Originally appeared in:
October 2020, pgs 19-20.
Used with permission.
HYDROCARBON PROCESSING®

HP Maintenance

D. REED, Eastman Chemical Company, Longview, Texas;
and M. THOMPSON, Evolve Partners, Houston, Texas

Zero-based, custom-built, reliability-driven: A new kind of maintenance organization

In the October 2018 issue of *Hydrocarbon Processing*, the authors published an article—"Improving plant performance by changing a maintenance culture"—describing the first two years of Eastman Chemical Co.'s Longview, Texas site's journey to maintenance excellence, which began in 2016. The company is still on that journey to achieve the plant maintenance department's vision: To be our partner's first choice for work execution at TXO.

The vision was for the plant's maintenance team to be "partners" with the operations team, along with being the first choice for work execution. All this was in service of the desired result, which was the plant maintenance department's long-term viability.

The department's initial efforts focused on improving the quality and consistency of routine work execution, as well as lowering the overall cost of maintenance. The maintenance department needed to gain credibility with operations to become partners. Both objectives were achieved, but not without trials and tribulations. Even the most influential advocates within the maintenance department became weary during the journey. Continuous support from leadership was critical for the team to continue the set course and not fall into the trap of circumventing core disciplines.

Why did these advocates grow weary? The organizational structure was lacking the ability to sustain the work processes. The plant's teams had been organized geographically at the site. The new management systems—built on constant communication between operations and maintenance—created a burden on the front- and second-line management. The next step was to organize resources and capabilities to make it easier for a mutual partnership between maintenance and operations.

Three significant challenges and five worthwhile goals.

The plant maintenance department's 2016 organizational structure presented three significant challenges to overcome:

1. The maintenance team had too many points of contact for operations to work through
2. Maintenance teams were being pulled in different directions by multiple operations leaders, each of them with their own priorities
3. A better alignment was needed between instrumentation, electrical and mechanical crews to ensure clear accountability for safe, quality execution.

The maintenance department was tasked with five significant goals:

1. Reduce the number of maintenance contact points for operations
2. Create as many one-stop shops as possible for the operations team
3. Create internal alignment with electrical, instrumentation and mechanical crews
4. Reduce the number of competing priorities for frontline supervisors and crew
5. Use the organizational design criteria as a guide to excellence.

To accomplish these goals, plant leadership assembled a team of influential leaders from the operations and maintenance teams. This team approach allowed the organization to have credibility across organizational lines and throughout the chain of command. Ultimately, it enabled the plant to create a maintenance organization that is zero-based, custom-built and reliability-driven. A definition of these attributes includes:

- **Zero-based:** All existing paradigms were eliminated
- **Custom-built:** Resources were aligned around specific operating area needs
- **Reliability-driven:** The operating team's specific needs for maintenance support were identified, which enabled maintenance and operation teams to establish staffing, response and quality agreements.

First, the team developed criteria for what the structure had to achieve to be excellent. This standard was used as specifications for measuring all organizational structural options that the team created. Some of these criteria included:

- Ensuring safety and quality at all levels of the department
- Organizing with the partner in mind, while optimizing resources where they will have the most significant impact
- Having the department be agile and responsive, with clear accountability for logical groupings of work activities
- Enabling effective cross-functional teamwork and cooperation
- Properly aligning accountability with plant authority
- Enabling the development of critical skill sets.

The team documented the "as is" department structure by quantifying the historical categories of work performed and maintenance hours expended in each of the supported operating areas. The process included conducting interviews with key stakeholders to validate documentation. The team then assessed the existing structure against the design criteria and found several areas lacking completeness.

Next, the team employed a disciplined organization design methodology to produce a conceptual model that addressed the team's goals and met the design criteria. The key to this concept was the optimal integration of all aspects of the department's service obligation together in a single-facing ser-

vice organization—the zero-based part of the journey.

Once the conceptual model was finalized, the team began a systematic process of negotiating customized service level agreements (SLAs) with each operating partner. The back-and-forth SLA process led to agreements on performance and partnership expectations that would enable superior reliability results. The SLAs were the essential alignment tool that addressed the custom-built and reliability-driven parts of the journey.

Essential learning from the initial processes and tools portion of the journey was that the success of the effort is primarily about the behaviors that people demonstrate. If people change their behaviors to optimize processes and tools, then their utilization—and the results they produce—will be sustainable. However, if people do not adapt and change, then the effort will likely fail.

The same truth applies to an organizational structure with new performance expectations, new roles and the need to acquire and demonstrate new capabilities. Therefore, the final and most critical step for the plant maintenance department was a several months-long preparation and implementation process. The implementation needed to accomplish two goals: Transfer the ownership of the new structure, roles and new performance expectations to frontline supervisors, and properly integrate the instrumentation, electrical and mechanical crews in a way that set them up for success.

The implementation process included several weekly workshops designed to get the frontline supervisors to learn about each other's crafts, risks, priorities and external views. Structured exercises were also used to get them to own the processes for allocating and optimizing resources across the site, not just within a single operating area. With the announcement of the new integrated crew structures, the frontline supervisors were better prepared to ensure that their teams got off to a successful start.

The plant maintenance department has now addressed the processes, tools and structures to provide top-of-the-line maintenance services to the operations team. As with any change, the technical aspects—work processes, tools and structure—are the simple part. The next phase of the journey is getting the reconfigured frontline supervisors, along with restructured crews, to function differently and with a different mindset.

The road to excellence is a journey. The organizational change did not bring the plant's teams to the pinnacle of success. Success is instilling the mindset of continuous improvement in every corner of the organization. Leaders must empower every team member to elevate their ideas for improvement, while encouraging them to continuously add more aspects that optimize their work. Remember to implement behavioral change at the rate your organization can absorb. HP

DAVID REED is the Director of plant maintenance for Eastman Chemical's Longview, Texas operations. Eastman is a global specialty chemical company with approximately 14,000 employees and 50 manufacturing sites around the world.

MARTIN THOMPSON is a senior change leadership coach and implementation consultant with more than 30 yr of experience. Prior to beginning his more than 30-yr consulting career, he spent 5 yr doing human resource development with the Coca-Cola Company in Atlanta, Georgia.