



## Solution Overview

**Customer**  
PCS Nitrogen

**Industry**  
Nitrogen chemical and fertilizer products

**Key Benefits**  
Lower cost hardware  
Implemented "on the fly"  
Ease of expansion  
Faster response

**Applications Deployed**  
Wonderware FactorySuite  
Moore APACS DCS system

**ACP Solutions**  
Redundant ThinManager  
DC-40-100



### About ACP ThinManager®

ACP's ThinManager® is an enhancement to the basic Windows® Terminal Server operating systems such as Windows® 2000 Server and Windows® 2003 Server. The features added by ThinManager® focus on the industrial market, allowing users to replace the PCs they are now using on the factory floor with inexpensive "Windows terminals" that are much easier (and less expensive) to maintain. While any Thin Client will allow multiple instances of existing Windows® software to run on a single PC (the Terminal Server) only ACP Enabled Thin Clients running under ThinManager® provide the functionality, redundancy and I/O required in industrial installations.

# ACP Thin Clients Bring Cost Savings to PCS Nitrogen

*"A definite financial bonus from using Thin Client technology is that we can give the operator the look and feel of single loop controllers and the visual look and feel of strip chart recorders at approximately one-third the cost."*

— **Walt Anderson E & I Maintenance Supervisor, PCS Nitrogen**

Using a single raw material, natural gas, the Georgia based ammonia plant for PotashCorp, PCS Nitrogen, is the largest producer of nitrogen products on the East Coast. Since its start-up in the late 1970's this plant has become one of the most reliable ammonia plants in the world, and now produces over 2.8 million tons of ammonia and ammonia based products each year.

### The Challenge: Reduce Maintenance and Expansion Costs and Increase Functionality with Zero Downtime

"Ammonia is a commodity chemical and typically the margins are not great," offers Keith Wilson, Ammonia Technology Manager at PCS Nitrogen, "so the keys to making money are having a very efficient plant and having a very high stream factor. And this plant has had a stream factor in the 98 to 99 percent range for the last three to four years."

By the end of the '90s, however, the plant required a major upgrade in its control systems - the 1970's vintage computer system was demanding a great deal of money in maintenance dollars just to keep it running. For the plant to protect its incredible on line record, the control and monitoring systems had to be replaced and improved.

### Implementing ACP Technology

Replacing the aging, unreliable computer system (which provided the operator interface) with state-of-the-art DCS technology decreased current 5 minute scan times to under 10 seconds. Moving to Thin Client technology at the same time allowed PCS to easily and inexpensively distribute the new displays throughout the plant while still being able to use their legacy Windows software. Adding additional monitor screens simply means plugging in a new Thin Client - no software has to be installed or even modified.

plant's original control room was its panoramic display - the several walls of gauges and alarm panels that make up this feature have long been a staple of chemical processing plants. PCS realized that there were substantial economic and performance benefits to be realized if some of the existing instrumentation could be replaced with Thin Client hardware, so they began using Thin Client technology to give the operator the look and feel of single loop controllers and strip chart recorders at approximately one-third the cost.

"With ACP Thin Client technology," offers Anderson, "we can deploy lots of small, single entity monitors that give our operators the panoramic view they want at a much reduced cost." Combined with the additional monitors, Thin Client technology serves the particular needs of PCS Augusta perfectly. In most cases, the user cannot tell the difference between a Thin Client application and an application resident their own machine. All this without a single day of lost time production.

### Future Plans

"Our intention at this point in time is to continue to use the Thin Client technology when we implement the DCS systems throughout the plant," says Anderson. Using Thin Client technology to provide multiple monitors gives the operators a better insight into their process. PCS also plans to use the Thin Client technology to give operators a view of the entire process from any location, using field mounted, hardened monitors on all their local control panels throughout the campus.

At PCS Augusta, plant operations move continuously, and so does all of their manufacturing data. The combination of the new DCS system and ACP Thin Client technology gives PCS a competitive edge . . . and keeps their business operations smelling sweet.

One of the central elements of the

