

Disclaimer: This is not DOL or OSHA controlled material and is provided for reference only with permission from Rohm and Haas Powder Coatings. DOL/OSHA take no responsibility for the views, content, or accuracy of this information.

## Rohm and Haas Powder Coatings Reading Plant



# Productivity Gains Through.... Safety Innovations



Jeffrey Wetzel  
Rohm and Haas Powder Coatings  
Health and Safety Manager  
5 Commerce Drive  
Reading, PA 19607  
(610) 775-6612  
(610) 775-6692 Fax  
[jwetzel@rohmmaas.com](mailto:jwetzel@rohmmaas.com)

Ronald Tomko  
Rohm and Haas Powder Coatings  
Health and Safety Administrator  
150 Columbia St.  
Reading, PA 19601  
(610) 685-7636  
(610) 372-3766  
[rtomko@rohmmaas.com](mailto:rtomko@rohmmaas.com)

**National Safety Council**  
**Safety Intervention Case Study**  
March 30, 2004

# **Rohm and Haas Powder Coatings**

A Rohm and Haas Company

## **Company Profile**

The Reading Facility began producing powder coatings in 1957 as part of the Polymer Corporation, making it the oldest manufacturer of powder coatings in North America. In 1984, Cheesebrough Ponds assumed ownership from ACF Industries continuing to operate the Polymer Corporation as a stand-alone business. Cheesebrough Ponds subsequently sold the Polymer Corporation to Morton Thiokol Corporation in 1986. In 1989, Morton Thiokol split and the powder coatings business was retained with Morton International, Inc., which was purchased by Rohm and Haas Company in June 1999.

The Rohm and Haas Powder Coatings Reading Facility is one of four manufacturing locations of powder coatings for the Rohm and Haas Company. Powder coatings are a superior finishing method that is used on a variety of metal products including automotive parts, barbecue grills, lawn and garden furniture, lighting, sports and recreation equipment, appliances, reinforced steel rebar and pipe, agricultural machinery, and construction equipment. Powder coatings provide greater economic, environmental, and quality benefits to our customers than conventional liquid systems.

The facility produces powder coatings by dry mixing, extruding, grinding. Bags of raw materials, such as resins or pigments, are included in a recipe follows the process mentioned above. After grinding, the product is packaged for shipping to our customers.

The manufacturing area is approximately 9.2 acres and contains four primary buildings and areas. The buildings is an office/laboratory/research facility; the Thermoplastic manufacturing area and auxiliary operations; and the Thermoset manufacturing, warehousing, and shipping activities.

## Pre-Intervention States of Safety & Productivity

In 1991, the Rohm and Haas Powder Coatings operation in Reading, Pennsylvania was mired in the slumps of an unproductive organization with an OSHA Occupational and Injury Rate (OIR) peaking in double digits at 10.2. The numbers were clear and the results devastating. For every ten employees employed, there was an OSHA Occupational Injury reported. Eleven employees out of one hundred were injured. Several of these injuries resulted in lost workdays. There were 293 combined days of lost work time. The lost work day costs exceeded \$41,000. This cost does not include 17 days of restricted time or the costs associated with hiring and training new employees to replace those that were absent due to injuries that occurred on the job. The morale of our employees was at an all time low and productivity was going no where but down.

The injuries reported in 1992 included :

- 1 back strain
- 1 left wrist sprain
- 1 left hand bruise
- 1 left foot contusion
- 1 left wrist tendonitis
- 1 sprained right ankle
- 1 acute lumbar sprain
- 1 right hand abrasion
- 1 lacerated right finger
- 1 left hand thumb laceration
- 1 sprained right ankle tendon

The costs associated with the injuries were skyrocketing, employee moral was non-existent and production was faltering. It was not a scenario that condoned an atmosphere of success.

## Corporate Culture and Other Factors Affecting Implementation

During the summer of 1992, Ron Strohl-Rohm and Haas Powder Coating's Plant Manager was perusing one of many safety magazines when he came upon an article describing this "unique" health and safety program that OSHA was promoting. The article referred to the OSHA VPP (voluntary protection program). It mentioned companies nationwide that were being

recognized as the best of the best when it came to health and safety. The article went on to explain that a company needed to have an OII Rate at least 25-30% below the national SIC (standard identification code) for their business. Two of the major requirements were 1) that the program's success centered around employee involvement and 2) teamwork.

