



Six Thinking Hats Case Study: Emerson

Copeland Corporation was founded in 1921 by Edmund Copeland, a Michigan inventor who developed the first successful mechanical refrigeration system. During the 1930s, the company was sold twice, landing in the hands of four Copeland managers who then drove its growth. In the mid-1980s, Copeland became a subsidiary of Emerson Electric Company of St. Louis. Through a new branding initiative, Copeland came to be a part of Emerson Climate Technologies.

Today Copeland employs over 6,000 workers at five U.S. and several international facilities. This case study features the Ava, Missouri plant which was established in 1997. The Ava plant machines scroll elements that are later assembled into scroll air conditioning compressors. Almost half of the Ava location's output is shipped to Emerson owned assembly plants outside the United States.

Copeland believes in and practices the importance of employee development to assure company success. Communication and team work skills are a vital part of their program. In 2010, the Ava plant had worked seven years and a total of 7.5 million hours without a Lost Time Accident

The Challenge: Growth Creates Communications Roadblocks

The Emerson Copeland facility in Ava, Missouri, had once been an Emerson motor plant. When that operation was moved to Mexico, Copeland bought the plant and brought some of the Emerson people back to work. The rehires were committed to keeping their jobs, and over time, due to their performance, the plant expanded four times. The growth caused the division to restructure and the local plant name changed to Scroll Compressors LLC. Growth is usually a positive, but it brings new challenges. The quick growth the plant was experiencing had limited many employees' willingness to engage management. Employees, described by managers as a tremendous resource, honest and smart as well as hard working, were not giving their opinions any more.

The Solution: Teach and Apply Communication and Problem-Solving Skills to Rekindle Honest Interaction between Managers and Employees

In a manufacturing plant, employee involvement requires commitment. Holding meetings takes employees off the floor, temporarily interrupting production. And listening to what hundreds of workers are experiencing and thinking takes a lot of management time.



But Scroll Compressors LLC managers Michael Redfearn, Skip Steward, and Bill Henry believed that if you make the effort, you can harvest valuable information on problems that exist along with practical suggestions for solving them.

Working with the plant trainer, Don Hanger, and consulting company de Bono Consulting, this management team designed a five-step plan to increase employee involvement in improving plant performance.

1. Learn de Bono communication and problem solving tools and pilot the process.
2. Train senior management as facilitators.
3. Create Ava Impact Teams to address specific tasks/problems.
4. Gradually engage all of staff.
5. Measure and publish results. The long-term goal was to enable Copeland to continue to provide superior-quality products at a reasonable price. The first short-term goal was to deal with scrap issues in a new automated-production area.

The Value: Measurable Results Lead to Wider Application of the de Bono Tools

Using the de Bono tools leveled the playing field between supervisors, engineers, and frontline workers. Communication improved and positive energy began to flow. ***The ideas generated and implemented by Impact Teams reduced scrap by 20%, resulting in an annual \$48,000 cost savings.*** As a result of this success, all of management was then trained in the methodology, and de Bono systems are now part of regular protocol.

An example of a subsequent Impact Team focus was a plant-wide contest to reduce electricity usage. One team examined the plant's practice of running coolant pumps on weekends to keep a water-based coolant moving, even though the machines it cooled were not in operation. The reason for this practice was to control bacterial growth which otherwise produced a very foul odor. Applying the tools they had learned, the team came up with the idea of circulating the coolant in bursts, running the equipment only once for five to ten minutes every three to four hours. Implementation of the burst approach ***saved the plant \$130,000 in one year.*** The total savings through all ideas implemented from the contest was ***\$400,000.*** At the time this case study was written, Impact Teams are focused on ways that the plant can become greener by keeping waste out of landfills.

The Future: The Involvement of a Workforce Rooted in a Small Midwestern Town Leads to Growing Impact

Don Hanger reports that the Ava plant's employees use the de Bono tools for idea generation whenever they encounter something that they don't know how to deal with. The tools are also embedded in various lean manufacturing processes such as Six Sigma and Total Preventive Maintenance to strengthen outcomes. Six Thinking Hats methodology is used routinely in performance reviews of hourly workers. In fact, so many things are going on that it is becoming difficult to track all of the results that can be attributed to the use of this practical and innovative problem-solving system.

"In the future what I'd most like to see," Don concludes, "is for Emerson and its partners to make use of our demonstrated success by adopting the de Bono techniques in other manufacturing plants—and other divisions of the organization. It would be great to see an approach that was pioneered in the Ava plant benefit Emerson on a much larger scale."

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