The criteria to develop current U.S. facilities includes guidance to insure absolute safety and security rather than cost or time, maximum protection for operating personnel, absolute assurance of total containment of agent, and collection of incontrovertible data to support personnel safety, security and community safeguards. In addition to this guidance, the U.S. Army, as the executive agent, has established criteria for the storage, transportation and disposal of chemical weapons. These criteria address the following areas and influence the selection of disposal alternatives.

1. Restriction on total quantity of explosives within the process building

2. Agent emission limitations

3. Process effluent standards

4. Personnel safety requirements

The overriding facility design criteria is agent containment. By maintaining negative pressure within all processing areas, air flow is always from areas of lesser contamination potential to areas of higher potential. The resulting ventilation air is scrubbed by redundant High Efficiency Particulate Air and charcoal filters. Total containment of both overpressure and fragments from an accidental detonation is accomplished by use of a reinforced concrete structure contained within the building which is isolated by blast valves and containment dampers.

Process Technology

The specific process steps and equipment required for demilitarization are dependent on the munition type. Generically, all munition types fall into one of three categories: