tests were good enough to justify the order of a filter. Will those same tests be acceptable for the utilities to have their plant specific implementation “qualified”?

Questions re: Requirements and review of external filters as contemplated by Option 3 of SECY-12-0157

- Inherent in the Commission's selection of either Option 3 or 4 is the need to upgrade the reliable, hardened vent to a severe accident capable vent, will the NRC staff review the integrated plans submitted pursuant to the requirements of the existing order (EA-11-050) and associated assumptions (*i.e.,* no core damage) or wait until there is a resolution of the vent requirements with appropriate time for utilities to redo plans, etc.