Long-Term Operations

Smart In-Drum Drying

Crystallization Technology

Improving an Inefficient Process

Westinghouse has developed a new, cutting-edge, patented process that significantly improves in-drum drying for more efficient volume reduction of liquid radioactive waste. This innovative technique crystallizes rather than drying liquid waste, resulting in a much higher quality stable waste form.

Solving Longstanding Problems

For more than four decades, evaporator concentrates and liquid radioactive waste have had problems in the quality of the condensate.

Salt crystallization at drum inner walls, bottom and liquid surface.

Salt crystals growing beyond the upper edge of the drum into the filling hood and voids.

Voids in the center of the final product, and salt encrustation of the filling hood contributed to a limited production Volume Reduction Factor (VRF) of 4.

Key Improvements

New operational process can be a stand-alone skid or requires minor additional hardware and controls to existing drying systems for ease in retrofitting.

- Water evaporation rate up to 6 l/h
- Average evaporation rate of >2 l/h
- Filling degree of > 90 %
- Residual moisture < 1 %
- VRF of 7 with nearly void-free product
- Requires less water flushing
- Reduced filling hood salt crystallization

Minimized voids.

The growing of salt stone above the upper edge is prevented by the new operational process which forms stone from bottom to top.

Contact us to learn more.

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