

# Flue Gas Desulfurization Blow-Down & Ash Pond Treatment

Ion exchange resins are an efficient and simple way to purify waste streams and concentrate radioisotopes on a solid substrate before treated liquid is released to the environment or recycled to the nuclear circuits. In certain cases, reverse osmosis membranes can be used to concentrate the radioactive stream and thus reduce the amount of liquid waste requiring treatment. During decommissioning operations, which mainly occur under water, ion exchange resins are used to purify decommissioning units to increase visibility and remove contaminants, as well as treat effluent when the decommissioning pool is emptied.

TECHNOLOGY	PRODUCT	APPLICATION	FEATURES AND RECOMMENDED USES
ULTRAFILTRATION MODULES AND SKIDS	DuPont™ IntegraTec™ Ultrafiltration technology	Suspended Solids Removal	Our broad portfolio of PES and PVDF technologies enables IntegraTec™ portfolio to develop the ideal fit to your specific challenge. Pressurized, Submerged, Integrated and UF module components of IntegraTec™ delivers the solution you need where to need it.
ION EXCHANGE RESINS	DuPont™ AmberLite™ IRC83 H	Softening	Weak acid cation softening resin for higher TDS waters (>5,000 ppm). Up to 30% more operating capacity than traditional WAC resins. Fewer regeneration cycles reduce waste volume up to 15%. Superior physical stability yields long resin life.
	DuPont™ AmberLite™ IRC200 Na		Strong acid cation softening resin for low TDS waters (<5,000 ppm). Macroreticular structure with high degree of crosslinking for resistance to oxidative, thermal, mechanical and osmotic stress.
REVERSE OSMOSIS ELEMENTS	FilmTec™ Fortilife™ CR100 FilmTec™ Fortilife™ CR200	Demineralization from Challenging Feedwater Source	State-of-the-art solution to tackle tough fouling coupled with excellent salt rejection. The industry's lowest differential pressure 400 ft² spiral wound RO module design
	FilmTec™ Fortilife™ XC70	Brine Concentration from Challenging Feedwater Source	Achieves higher concentrate TDS levels >70,000 ppm (as NaCl) when operated within standard RO design limits. Fouling resistant, durable RO element.
	FilmTec™ Fortilife™ XC80 FilmTec™ Fortilife™ XC120		Achieves higher concentrate TDS levels >80,000 ppm (as NaCl) when operated within standard RO design limits. Fouling resistant, durable RO membrane.
	DuPont™ Specialty Membranes XUS180808 Ultra-High Pressure RO		Operation up to 120 bar (1,740 psi), achieving concentrate TDS levels of 100,000-200,000 ppm. Up to 50% reduction of waste stream / downstream processes; More than 50% energy savings compared to conventional thermal technology.
NANOFILTRATION ELEMENTS	FilmTec™ Fortilife™ NF1000	Salt Separation from Challenging Feedwater Source	Selective, high mono-valent ion passage. High di-valent ion & organic rejection. High permeability to allow high water recovery at low energy.
ION SELECTIVE RESIN	DuPont™ AmberSep™ IRA 743	Boric Acid and Borate Removal from FGD Blowdown	Highly selective macroporous chelating resin. Effective in a variety of waters.
	DuPont™ AmberSep™ GT74 or AmberSep™ 43600	Mercury Removal in FGD Blowdown and Ash Ponds	Selective thiol- or thiuronium- functionalized chelating resins with excellent capacity for removal of ionic mercury.

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