

An Interview with Jacqui Yeck

Managing the Intricate Coordination of Airport Infrastructure

Jacqui Yeck is an Environmental Project Manager for Water Systems at Allegheny County Airport Authority (ACAA), Pittsburgh, PA, which operates Pittsburgh International Airport (PIT) and Allegheny County Airport (AGC). Among her many duties at PIT, she manages all aspects of airport drinking water distribution facilities, leads oversight of airport-wide aircraft deicing operations including deicing pad operations and infrastructure systems, and develops and implements environmental improvements to enhance operational performance while ensuring regulatory compliance.

1. Airports operate like small cities, requiring complex stormwater and drainage infrastructure to support operations. From your perspective, what are some unique challenges airports face in managing water systems compared to traditional municipal infrastructure?

Airports definitely operate much like small cities, with complicated infrastructure systems and a wide range of internal and external stakeholders that must work together to support daily operations. One of the biggest challenges is coordinating work in a way that minimizes impacts to all airport operations, including airlines, tenants, and other partners. Critical maintenance and repair activities often need to occur within narrow operational windows. Minor disruptions can create significant downstream impacts if affected parties are not notified and prepared in advance. One quick fix on our end can lead to headaches for others if coordination is handled improperly.

We have dual imperatives: safety, security, and public health on one hand, and air service and regional economic development on the other. Airports must always adhere to strict standards, policies, regulations, and operational requirements. All internal departments must be apprised of upcoming work, and all affected parties, both internal and external, must have the opportunity to provide feedback before work begins.

2. PIT has a unique deicing operational infrastructure. Could you explain the complexities and operational impact?

ACAA's partners and their subsidiaries handle the application, collection, and recycling of aircraft deicing fluid at the Charlie, Sierra, and FBO deice pads.

Once deicing operations are complete, spent glycol that reaches the pavement is recovered through a combination of Glycol Recovery Vehicles and an extensive network of underground piping and collection infrastructure beneath each deicing pad. The recovered fluid is processed at an on-site recycling facility, where the glycol is separated from the water. The glycol is then transported off-site for additional

processing, allowing it to be repurposed for products such as FlightBloo aircraft lavatory fluid or refined further back into Type I aircraft deicing fluid and other products such as antifreeze, automotive coolants, and paint additives.

The complexity of this system extends beyond daily deicing operations. Maintaining the reliability and efficiency of the collection and recovery infrastructure requires ongoing inspection, monitoring, and preventive maintenance. ACAA and our partners work closely to evaluate the condition of the deicing pads and associated infrastructure, identifying and addressing issues before they impact operations or collection efficiency.

While some inspections can be performed from the surface, others require access to underground piping, vaults, and other confined spaces beneath the pavement. A great deal of coordination goes on behind the scenes amongst all entities involved.

3. Infrastructure reliability in airports is especially critical since disruptions can significantly ripple through operations. How do airports maintain and evaluate the integrity of stormwater assets, drainage systems, and related infrastructure that the public doesn't see?

When you think about a typical passenger's journey, they only see the terminal side of operations, but a lot happens behind the scenes to keep airports running safely and efficiently. Maintaining the integrity of stormwater and drainage infrastructure across 8,800 acres requires a lot of innovative thinking, especially since much of the system is underground and/or located in critical operational areas. Personnel continuously conduct various levels of inspections, while maintenance crews perform preventive maintenance activities to identify issues early, prevent degradation, and repair systems before larger failures occur. Airports also rely heavily on coordination between engineering, environmental, and maintenance staff to track asset conditions, prioritize repairs, and ensure infrastructure remains reliable with minimal impact to operations.

4. How do you see airport water management and infrastructure planning evolving over the next decade as intense weather patterns and environmental concerns continue to grow?

Airport water management and infrastructure planning will continue to play an increasingly important role as weather patterns become more intense and regulatory expectations continue to evolve. Many regions are experiencing larger precipitation events that place additional stress on aging stormwater systems and increase the risk of localized flooding.

As a result, airports will need to place greater emphasis on resilience, incorporating larger design capacities, redundancy, and climate adaptation measures into future projects. Advances in technology will also provide critical information regarding infrastructure conditions, identify potential structural issues earlier, and assist in scheduling maintenance, rehabilitation, and capital investments.