The Dynatec Difference

**Significant Savings**
- Recovery of glycol
- Low cost treatment
- Small space required

**Clients and Projects**
- Pittsburgh Airport
- Salt Lake City Airport
- Hartford Bradley 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
- Design, Build, Own, Operate and Maintain

**Equipment Shown**
Multi-stage reverse osmosis system including clean-in-place system.

Insert (below) shows spiral-wound membrane

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**Aircraft Deicing Fluid Treatment and Recovery**

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, at toxic levels, causing 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 had several systems operating for a number of years, processing forty to seventy thousand gallons per day at glycol concentrations varying from one half of one percent to three percent (0.5% - 3%). Each system is designed for the specific application, producing treated water that meets the required local discharge standards, whether that be discharge to a local POTW, or discharge to ground or surface water. The systems are capable of producing glycol concentrations of up to 20%, again, depending on the individual requirements. This fluid can be further treated on-site to higher concentrations, of hauled off site for further concentration.

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.