



**Testimony of Gregory Principato
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before the

**House Transportation and Infrastructure Committee
Subcommittee on Aviation**

“Aircraft Icing”

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Chairman Costello, Chairman Oberstar, Ranking Member Petri and Ranking Member Mica, members and staff of the Subcommittee on Aviation, thank you for allowing me to participate in this important hearing. My name is Greg Principato, and I am President of Airports Council International-North America (ACI-NA). Our 334 member airports enplane more than 95 percent of the domestic and virtually all of the international airline passenger and cargo traffic in North America. Nearly 400 aviation-related businesses are also members of ACI-NA, providing goods and services to airports.

Deicing airplane and airfield pavement surfaces is critical to ensuring safe operations in winter weather conditions and requires the joint cooperation of airports, airlines, pilots, fixed-base operators, FAA, and others. Importantly, deicing activities are subject to federal, state and local regulations from both a safety and environmental perspective.

It is important to first make a distinction between airplane deicing and airfield deicing. Airplane deicing is conducted to ensure that critical aerodynamic airplane surfaces are free of contaminants that can compromise flight performance. Airfield deicing is conducted to improve the quality of runway surface conditions and assure adequate airplane braking performance on pavement surfaces contaminated with snow and ice.

I. Airfield Pavement Deicing

Airfield pavement deicing, including runways, taxiways, and ramp areas is routinely conducted by airports in the snow belt to delay the formation of physical bonding between runway surfaces and new snowfall, to penetrate and help break up hard packed

ice and snow, and to groom and clear remnants of snow and ice from runway surfaces after plowing and power brooming have occurred.

Maintaining runway and airfield pavement surfaces in safe conditions and accurately reporting on the conditions of those surfaces is a responsibility of airport operators under 14 CFR Part 139. Airfield pavement deicing is a critically important tool, allowing airports to more quickly clear residual ice and snow and deliver higher friction surfaces for safe airplane operations during winter storms. If this was not done, snow and ice removal would be significantly slower, potentially resulting in more delayed and diverted flights. The FAA is responsible for approving airfield deicing chemicals that airports use on airfield pavement surfaces.

Snow removal procedures at airports require significant coordination between airport operations personnel, airlines, fixed based operators, FAA air traffic control and other concerned parties. Snow removal plans are put in place long before the winter season, ensuring everyone involved in snow removal understands what to expect. Airport operators must have a snow control center (SCC) that can manage all snow clearing operations, assess field conditions, and inform all impacted parties.

During the progress of a storm, airports focus on priority areas such as runways and taxiways while using a variety of specialized equipment such as power rotary brooms, rollover plows, rotary plows, deicing chemical applicators or integrated multi-function machines that plow, sweep, and blow a 27 foot wide swath down to bare pavement in a

single pass. Airports in snow areas typically have systems of multiple sensors embedded in the runways to measure surface and air temperature, moisture, and other parameters that are relevant to contaminant management efforts.

Snow removal operations at airports are time-consuming and expensive. Although snow removal equipment purchases can be eligible for Airport Improvement Program (AIP) funds, the majority of removal costs—including staff time, fuel, and vehicle maintenance—are paid directly by airport operators without federal assistance. To give some sense of the level of effort involved, during a typical snow storm one large northeastern airport uses a crew of 30 personnel, 11 multi function units costing \$800,000 each, two large runway brooms, five 27 foot pusher plows, four rollover plows, ten 4500 tons per hour snow blowers and various front end loaders and miscellaneous equipment to clear 4,600,000 square feet of runway and 5,700,000 square feet of non-tenant apron.

In addition to the requirement to clear runways and taxiways as completely as practical, airport operators are obligated to issue timely reports on the surface contaminant type and depth. As in the case of extremely high snowfall rates, airports will note the length and width of the central portion of the surfaces that are cleared as well as the contaminant remaining on the portions that are not cleared. The goal of this reporting is to provide airplane operators with accurate current descriptions of the contaminant type and depth so that the operator can use airplane manufacturer provided data to determine if continued operation of an airplane is safe.

II. Airplane Deicing

FAA essentially requires that critical airplane surfaces be free of contamination prior to takeoff. This requirement is met through a combination of deicing (removing snow, frost, and ice) and anti-icing (preventing additional accumulations). Airplane deicing and anti-icing--jointly referred to as deicing--is accomplished through both physical means and the application of specialized deicing products. Deicing products must meet strict performance standards developed by the Society of Automotive Engineers (SAE) Aerospace Council. Airplane deicing practices are governed by FAA regulations as well as through a number of advisory circulars, orders, and technical letters. Because of the paramount importance of safety, substantial discretion is also afforded to pilots, allowing for supplemental deicing as deemed necessary.

Airplane deicing is performed by airlines, or their handling agents, to ensure compliance with FAA regulations requiring clean airplane surfaces. Although airports play a role in assisting and facilitating airlines' performance of airplane deicing, the primary responsibility for this kind of deicing lies with individual airlines.

