A SINGLE SOURCE
FOR PROCESS-PIPING INSTALLATION PROJECT MANAGEMENT

A&B Process Systems has become a true one-stop partner for its customers, one that meets the needs of today while striving to improve future processes

By Buck Evers

JBT® A&B PROCESS SYSTEMS

Introduction

Whether it's your first or 101st process-piping installation, there is bound to be some level of trepidation as you work toward its ultimate completion. Will the system's design truly meet the needs of the application? Can it be completed within strict budgetary parameters? Is the established timeline for completion genuinely feasible? Will all regulatory demands be reliably met?

The answers to these big-picture questions can only be known if a myriad of more specific ancillary questions are responded to properly. Think of it as trying to complete the New York Times cross-word puzzle: one incorrect word – or even one misplaced letter – will compromise the viability of large swaths of the puzzle.

The level of anxiety can also be increased in direct proportion to the number of different entities that may be tasked with supplying, for instance, engineering expertise, system components, equipment fabrication and manpower for the installation. This can be a situation where too many cooks can indeed spoil the broth. To optimize Project Management for process-piping installations and remove some of the unknowns that can compromise the desired outcome, A&B Process Systems of Stratford, WI, has been committed to becoming a one-stop source for manufacturers who require the installation of process-piping systems. The benefits of using A&B will be illustrated in this white paper.

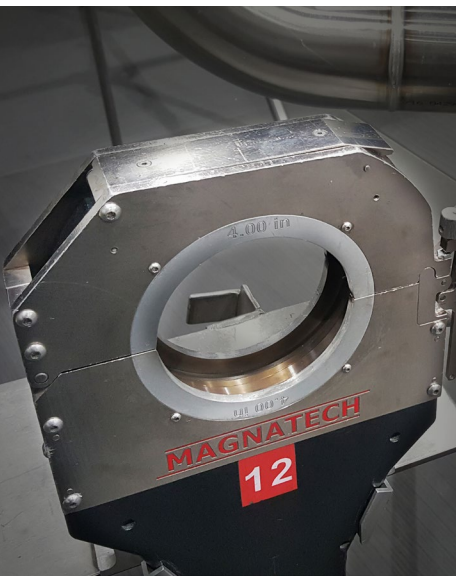
From Concept To Completion

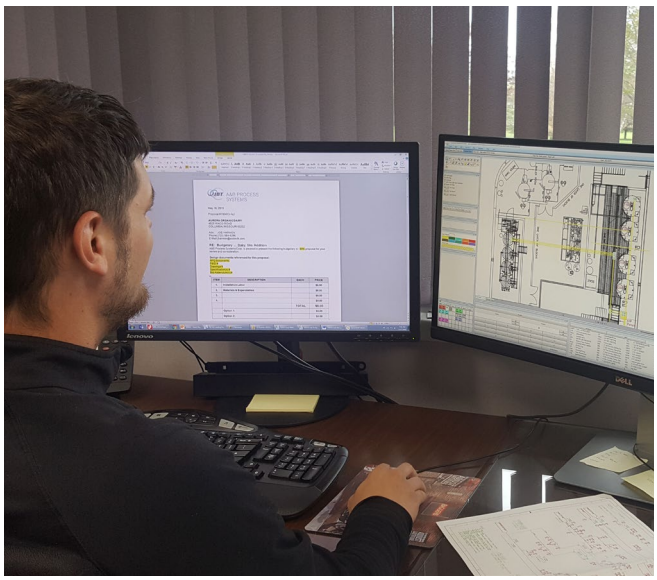
The driving force for A&B, which is a product brand of the JBT Corporation, is creating and refining a Project Management system that enables it to be a true partner for its customers "from concept to completion." The proof that this approach works can be found in the fact that, since 1973, A&B has installed more than eight million lineal feet of process piping throughout the United States, with the largest single installation totaling more than 70,000 lineal feet.

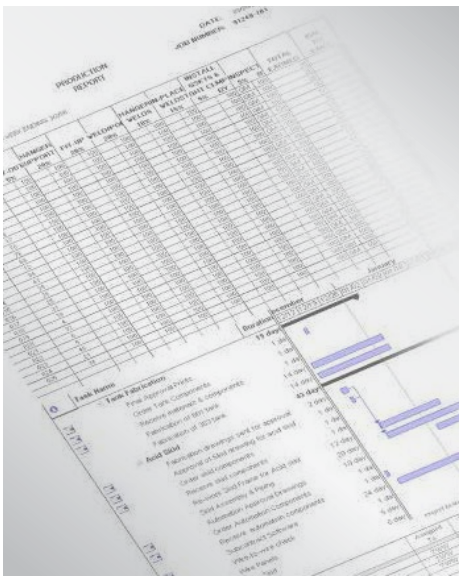
The bulk of these installations have been for customers who operate in the pharmaceutical, food-and-beverage, personal care and pet food markets. This means that the majority of A&B's installations need to meet strict in-house quality standards, as well as the standards for hygienic operations that have been set by a wide array of regulatory bodies, such as the U.S. Food & Drug Administration (FDA), U.S. Department of Agriculture (USDA), 3-A and ASME-Bioprocessing Equipment (ASME-BPE).

