

An aerial photograph of an airport terminal and tarmac, overlaid with a semi-transparent blue filter. The image shows multiple jet bridges, parked aircraft (including one with 'allegiant' livery), and large parking lots filled with cars. In the bottom right corner, there are several overlapping, semi-transparent geometric shapes in shades of blue and white, resembling a stylized star or a cluster of triangles.

PIT Microgrid — Setting the Standard for Resilient Power in the Aviation Industry

A microgrid is a smaller, decentralized version of the traditional grid as we know it

- Decentralized group of electricity sources and loads
- Connected to and synchronous with the traditional grid
- Capable of disconnecting and operating autonomously in “island mode”
- Can send excess generated electricity to the grid



The ACAA had a vision of an innovative project to improve resilience and reduce reliance on the grid

We set out on this project with four main goals:

- Improved resilience and reliability
- Lower the cost of electricity to the ACAA and our tenants
- Support our sustainability goals
- Support the local natural gas industry

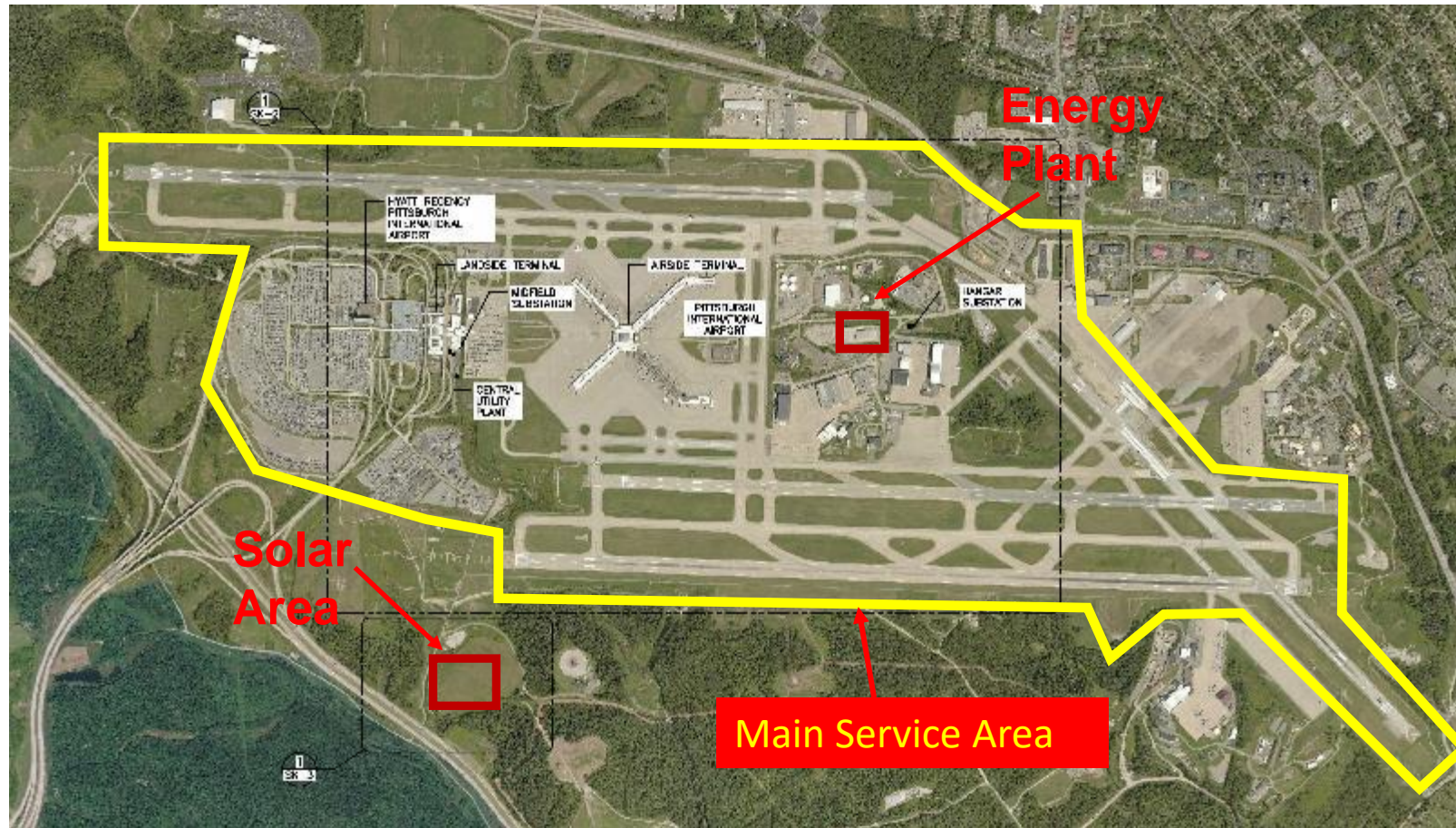


Our microgrid is fueled by natural gas sourced from 14 Marcellus Shale gas wells located on airport property and the sun