While the VPP program was being evaluated by Mr. Strohl, he had another vision for our organization. The vision was called TQM – Total Quality Management. TQM requires that employees participate in a team approach in setting the standards for quality and productivity. As he weighed the pros and cons of both these initiatives, the realization was made that the two programs were very similar and could be the catalysts to moving our organization into territories never before ventured. One program promoted safety initiatives and awareness, while the other enhanced quality...but most importantly, they worked together to ensure employee participation in achieving new goals for our company.

## Safety and Health Interventions

Shortly after Mr. Strohl read the article concerning the OSHA VPP program, he gathered the management group together to explain his decision to pursue the goal of becoming a VPP Star Worksite. With production at an all-time low and an OII injury rate of 10.2, we had no choice...we needed to be proactive instead of reactive. We agreed that the OSHA VPP program would be a challenge that would be second to none. But we were left with many unanswered questions. The year was 1992, and our plant wasn't close to becoming a VPP

site . But it was a new beginning, a challenge that will live with our organization forever.

***“NOTHING...Not Production, Not Profits, Not Sales, Not Anything  
...Comes Before Safety!”***

This slogan was presented to us at the very first meeting when we were introduced to the VPP program. Our first thought was, “Yeah...right!” For years upon years, everyone in industry was relegated to the fact that in order to survive in business, production was the key. All of a sudden, we were told that nothing comes before safety. We called it **safety culture shock**. But a new day was dawning at the Reading Plant . We were about to embark on a safety journey.

In preparation for filing a VPP application, we began to realize that our slogan was really true. We could feel it, we could see it, and we could envision our future goal to become a VPP site. While our safety journey was evolving, we realized the importance of team work and the necessity to utilize teams within our approach. Our immediate concern was to form a VPP Committee that would be the driving force to take us from the doldrums of safety inadequacies to one that will go **“over and above”** the requirements of OSHA. Through our TQM training, the realization was made that any program can be a success if it is team oriented and driven by the individuals that work within the limits of the program.

Our first assignment was to select a team. The team construction was totally built from volunteers from the numerous departments plus one management team member. This was surely a safety culture shock, since prior programs were driven from the **top down** and our new approach was to use our experts...the employees...to be the leaders on our road to safety success.

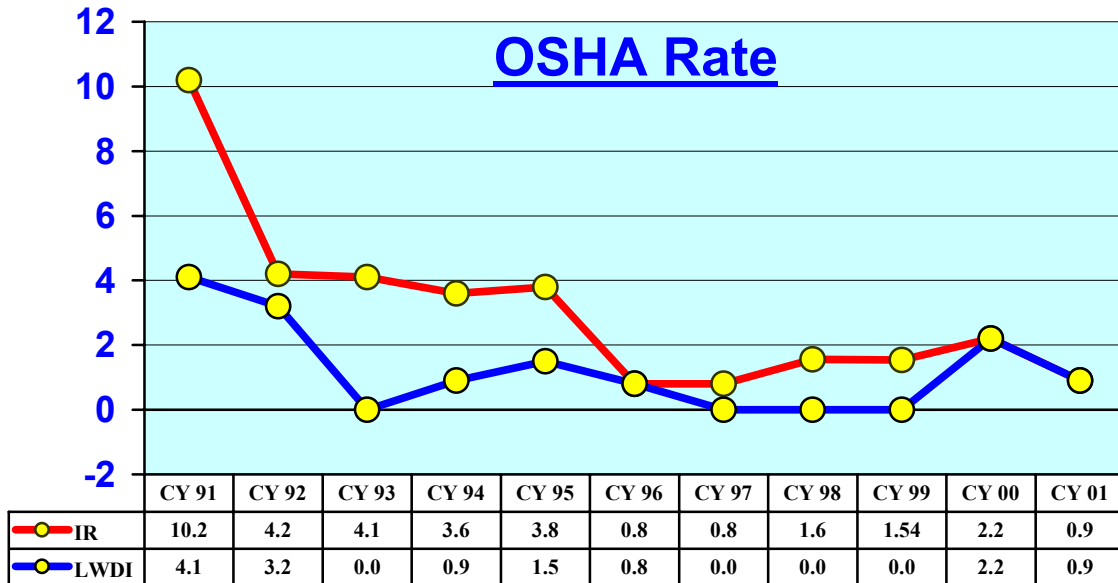
It was a new beginning and the start of great things to come. Come join me as we review the successes in our safety program. As our Occupational Injury and Illness Rate went down, our production went up. Unknown to us at the time was the realization that safety was the driving force that not only enabled us to have a clean, safe facility , but also would play a vital role in productivity improvements. Yes, the VPP program was the catalyst and the end results clearly defined as our injury rate decreased and production increased.

