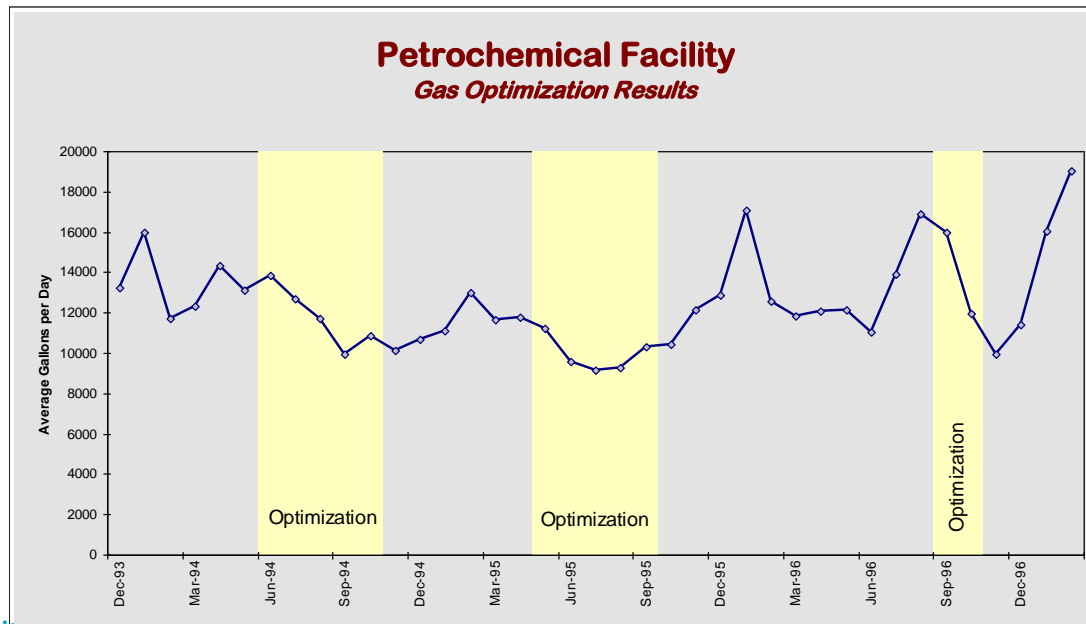


Air Products Nitrogen Optimization Program



Why Is Optimization Needed?

- At most companies, gas usage creeps up year after year
- Few companies have dedicated resources for managing/reducing gas usage
- Spot projects may provide temporary benefit that is lost if no one continues to monitor the facility
- Increased gas usage often results in additional expense beyond the cost of the product (e.g. additional downstream processing, quality issues, safety and reliability concerns)



Why Choose Air Products for Optimization Services?

- **Experience:** 15+ Years of optimization experience
- **Tools/Equipment:** Specialized instrumentation that would be cost-prohibitive for most customers to purchase or to learn to use
- **Safety Focus:** Optimization engineers and technicians are trained for field work; APCI has one of the best safety records in the industry
- **Applications Understanding:** In-house engineering specializing in gas applications
- **Phased Approach:** Three-phase approach matches the level of service to the customer need; quickly identifies if opportunities exist while minimizing resource requirements

Phase 1: Facility Evaluation & Scoping

- Goals:
 - Gain understanding of facility size/complexity & major users/processes
 - Evaluate health and suitability of supply systems
 - Order of magnitude estimate of potential savings
 - Develop Phase 2 scope and compensation strategy
- Time Required:
 - 2 Days up to 2 weeks onsite
 - Dependent on facility size, number of users, availability/quality of P&IDs & documentation
- Customer Resources Required:
 - Access to P&IDs, usage history, and operating personnel
 - Escort for facility walk-through and inspection of major N2 users
 - Access/permission to set up metering in key locations