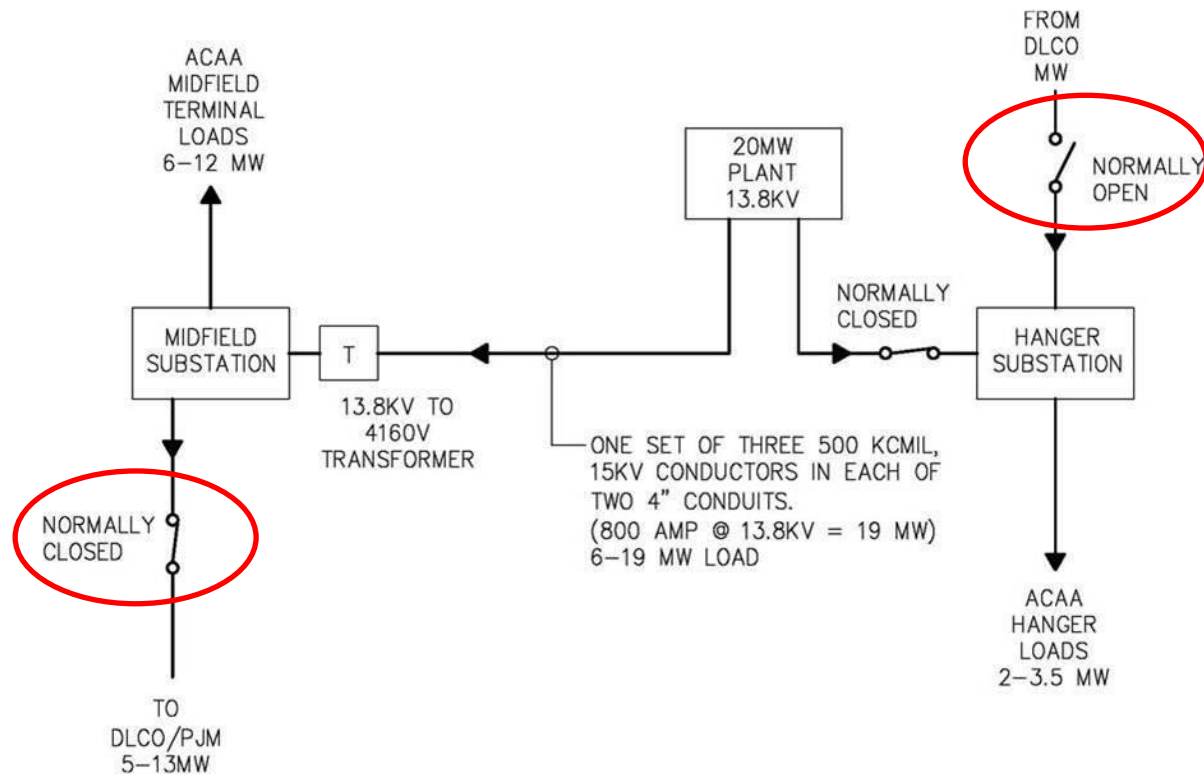
- 20 MW energy plant with five natural gas fired generators
- Maintain an interconnect with the grid for emergency or back-up power
- Excess capacity can be exported to the grid
- 3 MW solar facility sits on ~8 acres
- Solar is being investigated for expansion



The energy plant powers the entire airfield, landside and airside terminals, the Hyatt Hotel, and the Sunoco gas station



We are maintaining an interconnect with the grid for back-up or emergency power since keeping the lights on in the terminals is priceless



- Contracts in place for back-up power – these are like insurance policies
- Midfield substation is connected to back-up/emergency power and exports excess capacity
- Hangar substation requires manual switchover to back-up power
- If the grid goes down, the energy plant will operate automatically in island mode

The solar facility was an integral part of the project to power areas of the airport not within the main service area

- Over 1,100 steel support posts were used in lieu of a ballasted racking system
- 9,390 solar panels
- Electricity is virtually net metered to 23 airport perimeter meters
- Permitted by the PA Dept. of Environmental Protection (PADEP)



We worked closely with the PADEP to permit the solar project since the concept on constructing on a landfill was completely new

- Located on a closed landfill, the solar project was viewed favorably by the PADEP for re-use of a landfill property
- Future landfill solar projects in PA should be viewed favorably since the ACAA has established a path to success



The microgrid supports the ACAA's sustainability goals

- Over 8,000,000 pounds of CO2 reduction in the first year of operation
- Solar facility is constructed on a closed landfill – which is land that is otherwise unable to be developed



Thank You

Tom Woodrow, P.E.
SVP, Engineering & Intelligent Infrastructure

The future of travel is here and it's focused on you.

