

# Healthy and Safe Ventilation Systems within P&G

P&G's Success Story  
by  
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# Why We Have Successful Operations Today?

- Years of experience in determining what is necessary for the systems to work correctly.
- We found that this requires:
  - Having clear Corporate HS&E Policy & Expectations
  - Utilizing of Good Design Techniques
  - Delivering Successful Installations
  - Maintaining Successful Operations
  - Verifying the On-going Systems' Capability

# P&G's Fundamental HS&E Policy & Expectations

- To have safe & healthy operations around the world
- To protect the life & health of its employees & surrounding communities
- To protect its assets
- To ensure business continuity
- To engender the public trust

# Good Design Techniques

- Clear Understanding of System Deliverables
- Utilizing Proven Design Techniques
- Focus on Maintaining Sustainable Operations During Design Phase
- Focus on Minimizing Installation Time and Costs

# Clear System Deliverables

- Understand what function the Ventilation System is to deliver:
  - Workplace Protection of Health
  - Process Control & Reliability
  - Process Cleanliness
  - Employee Comfort
- Solicit input from all involved parties
  - Engineering/Process Owners
  - HS&E or Risk Management
  - Site Operating Personnel

# Proven Design Techniques

- Understand the Dust, Vapor/Fume Characteristics
- Evaluate the Design and Placement of the Hoods
- Evaluate the Design and Routing of the Ductwork
- Evaluate the Design and Placement of the Filter & Fans
- Implement a Robust Change Management Process

# Maintainability Features

- Minimize Interference with Process or Product Quality
- Include Operator Friendly Features
- Include Effective Hood and Ductwork Design
- Include Performance Monitoring Features
- Include System Maintainability Features
- Include Troubleshooting Features

# Successful Installation Techniques

Techniques can include such items as:

- Prototyping temporary hoods for operational review and comment
- Utilizing quick release fittings where appropriate
- Utilizing slip tube type ductwork design feature
- Pre-assembling system pieces in advance of construction window
- Utilizing a robust Pre-Startup checklist process to verify your installation accuracy and start-up effectiveness

# Maintaining Successful Operations

- Documenting & Communicating the System Design Information
- Establish the Right Organizational Capability & Accountability
- Establish Clear Operational Targets and In-Process Measures
- Implement an Effective Maintenance Program
- Implement a Robust Capability Assessment Process
- Implement a Robust Change Management Process

# Documenting the System Design Information

- Provide the site with the following design information:
  - System Layout Drawings
  - Static Pressure Balance Calculations
  - Test Point Locations
  - Fan and Filter Specifications and Performance Curves

# Establish The Organizational Capability

- Ensure that the site has the right organizational capability to operate and maintain the systems that are installed. Capability should be based on:
  - Set Clear Leadership Expectations
  - Establish Clear Role Descriptions
  - Implement Solid Training Programs
  - Implement Qualification Processes
  - Establish Succession Plans

# Establish the Operational Centerlines & Process Measures

- Define targets that are easily measurable
- Define the frequency of measurements
- Track the performance trends and react appropriately to avoid failures
- Define routine maintenance techniques and tools to ensure capability is maintained
- Train personnel on the implications of failing to execute this work and how to troubleshoot the outage effectively

# Implement Capability Assessments

- System robustness needs to be checked on routine basis to ensure success.
- Assessments should be done both internally and externally by qualified resources who are knowledgeable of ventilation systems.
- Follow-ups must be completed in a timely manner

# Implement a Change Management Process

- Includes all changes including equipment, process or chemicals
- Requires technical approvals by trained/qualified resources
- Defines deliverables from the change including testing, documentation, training, etc.

# Summary & Questions

- As you have seen from our program overview we start in the very beginning of the process and follow it completely through to ensure our systems are effective and meet our business needs.
- If you are interested in specific examples of tools that we use I am willing to share general information with you after the session is complete.
- If you have any questions I am open to answer them after the other presentations are completed.

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