Mitigation

Demolition of the Altitude Wind Tunnel

In 2003, for the first time in its history, NASA Headquarters allocated funds for the demolition of unused facilities and asked its centers to submit lists for consideration. NASA Glenn proposed the removal of nine buildings, including the Altitude Wind Tunnel (AWT). Minor exterior repairs and repainting of the AWT were estimated in 2004 to be over $4.5 million. NASA Headquarters has concurred with Glenn's decision and advocated the proposed demolition.

In preparation for the demolition process, NASA Glenn created a requirements document in September 2004 and a Statement of Work in 2005. The Ohio Historic Preservation Office was notified in May 2004. A Section 106 report was submitted in July 2006 and approved in September 2007. Design services were obtained and demolition plans were created. Bids to perform the work were solicited, and the contract was awarded in 2007.

AWT Demolition

Demolition Process

The demolition was performed in three phases: utility relocation, lead paint and asbestos remediation, and the actual demolition of the facility. Some of the AWT utilities were rerouted before the demolition so they could be used by other facilities. A pipe bridge was built behind the AWT and along the back wall of the Icing Research Tunnel for this rerouting. The next step was removal of lead paint from the welds in the tunnel shell where torches would be cutting.

Clearing Tunnel

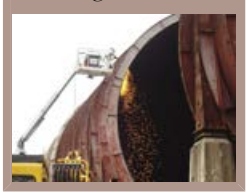
Pipe Bridge

Paint Removal

Workers on lifting platforms cut along the welds to segment the outer shell. As each steel plate was removed, the insulation underneath was also taken away. Next, the segmenting of the thick inner steel shell ensued. Again, workers with torches were hoisted into place to systematically cut away large sections. The work started in the middle of the tunnel and proceeded to the two ends with their larger corner rings. Pieces of the shell were flattened and laid on the muddy ground to support the large cranes.

First Section

Cutting Inner Shell



Flattened Shell

Auxiliary work included the demolition of the Circulating Water Pump House and Vacuum Pump House underneath the AWT. The generators and drive motor were removed from the Visitor Information Center, the former Exhauster Building.

A wall was demolished to help extract the generator, and the tower roof was removed so a crane could lift the drive motor out. Once outside on the ground, the large equipment was cut into smaller pieces for transportation. The former Shop and Office building (now the Microwave Systems Laboratory, Building 7), which previously housed the tunnel's test section, had its asbestos siding removed and replaced. Seals were placed where the former tunnel entered the building. The final step will be soil remediation, regrading, and paving the site of the former wind tunnel.

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Pump House

Generator

Drive Motor

Demolition Team

The NASA Project Team was lead by Bryan J. Coates, P.E. (Project Manager), Patrick Edmonds (Quality Assurance Technician), and Randy Dworznik (Inspector) from the Facilities Management Branch located in the Facilities Division at the Glenn Research Center.

NASA Team

NASA Waste Management

The NASA Waste Management Team performed critical oversight of the waste streams associated with the demolition, completed weekly inspections of the site, and documented all material leaving the site.

This project was awarded to Pinnacle Construction (Prime Contractor). Pinnacle's team consisted of:

Bob Zerbe – Project Manager
Bill Brown – Site Superintendent
Jerry Stevens – Site Superintendent
Lindsey Schweizer – Sky

Pinnacle

Local Operator

For a task of this size, a number of subcontractors were used by Pinnacle Construction. The following is a list of project subcontractors:

Soehlen Piping
Fowler Electric
Brandenburg Industrial Service Company
Norris Brothers Company, Inc.
Precision Environmental

Soehlen piping performed the utility reroute prior to the start of the tunnel remediation and demolition. Systems involved included 125 psi shop air, steam, steam condensate, and natural gas. Soehlen performed the mechanical isolation and disconnect of these systems.

Fowler Electric performed the electrical isolation and disconnection of all high- and low-voltage electrical equipment associated with the project.

Norris Brothers Company, Inc. removed the large motors and generators from Building 8 and installed the tunnel caps on Building 7.

Norris Brothers

Brandenburg

Brandenburg Industrial Service Company performed the primary task of tunnel remediation and demolition. Mauricio Gonzalez (Foreman) and Rafael Olivencia (Foreman) were responsible for running the demolition crew.

Brandenburg augmented their crew with laborers from the **Local 310** (Laborers' International Union of North America) and an operator from **Local 18** (International Union of Operating Engineers).

Local 310 Crew