## **Post-Intervention States of Safety & Productivity**

In 1991, the Reading Plant's OII Rate was a dismal 10.2 and eleven employees received injuries that were defined as occupational injuries as described by OSHA. In addition to the recordable cases, there were many more first aid cases that never appeared in any graph or log. The total estimated costs for lost time were astronomical for a small company.

The graph below exhibits the Incident Rate (red) and the Lost Work Day Incidents for the time period for all years from 1991 (pre-VPP) to 2001.

## READING PLANT SAFETY STATISTICS



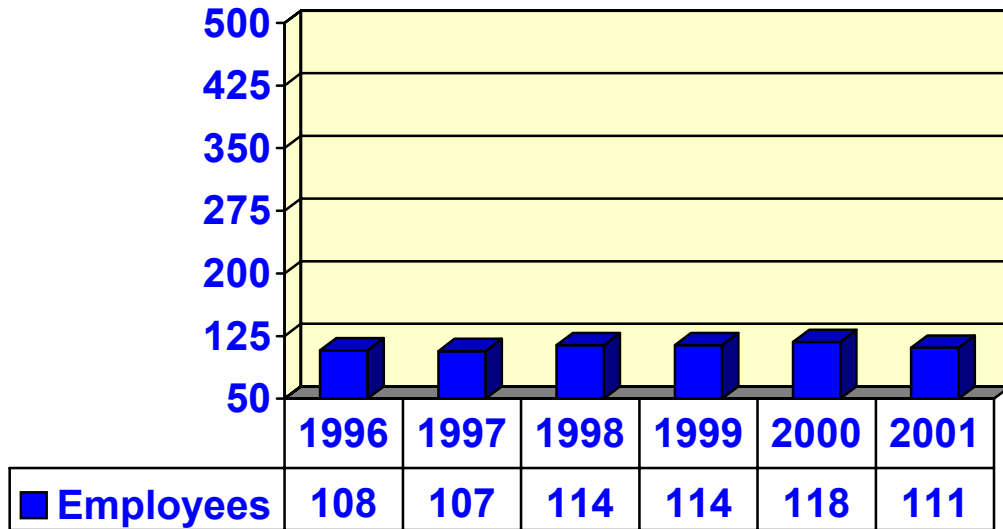
**Oil Rate of 10.2 in 1991 to a reduced rate of 0.9 in 2001**

In 1992, we actively started to address our safety issues by organizing the VPP team made up of seven volunteers of which six of them were hourly workers. As the graph suggests, a dramatic downturn in OII and LWDI injuries immediately transpired in 1992. While the program was being instituted, we saw our safety OII rate level out for three years until we applied for the VPP program . The injury rate decrease is much more noticeable in the latter part of 1995 and into 1996.



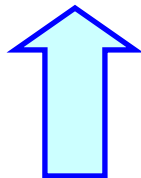
Our initial graph was to clearly demonstrate to you the steady progression towards a “zero injury” climate at our plant. The remaining graphs used in this presentation will dwell on the years from 1996-2001, this is the year that we were approved as a VPP STAR worksite. Plant Production Increases and Injuries decrease while the employee headcount virtually remained the same.

### Employee Headcount 1996-2001



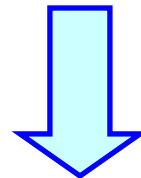
As the following graphs will demonstrate our injury rate decreased, and the plant’s headcount virtually stayed the same. Plant production **increased** by 97% from 1995 until 2000 while the injury rate fell from 3.8 to a low of 0.9 during this same time period.

