Ted Stevens Anchorage International Airport
2017 Environmental Section Summary Report

Solid and Hazardous Waste Management

Recycling from Ted Stevens Anchorage International (ANC) tenants and State of Alaska operations at ANC diverted over 350,000 pounds of solid waste from going into the Anchorage Regional Landfill. By recycling these materials, ANC saved the State of Alaska over $10,000.00 in tipping fees at the landfill.

Airport operations produced tens of thousands of pounds of recyclable products such as batteries, scrap metals, reclaimed/reground asphalt, concrete and aggregates, used oil, printer/toner cartridges, electronics and other materials, which would have once ended up in the landfill, are now beneficially reused through recycling. Here is a breakdown of weights for those materials:

Recycled batteries =	~6,000 lbs.
Scrap Metal =	~136,820 lbs.
Toner/Printer Cartridges =	~200 ea.
Electronic Waste =	~2,200 lbs.
Mixed paper/newspaper =	~8,000 lbs.
Cardboard =	~190,000 lbs.
Antifreeze =	~2,070 lbs. (250 gallons)
Used oil =	~22,652 lbs. (2665 gallons)

A good portion of the scrap metal recycled this year came from the demolition of a Lockheed Electra airplane that has been used for the last decade to train airport firefighters.

During 2017 waste minimization efforts resulted in the airport generating less than 150 pounds of hazardous waste. Recycling, product substitution to reduce hazardous chemicals and training airport staff on proper identification, handling, and disposal of hazardous and solid waste has contributed greatly to the airport reducing the amount of hazardous materials that is used and disposed of as hazardous waste by the airport.

Pollution Prevention & Spill Response

15 spills totaling ~450 gallons were reported to the Environmental Section at ANC. Most of the spills were accidental releases during aircraft refueling operations. The majority of the spills were onto paved surfaces where they had minimal environmental impacts and spill response was immediate in most cases which prevented any contaminates from reaching sensitive environments.

To further prevent any contamination from entering Cook Inlet or Lakes Hood and Spenard ANC operates three “watershed protection stations” that are designed to capture and recover petroleum contaminates from storm water discharges. The spill stations contain floating weirs and oil skimmers to recover any oil accumulated behind the weir.

In addition to the spill stations, ANC places absorbent booms at all outfalls where storm water daylights from underground piping into an open waterbody or channel as a precautionary measure in case a spill does make it to a storm drain or drainage ditch.

Contaminated Site Investigation and Remediation
The ANC Environmental staff works closely with ANC tenants and the Alaska Department of Environmental Conservation (ADEC) to address and resolve issues related to contaminated sites on ANC lands. Because the airport area has been one of Alaska's primary industrial hubs since the early 1950's, many of the contaminated sites at ANC are the result of once accepted industrial practices that were later found to be detrimental to the environment.

The number of contaminated sites on ANC property has steadily declined in the past decade as the parties responsible for pollution of these sites clean-up the contamination to meet standards set forth by ADEC.

Environmental/Health & Safety Training
ANC employees received training sessions related to Environmental Protection and employee health and safety in 2017.
Training was offered on topics such as

- Pollution Prevention & Energy Conservation
- Spill Response, Control & Containment
- Recycling & Waste Minimization
- Hazardous Waste Management & Operations (HAZWOPER)
- Hazard Communication Standard (OSHA required)
- 1st Responder Emergency Response (OSHA required)

This training provides ANC employees with the knowledge base to recognize workplace hazards, protect themselves and others, report incidents or accidents, and to work safely and productively. In addition to training provided by the Environmental Section, other ANC departments provide classes within their sections to meet OSHA requirements and provide employees with training relevant to their jobs.

Energy Conservation
Over the last several years ANC has been implementing measures to reduce the energy consumption at all airport facilities. Improvements and upgrades to heating, cooling and electrical lighting systems combined with operational efficiencies have reduced the electrical and natural gas consumption and are expected to save the State of Alaska thousands of dollars. Last year saw the electrical usage decrease by 1% but our natural gas usage increased by ~11%. The increase in natural gas is attributed to a colder winter last year that increased heating costs.

Some of these ongoing measures such as replacing older lighting fixtures and lamps with LED bulbs will continue to reduce our environmental footprint and energy costs. Most of the airfield lighting (centerline lights, edge lights, etc.) has been converted to LED.

Replacing older incandescent and fluorescent lighting within the terminal buildings and other state buildings at the airport are part of a continuing effort.

