



AIRCRAFT DEICING FLUID TREATMENT AND RECOVERY

Significant Savings

- Recovery of glycol
- Low cost treatment
- Small space required

Clients and Projects

- Pittsburgh Airport
- Salt Lake City Airport

Technology Benefits

Membrane Separation System Using Tubular Ultrafilters (UF) and Reverse Osmosis (RO)

- Simple mechanical process
- Consistent high quality water
- Ability to reuse glycol
- Low operating costs
- Unattended operation
- Minimal disposal costs

Contaminants Removed

- Glycol
- Oils
- Solids
- Heavy metals

Services Provided

- Systems Design
- Equipment and Installation
- Operator Training
- Maintenance Contract
- Build, Own, Operate and Maintain

Equipment Shown

Multi-stage reverse osmosis system including clean-in-place system. Insert shows spiral-wound membrane



The runoff of deicing fluid from aircraft has historically been allowed to drain to ground water or streams. This practice is being discontinued at some airports as regulatory enforcement increases. The deicing fluid is typically formulated from either propylene or ethylene glycol and water with additives. The waste stream contains high levels of COD & BOD, which is toxic and causes fish kills and other environment degradation.



Benefits

Dynatec has provided comprehensive integrated systems to produce purified water that can be safely discharged to sewer. Further, the system produces a concentrate of glycol that is sold to others or re-blended as deicing fluid. The system provides the airport with many benefits including:

- High quality purified water to meet stringent authority discharge limits
- High concentration of glycol in the concentrated waste for use in other applications or for re-blending new deicing fluid
- Elimination of treatment chemicals
- Ability to treat a constantly changing waste concentration without process upsets
- Minimal operator attention required
- Low operating and maintenance cost

The treatment system consists of multi-stage membranes. The requirements of each system will vary depending on local needs, so each system is a unique design.

Options

Dynatec has several systems operating, processing forty to seventy thousand gallons per day at glycol concentrations varying from one half of one percent to three percent (0.5% - 3%). The systems consistently produce water with COD less than 200 ppm. The systems concentrate glycol up to twenty percent. A secondary evaporator system produces a concentrate greater than ninety percent glycol.



Dynatec can provide the system as a capital project, or on a "Contract Service" basis whereby Dynatec designs and builds a complete system that is owned, operated and maintained by Dynatec (DBOOM). The charge for "Contract Service" is volume based, incurring no capital or other expenses for the airport.