

Ritchie & Associates

The Performance Improvement Consultants, Since 1967

Increasing Wrench Time by Working Smarter - Not Harder

Client Profile:

The Plant is part of the American dream. The energy crisis of the 1970s spawned a vision of greater U.S. energy independence and the abundant lignite resources in the area held promise as a vast synthetic fuel source. The Plant began operating in 1984 and today produces more than 55 billion standard cubic feet of natural gas annually.

The plant appears as a massive complex of pipes, towers and buildings. The heart of the synfuels plant is a building containing 14 gasifiers that are cylindrical pressure vessels 40-feet high with an inside diameter of 13 feet. Each day 16,000 tons of lignite is fed into the top of the gasifiers while steam and oxygen are fed into the bottom of the coal beds causing intense combustion. The resultant raw gas goes through cooling, cleaning and a methanation process and then through final cleanup. The gas is then cooled, dried and compressed entering a 2-foot-diameter pipeline, traveling 34 miles south. There it joins the Northern Border Pipeline, which transports the gas to four pipeline companies. These companies supply thousands of homes and businesses in the eastern United States. In addition to natural gas, the plant produces fertilizers, solvents, phenol, carbon dioxide and other chemicals.

The Need & Approach:

During initial meetings with the management team, it was decided the scope of the assignment would involve the Maintenance department, which has 300 union employees. Management viewed the maintenance team as being highly skilled and motivated, but with opportunity for working smarter to improve overall productivity.

Ritchie conducted a three week, no-charge Analysis that enabled Ritchie and the client to jointly identify the impediments to improve performance by spending time directly with the Workers, Supervisors and Planners. Working smarter was more clearly defined and involved the role of the Planners and Supervisors, as well as the systems and tools for managing the work more effectively. An Improvement Strategy was developed and presented to the Management Team. Upon acceptance of the proposal, Ritchie initiated work on this 30-calendar week project.

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The Work & Results:

Working in a collaborative effort, the existing Maintenance Management System was mapped to ensure all involved parties understood the current means and tools for prioritizing, planning, scheduling, quantifying, assigning, monitoring, controlling and reporting the work. This set the foundation for identifying the specific areas of weakness and developing an approach for improving each aspect and element of the System

Ritchie clearly defined the current and desired responsibilities of the Planners and Supervisors and their specific role as far as Work Management. The goal was for each group to possess the skills, tools and established routine for executing their responsibilities for managing the work. By improving their overall effectiveness, the performance of the work force would be positively impacted. Through classroom sessions, and on the floor installation, these routines and disciplines became the norm.

During the project, clearly defined non-financial key performance indicators were defined and implemented, which enabled all involved to know how their area was performing. By everyone's account, the results were significant.

- A significant increase in wrench time reduced the work hours per completed job, as well as a reduction in the backlog of work.
- A reduction in overtime and a decrease in the use and need of outside services
- The improvement generated a 4.10 : 1.0 ROI

"The project has provided us with a significant return on investment as projected, we have realized a measureable increase in actual "tool time" of 25%.

Director of Maintenance