Air Quality

Under the Clean Air Act (CAA), ANC must comply with regulations related to air emissions. To meet these compliance requirements ANC collects and maintains data on all stationary equipment that may emit regulated air pollutants. This is mainly combustion equipment such as boilers, water heaters, unit heaters, etc. that burn diesel or natural gas as fuel. The emissions from this equipment are calculated based on the run time of the equipment, the volume and type of fuel burned as well as the technical data provided by the equipment manufacturer.

During 2017 air emissions from the airport were well below the limits allowed under our Air Quality permit issued by ADEC.

Water Quality

Ensuring the quality of the water bodies around ANC is one of the main goals of the ANC Environmental Section. To make sure operations do not degrade these waters ANC has a comprehensive Storm Water Pollution Prevention Plan (SWPPP) that contains Best Management Practices (BMPs). These BMPs address various types of facility activities that can lead to water pollution and provide requirements and recommendations to minimize the impacts from those activities.

One of the primary activities that contribute to water pollution at airports around the country is the use of glycol-based aircraft deicing fluids (ADF). Airline operators typically use two types of ADF, propylene glycol and ethylene glycol, which are applied to aircraft to ensure the safety of the traveling public (these operators maintain their own SWPPP and BMPs). Glycol left alone to decompose in the environment would become carbon dioxide and water. However, glycols can adversely influence water quality primarily by reducing the available oxygen for aquatic life.

The average amount of deicing fluids used at ANC has been relatively consistent over the last several years but the yearly amount varies according to the amount of snow or icing events during the winter. During the 2016-2017 reporting period (September-August) airlines and ground service providers operating at ANC reported that they had applied 821,594 gallons of ADF to aircraft (96% propylene glycol and 4% ethylene glycol).

ANC and its tenants continue to make strides to reduce the environmental impact of ADF and incorporate BMPs in order to do so. The beginning of the deicing season for 2017 (August 2017) all appliers of ADF that typically use greater than 30,000 gallons of fluid must utilize equipment that has ADF reduction tools such as forced air, proportional mix nozzles and, low flow nozzles. These reduction tools reduce the amount of time it takes to de-ice aircraft and uses less glycol, which saves the airline operator’s money.

In May 2016, the ADEC requested that ANC submit an Alaska Pollutant Discharge Elimination System (APDES) Individual Permit (IP) application. The application was submitted December 2016 and since then ADEC has requested additional information from ANC. The application and additional information is being reviewed by ADEC and will go through the permitting process, which will include public comment. ANC will continue to be covered under the ADEC Multi-Sector General Permit to discharge storm water from the facility until the IP is approved and issued.

At ANC snow from the airside, where deicing activities occur, is “dirty snow” (snow potentially mixed with ADF) and snow from parking lots, roadways, etc., is “clean snow”. The “dirty” and “clean” snow is placed in designated snow dumps so that meltwater does not enter Lakes Hood and Spenard and in areas where some biological treatment can occur prior to discharge into the storm water drainage system for ANC.

In late April 2017 ANC was issued a Notice of Violation (NOV) from ADEC because of foam that was created at one of the discharge locations during breakup. Usually ANC has several melting events throughout the winter; however, during 2016-2017 there were none, which meant that when breakup occurred there was an unusually large amount of meltwater. The foam was generated due to the large elevation drop prior to discharge and to some degree the amount of ADF within the meltwater. While the foam is not considered hazardous or detrimental to the environment it is considered a violation of aesthetic standards hence the NOV. After extensive water monitoring and observations this NOV was resolved in June 2017.

The water quality in Lakes Hood and Spenard continue to improve. For the past six years, dissolved oxygen levels have met water quality standards and the ANC Environmental Section is working to have the lakes delisted as impaired water bodies of the State.

During the summer and fall of 2016, the lakes were treated with an herbicide to address the presence of the invasive weed Elodea. The Department of Natural Resources (DNR) is working to eliminate the presence of this invasive plant in other lakes around the State and has taken the lead for treating Lakes Hood and Spenard including a few other sites in the Anchorage Bowl. A water test to determine if there were adequate levels of herbicide retained within the lakes was conducted by DNR in 2017.

It is expected that ANC will have to continue this treatment periodically in order to eliminate Elodea’s threat to Lakes Hood and Spenard and to other lakes or water bodies that ANC’s large floatplane base may land.

If you have any questions regarding this information please contact me at 266-2129.

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