

Waste Treatment Overview

Background

Treatment of radioactive waste into acceptable forms for storage or disposal is mandatory for waste producers. Waste from operating nuclear facilities and/or a decommissioning and decontamination (D&D) activity is produced in various forms (e.g., liquid, solid, gas) and thus requires different treatment to transfer it into acceptable waste forms. Processes to reduce volume and prevent activity buildup and secondary waste generation are favorable to reduce overall cost.

Westinghouse provides leading customized solutions based on the expertise of the various regional regulatory and structural environments, a toolbox of proven state-of-the-art technologies for low- and intermediate-level radioactive wastes (LILW) and a learning attitude in improving technologies using lessons learned.



Sorting box

Description

Whether it is designing equipment and processes for a new building or integrating a design into an existing structure, Westinghouse has the necessary know-how and experience to adapt to an existing waste process or to customize a process to meet a customer's individual needs. We have existing processes and equipment in place and offer mobile solutions that can be used at several locations to meet today's waste treatment requirements.

Our standard means to process waste includes: decontamination, segregation, drying, solidification, immobilization, filtration, sorting, compaction and supercompaction. Each process is used to achieve free release of the material or to reduce the volume of the waste and transform it into suitable and accepted waste forms. As-low-as-reasonably-achievable principles are always followed, and equipment and processes are designed to be remote controlled or fully automatic. Furthermore, we can select the required processes and add the necessary auxiliary and handling systems, procure, test, install, and commission the processes and equipment.

Some examples of Westinghouse waste treatment products include:

- Site radwaste treatment facility (all nuclear power plant LILW)
- Sorting and compaction facility (LLW)
- Cementation facility (concentrate, resin, filter cartridges)
- Drum dryer facility
- Decontamination boxes
- Segregation boxes
- Hot resin supercompaction (NextGeneration)
- Mobile cementation
- Mobile supercompactor
- Mobile waste water treatment

Benefits

Westinghouse offers proven processes and equipment including:

- Proven waste treatment processes with references all over the world
- Standard and customized solutions
- Single treatment steps or full processing systems, including necessary auxiliary equipment
- Integration into existing facilities, buildings and processes or a complete new facility design
- A one-stop-shop approach to D&D applications
- High-volume reduction and minimized secondary waste production
- Understanding of waste paths and total life-cycle cost
- Project from concept design to final acceptance
- Service including installation supervision, commissioning supervision, licensing support and after-sales services (maintenance, spare parts)

Westinghouse also offers customers a strong partnership, engineering capabilities, continuous learning and an international presence.



Capping machine

Experience

Westinghouse has extensive experience integrating waste treatment within operating plants, as well as into large decontamination or decommissioning and dismantling activities. To date, Westinghouse has successfully applied several waste treatment process at a number of nuclear plants around the world.



Supercompactor