**PRODUCTION**



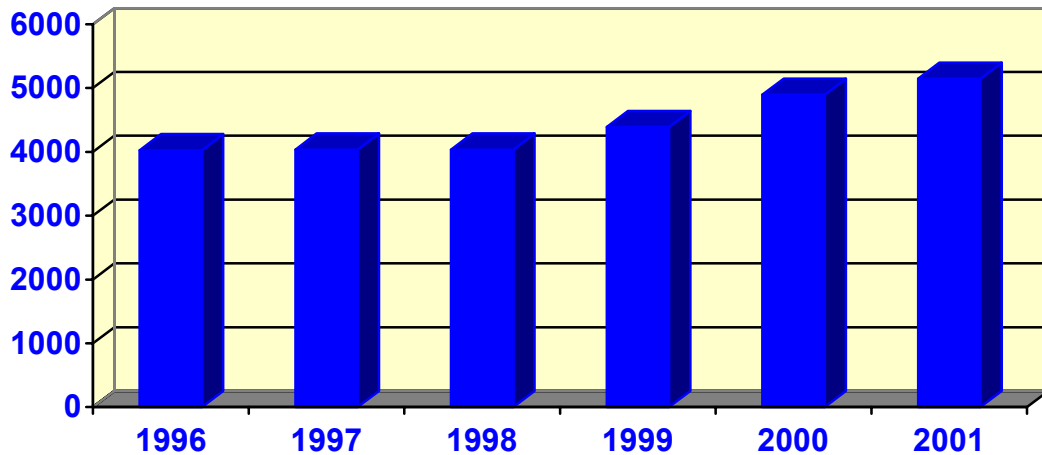
**97%**

**INJURY RATE**



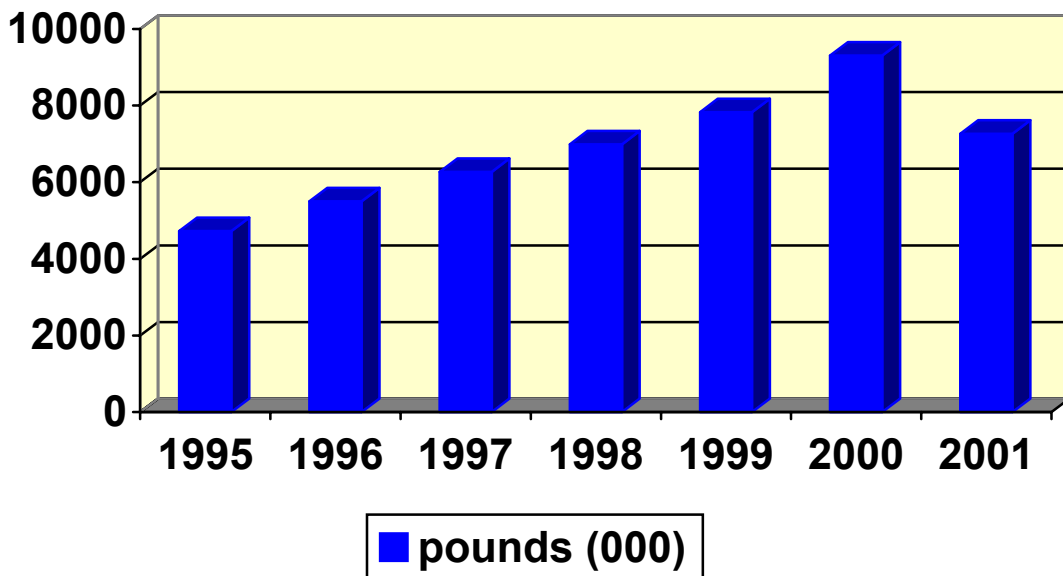
**76%**

### Closed Runs



The plant realized a 22% increase in closed runs from 1996-2001, while employee headcount virtually was stagnant and is currently three employees less than in 1996.

### Production Increases



## CONCLUSION

Since being recognized as an OSHA VPP Star Worksite, it is very obvious that production has increased and our injury rate has decreased. But more importantly, the morale of the plant employees is at an all time high. We have received numerous state and national awards for environmental and safety excellence. Additionally, many of our Total Quality Management Teams have been recognized for their efforts.

As we look back over the past several years and reflect upon all of the great accomplishments acquired by this facility, there is no doubt in our mind, that safety has been the key to our success. When safety is coupled with Total Quality Management and team spirit, the rewards will be endless.

