



BMP Update

Reduce, Recycle, Re-Spray

McGuire Air Force Base, New Jersey

McGuire AFB, NJ recently implemented a program for managing waste aircraft deicing fluid that reclaims spent glycol from effluent to produce re-manufactured deicing fluid. Glycol is a key ingredient of aircraft deicing fluid [ADF]. When glycol degrades in water it consumes oxygen at high rate, which can be detrimental to aquatic life. To limit glycol concentrations in the storm water and protect aquatic life, McGuire recently implemented a program to capture and collect deicing fluid effluent before it could negatively impact the surrounding environment.

“Our primary focus was on the implementation of Best Management Practices for waste glycol management,” said MSgt Mark Kemp, Environmental Manager for the 305th Maintenance Group. “Leading up to this, we carried out a great deal of research into the types of equipment and services available, including site visits to several civilian airport installations.” When the RFP was released for onsite glycol collection proposals, Inland Technologies International (ITI), which already implemented glycol collection and recycling at Dulles and Reagan Airports, was selected to visit the base to execute a turnkey service program.

ITI was contracted to develop a comprehensive program to assist McGuire in maintaining environmental compliance with respect to the use of aircraft deicing fluid.

“The glycol management program includes 24 hour coverage during the deicing season,” said MSgt Kemp, “this is to ensure that all flights, scheduled and unscheduled, are provided with the same level of environmental protection.”



An MGRV at McGuire AFB offloads fluid contaminated with glycol into a temporary storage tank for later recycling.

All deicing now takes place on designated deicing pads in order to minimize the areas where fluid is to be collected. A customized program was tailored for the Base, which included the installation of several drain blocks that could be opened or closed depending on the weather and deicing activity. With the drains blocked, contaminated fluid is prevented from entering the storm water system and recovered using two Mobile Glycol Recovery Vehicles [MGRVs]. These specialized vehicles were specifically engineered for the efficient recovery of spent glycol and are used to “vacuum” all ramp surfaces following a deicing event. All fluid containing significant amounts of glycol is stored onsite using portable fluid storage tanks provided by ITI.

Waste effluent is taken to one of ITI’s centralized recycling facilities where excess water and contaminants such as hydrocarbons are removed from the waste fluid. The waste fluid is cleaned until it meets all the specifications of virgin glycol. It is then blended with an additive package for formulation back into aircraft deicing fluid for commercial reuse.

This past season, approximately 56,000 gallons of waste fluid was collected from the ramp and recycled at McGuire. “That’s a significant volume of fluid,” stated MSgt Kemp, “enough to potentially have an adverse impact on aquatic life in waterways around the base.”



A United Airlines plane is de-iced to remove snow and ice buildup on wing surfaces. United Airlines is using DuraGly P, Inland’s aircraft de-icing fluid made from re-manufactured glycols.

“McGuire had parallel goals that we wanted to achieve with the implementation of this program,” said Kemp. “First, we wanted to protect our waterways. And second, given the trend with environmental regulations for Aircraft Deicing Fluid, we wanted to demonstrate our use of Best Management Practices in collecting this effluent.”