III. Deicing Stormwater Management

Airline deicing activities are supported by airport operators in several ways. As I will later discuss, permits are most commonly issued to airport operators, as land owners of the facilities used by airlines and general aviation, allowing regulated discharges of deicing stormwater into waters of the U.S. In some occasions, airlines or other deicing entities may be co-permittees. Airports have spent hundreds of millions of dollars

constructing and maintaining various drainage and remediation facilities to assure that pollutant discharge levels during airplane deicing events remain within permit limits. Some airports, such as Pittsburgh, Detroit, and Denver, have constructed extensive centralized deicing facilities, commonly referred to as “pads,” that operate much like car washes and permit large numbers of airplanes to be deiced just before proceeding to their departure runway. Capital costs alone for such facilities can exceed \$100 million. Other airports, where land availability or other constraints do not permit construction of centralized facilities, have designated areas on taxiways or cargo aprons for airplane deicing. At some airports the only place available to perform deicing is at the terminal gates. Regardless, it is the airport operator who has been traditionally responsible for collecting and disposing of the spent deicing fluids in an environmentally acceptable manner.

Spent airplane deicing fluid may be captured at pads, aprons, or gates through specifically designed drainage collection systems, mobile collection equipment (such as vacuum sweepers or glycol recovery vehicles), or some combination. Once collected, fluid may be stored in tanks or ponds prior to treatment, recycling, and discharge. Some airports conduct on-site biological or physical treatment to reduce environmental impacts and meet specific permit limits prior to discharge. Many airports discharge deicing stormwater to their publicly owned treatment works (POTWs). Several airports have on-site recycling facilities, allowing for the productive reuse of recovered fluid. Airports may also send collected deicing stormwater off-site for treatment or recycling. Finally,

many airports discharge deicing stormwater into receiving waters, pursuant to permit requirements.

Airports continue to work with deicing products manufacturers to produce agents that have low environmental impact, while still being effective in controlling snow and ice accumulation on airplane and runways. Recent evolutions have resulted in the development of both airplane and airfield deicing products with reduced environmental impacts. Manufacturers are continuing to improve products over time. Until such a time when deicing agents reach the point of optimal low environmental impact, airports that discharge airplane deicing-impacted stormwater to waters of the U.S. will continue to manage discharges pursuant to the Clean Water Act. Such regulation is accomplished through the issuance of National Pollutant Discharge Elimination System (NPDES) permits that authorize deicing stormwater discharges and require the implementation of deicing runoff controls. Airports that instead capture runoff for treatment or recycling or send wastewater to POTWs may have pretreatment permits or specific agreements with their local POTW. The bottom line is that airports have undertaken significant efforts to control deicing stormwater discharges.

Over the last few years, the U.S. Environmental Protection Agency has been developing effluent limitation guideline regulations to address airport deicing discharges. On August 28, 2009, the U.S. Environmental Protection Agency published a notice of proposed rulemaking, “Effluent Limitation Guidelines and New Source Performance Standards for the Airport Deicing Category.” These new national standards would be incorporated into

airport stormwater permits. The proposal consists of collection and treatment requirements for airplane deicing fluid, along with an essential ban on the use of urea for pavement deicing.¹ The requirements apply to all airports that conduct deicing operations and have more than 1,000 annual scheduled commercial jet departures. The proposed rule is expected to impact a number of airports across the U.S. EPA estimates the rule will cost the industry \$91.3 million annually – a cost we think is highly underestimated.

Comments on the proposed rule are due in two days – on February 26. ACI-NA supports EPA’s goal of further reducing the environmental impacts of deicing activities.

However, we will be submitting extensive comments emphasizing the need for each airport to be able to work with airlines and other deicing entities to determine the deicing management system that best accommodates a balance of the safety, operational, and environmental needs specific to that airport.

III. ACI-NA and Airport Involvement

ACI-NA’s member airports have been very active in several areas relating to deicing and have spent significant sums for deicing fluid collection systems, retention ponds, aeration facilities, distillation or reverse osmosis equipment to recover fluids from diluted stormwater and other technical remediation processes. In addition, we and our members have participated actively in forums that certify deicing fluid environmental compatibility and suitability for use on airframes. We were active participants in FAA recent Takeoff

¹ Urea, while considered cheaper and more effective at treating airfield pavement in certain winter conditions, is known to have more significant environmental impacts compared to other available pavement deicing products.

and Landing Performance Assessment Aviation Rulemaking Committee, chairing the working group that evaluated sweeping changes to the process of measuring runway surface conditions and transmitting that information to air crews. We also devoted substantial resources to the EPA's Airport Deicing Effluent Limitation Guidelines rulemaking.

Safety is always an airport operator's top priority. This is why we have worked closely with the airlines, fixed based operators, pilots, FAA and others to improve winter operations for all who use our facilities, while also ensuring that we are well-equipped to clear runway and airfield pavement in snow and ice conditions.

Furthermore, airports have spent significant resources to ensure our compliance with local, state and federal environmental regulations with regard to the discharge of deicing stormwater. Airports take the charge to comply with the Clean Water Act very seriously, which is part of the reason why collection measures of deicing stormwater vary so significantly from airport to airport. There is almost never a one-size-fits-all approach to performing the same operation at different airports, and the collection and remediation of deicing discharge is not an exception.

As the EPA continues the rulemaking process with regard to the proposed Effluent Limitation Guidelines for airport deicing, the best way for us to meet the EPA's environmental goals is for airports to be provided the flexibility needed to collect deicing discharge for proper treatment and recycling. The mandating of unnecessary collection

practices will not only impede our ability to most efficiently meet environmental goals, but it will also place an unnecessary and significant financial burden on the airport industry. As the EPA moves forward with the collection of comments on the proposed rule and looks to finalize its rulemaking procedures, ACI-NA hopes that the EPA will carefully review our comments and give them the utmost consideration.