Our increased production and decreased injury rates have enabled us to prove that companies nationwide can have improved safety performance and at the same time...increased productivity. Remember our motto.....

**NOTHING.....**

**Not Production, Not Profit, Not Sales, Not Anything.....**

**COMES BEFORE SAFETY**



## Reading Facility Awards

Awards	Description
<b>Quality</b> <i>Mid-Atlantic</i> <i>Region</i>	1. <b>Quality Valley USA Award</b> A regional quality award based on Malcolm Baldrige's National Quality Award criteria. The plant is recognized for excellence in categories including planning, analysis, human resource development, operations, and results. Received October 19, 2000.
<b>Environmental</b> <i>State</i>	2. <ul style="list-style-type: none"> <li>• <b>Governor's Award for Environmental Excellence</b></li> <li>➤ <b>1998</b>- an Award for water reduction. Installed a Water Recovery System to reduce the usage of water and disposal to City of Reading Facility Waste Water Treatment.</li> <li>➤ <b>1999</b>- an Award for Cadmium elimination. Elimination of environmental risks posed by treatment and disposal of water containing Cadmium pigments Reformulated products and eliminated exposure to Cadmium containing materials.</li> <li>➤ <b>2000</b>- an Award for elimination of solvent based cleaning. Project began in 1995 and continues. Concentrated involvement by production staff to achieve, initiated by facility management to set direction.</li> <li>➤ <b>2001</b>-Energy Reduction. An award for energy reduction, improving electrical efficiency and avoiding costs of gas and electricity through reduced power correction charges and water reuse projects.</li> </ul>
<b>Environmental</b> <i>Federal</i>	3. <b>PBT Cup Award</b> National recognition from USEPA for eliminating cadmium in early 1990's. Heavy involvement by R&D and by purchasing, plant and sales/marketing. Received September 20, 2000.
<b>Safety</b> <i>Federal</i>	4. <b>OSHA VPP Star Worksite</b> Re-certification received for year 2000 after original Star Certification in 1997. Total plant involvement for safety excellence by management and hourly safety team members in this OSHA Cooperative Program.
<b>Safety</b> <i>State</i>	5. <b>Governor's Award for Safety Excellence 2000</b> Award presentation is scheduled for January 24, 2001. Recognition for workers/ management safety excellence and achievement.

## Health & Safety Awards

➤ <b>OSHA VPP Star Certification</b>
➤ 1997 Recertification
➤ 2000
➤ <b>4 Governor's Awards for Environmental Excellence</b>
➤ <b>CMA Certificate of Honor</b>
➤ <b>PA Senate Certificate(s) of Recognition</b>
➤ <b>PA House of Representatives Certificate(s) of Recognition</b>
➤ <b>Manufacturer's Association of Berks County Letter of Merit for Safety</b>
➤ <b>OSHA Special Government Employees (2)</b>
➤ <b>Governor's Award for Safety Excellence</b>
➤ <b>National Safety Council Award of Commendation</b>
➤ <b>National Paint and Coating Association Safety Award of Honor</b>
➤ <b>American Society of Safety Engineers Award (Allentown Region)</b>
➤ <b>National Safety Council – Green Cross Award for Safety Excellence</b>

## TQM Award Winning Projects

2000	<ul style="list-style-type: none"> <li>➤ Z3 VP Award</li> <li>➤ Scheduling Optimization</li> <li>➤ Asset Utilization</li> <li>➤ Team Utilization</li> </ul>
1999	<ul style="list-style-type: none"> <li>➤ Reduce Fine Mesh Screening</li> <li>➤ Improve Texture Scale up</li> </ul>
1998	<ul style="list-style-type: none"> <li>➤ Safety Program Enhancement (QS)</li> <li>➤ Improve Ergonomics (QS)</li> </ul>
1997	<ul style="list-style-type: none"> <li>➤ Raw Material Quality (Inner Circle)</li> <li>➤ Improve Thermoset Yield (QS)</li> </ul>
1996	<ul style="list-style-type: none"> <li>➤ Employee Safety Involvement Enhancement Team (Inner Circle)</li> <li>➤ Preventative Action – Rework and Reject (QS)</li> </ul>
1995	1. Improve Grinder Yield/Reduce Downtime (QS)