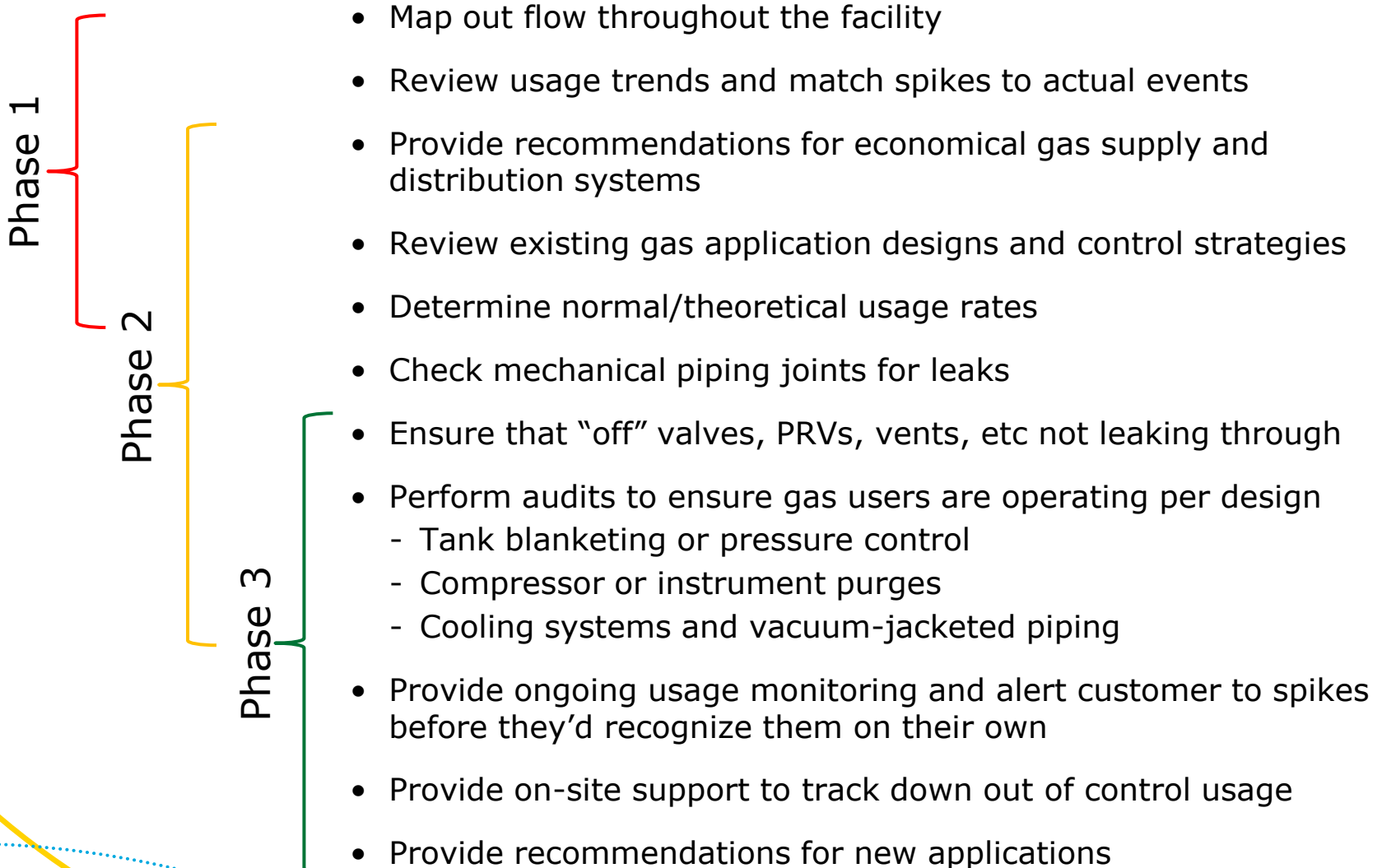
Phase 2: In-Depth Facility Audit

- Goals:
 - Ensure all processes/equipment designed properly & functioning normally
 - Identify and make recommendations to correct gas waste
 - Determine theoretical/normal usage and reconcile with actual usage
 - Document users and flag likely problem areas for future inspection
- Time Required:
 - 1 Week up to 3 months onsite (can be phased)
 - Dependent on facility size, number of users, availability/quality of P&IDs & documentation
- Customer Resources Required:
 - Unrestricted access to facility or long-term escort
 - Extensive access to operations, maintenance, and engineering personnel
 - Access/permission to set up metering in key locations
 - Access to computer systems and/or control system data

Phase 3: Ongoing Support

- Goals:
 - Ensure improvements made in Phase 2 are kept “under control”
 - Monitor customer usage and alert designated contacts to spikes; provide on-site support to track down problems
 - Provide usage charts if agreed upon (APCI customers only)
 - Provide recommendations/support for new applications
 - Periodic revalidation of facility audit, as needed
- Time Required:
 - As needed
- Customer Resources Required:
 - Same as Phase 1 & Phase 2, but generally less intensive

How Do We Save You Gas & Money?



Pricing Options

- Fee Based:
 - Time and Materials basis
 - Establish agreed upon scope upfront
 - Different rates for onsite and offsite personnel
 - Typically lower cost
 - Results are one time and come with a detailed report.
- Gain Share:
 - Results not guaranteed but Air Products takes on risk
 - Cost will always be less than the value created
 - Less rigid scoping required
 - Likely to identify additional savings or improvements not originally anticipated
 - Cost will likely be more than with a fee-based option
 - Requires accurate measurement of usage; may not be feasible if usage is extremely cyclical or erratic
 - Compensation agreement will be more complex and require ongoing measurement of gas usage

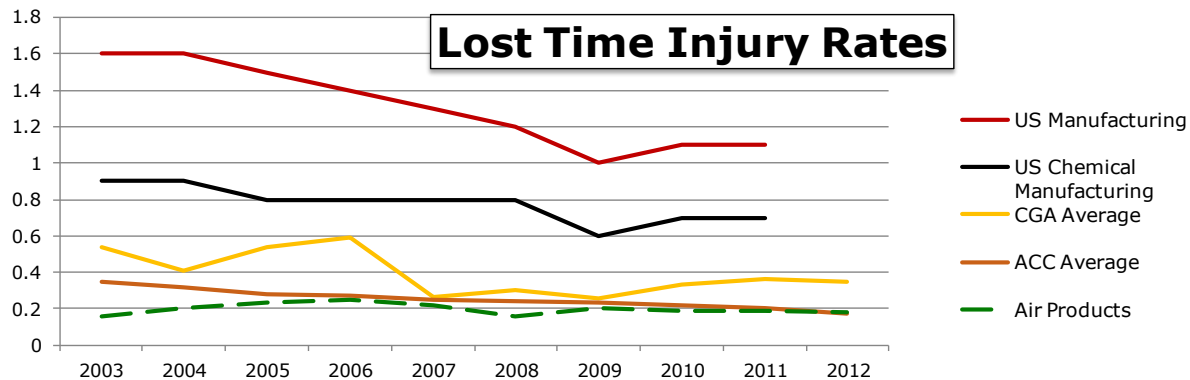
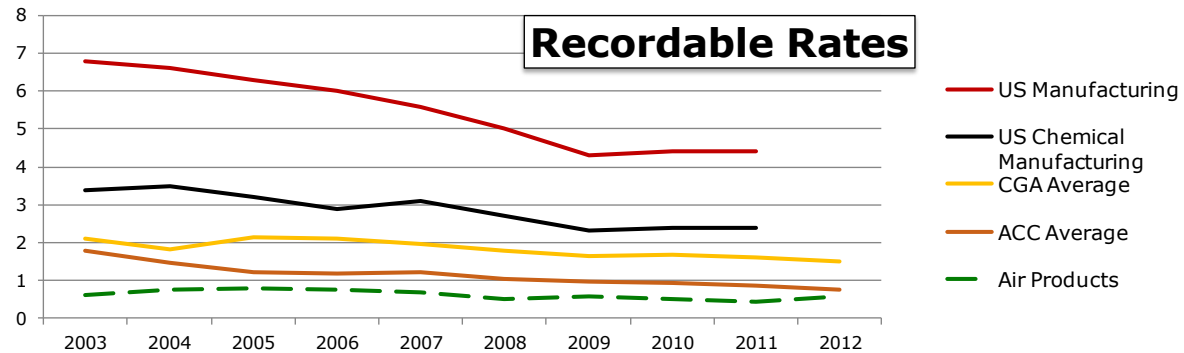
Thank you...
tell me more



AIR
PRODUCTS 

Worker Safety and Health at Air Products

- A commitment to **Total Safety** is the commitment to doing things right.
- Air Products has one of the best safety records in the industrial gas and chemical manufacturing industries, and we'd like to improve it even further.
- Improvement takes a strong individual commitment and constant safety vigilance by every employee. That's why we hold all of our people accountable for working safely and reporting unsafe conditions.



Total Safety at Air Products

- The safety and health of our people, customers and the communities where we live and operate remain our highest priorities.
- We believe all accidents are preventable, not inevitable, and we aim to meet or exceed applicable occupational health and safety standards.
- All employees must abide by our Total Safety Philosophy as a condition of employment, and through our Basic Safety Process (BSP), are required to personally take corrective action and apply our Accident Predictive Techniques. These activities are tracked and assessed, and steps are taken to further improve safety throughout the company.
- To us, nothing is more important than safety—not production, not sales, not profits. We strive for a "Count on Me" attitude in everything we do.
- You can view our "[Count on Me](#)" video on our website.

Total Safety Philosophy

Our Total Safety Philosophy

We believe that:

- nothing is more important than safety ...
production, not sales, not profits, not revenue
- all accidents and injuries are preventable ...
avoidable
- safety is management responsibility ...
and safety can be managed
- safety is an individual responsibility ...
and a condition of employment
- safety is every action ...
around the clock
- every task must be performed with a
purpose for safety ...
for ourselves, our fellow employees,
our customers, our nation, our customers
and the communities in which we operate

Safety #1

[Download the pdf](#)

Sample Usage Chart