A&B is able to deliver a process-piping installation that satisfies the needs of both the client and the regulatory agencies by optimizing performance in a number of critical areas, including:

- **Safety First**. Guaranteeing safety for general contractors, subcontractors, technicians, site employees, associates and the surrounding operational environment is a primary focus, both internally and at the project site. A&B is dedicated to achieving safety excellence and being a leader in this realm amongst its competitors.
- **Quality Management**. A&B defines “quality” as the ability to meet client requirements each and every time. The underlying driving factor is a goal of Zero Defects once the installation is complete. This is not just a catchy slogan, but also a steadfast commitment to the prevention of any mistakes along the installation process. This commitment to doing the job right the first time has become the cornerstone of A&B’s subsequent success.







- **Estimating Process**. Fine-tuned material lists simplify the procurement process, while an estimating team assigns control numbers to each process-piping run as it relates to pipe size and lineal footage takeoff. These control documents are managed by site supervisors, which helps provide a real-time assessment of the project’s progress.
- **Detailed Proposal Summaries**. These documents allow for quick and efficient reviews and allow for easy identification of potential issues that are oftentimes missed and can result in unnecessary downtime and project delays. These summaries are definitive, with no gray areas that can lead to misunderstandings, leading to a review process that is much more efficient.
- **World-Class Welding**. A process-piping installation is only as strong and reliable as the strength and reliability of its welds. Whenever possible, A&B recommends use of its Orbital Weld Technology, which automates the welding process and results in a more consistent, higher quality weld. Additionally, A&B invests in the training and development of its welders, and requires all welders to obtain and maintain current AWS 18.1 GTAW certifications in stainless-steel tube and pipe welding; this ensures that all welders will meet the highest standards of 3A sanitary welding.
- **Optimized Piping Runs**. A&B’s long-established piping standards and practices allow for more flexibility in piping routes. For example, one common standard includes the use of one 90-degree elbow and one 45-degree elbow for any change of direction. This allows for subsequent piping runs through the same elevation without interference.

- **Pipe-Support Design**. A consistent desire for A&B is ensuring that the pipe-support system provides not only the necessary structural support, but also the hygienic qualities that will prevent bacterial growth. To that end, the pipe-support systems are typically constructed entirely of stainless steel with all joints seal-welded to prevent the possibility of condensate accumulation. A&B also has the capability to create pipe-support systems that can meet the requirements of seismic-compliant designs.
- **Pre-Fabricated Conduit and Cable-Tray Systems**. A&B offers custom fabrication and installation of complete stainless-steel pneumatic and control-wiring conduit and/or cable-tray systems. These pre-fabricated systems, although somewhat more expensive, allow for expedited installation times that can help meet deadlines, along with creating a consistent look to the entire piping system.
- **Dedicated Project/Construction Management Teams**. A&B's site supervisors and construction managers understand the amount of work that needs to be done in order to bring a project to completion in the given time window. The Construction Manager is the fulcrum of this project-management system for installation projects. The Construction Manager will work closely with the client and or the owner's representative, the overall Project Manager and the estimators from pre-job (estimating) status through construction. The Project Execution team provides regular project status reporting and tracking to clients through use of eSUB, A&B's newly implemented project-execution software. This enables the entire project team to stay on top of project schedules, costs and issues. This provides the client with a familiar, go-to source and an open line of communication for any questions that need to answered or if any adjustments to the original plans need to be undertaken.
- **Equipment Setting/Millwright Services**. In conjunction with its process-piping Installation Services, A&B's construction services team is experienced in "picking and setting" a variety of large-scale process equipment, including retorts, fillers, filtration equipment, ovens, freezers, process vessels and conveying systems.

Onward And Upward

Despite having built a catalog of literally hundreds of noteworthy successes over the past 45-plus years, A&B is not a company satisfied to rest on its laurels. Backed by that mindset, A&B is always striving to further improve its Project Management capabilities, with the goal of further optimizing the performance of its clients.

One recent innovation has been the incorporation of Lean manufacturing techniques in its construction processes. The roots of Lean manufacturing principles can be traced all the way back to Benjamin Franklin and in their present incarnation are said to be "a systematic method used to reduce waste within a manufacturing system without sacrificing productivity."

As it relates to A&B's construction activities, the company is working with its associates to reduce waste, deliver the highest quality, increase productivity, improve health and safety, fulfill customer requirements, and do all of these things better than the competition. The methods that have been identified as ways to meet these goals are making it a team effort; setting daily goals – and

attempting to exceed them; keeping job sites clean and organized; make it easier to more quickly and efficiently find parts and tools; minimize the amount of time it takes to move from one station to another; and identify and promptly communicate any problems.

In order to more easily satisfy the demands of the Lean initiatives, a series of 5S standards for continuous improvement have been created. They are:

- **Sort**
  - Adapt fabrication areas to available space
  - Use vertical cabinets to save floor space
- **Straighten**
  - Keep floor clear of tools and parts
  - Keep schematic drawings and paperwork organized
  - Keep area clean and uncluttered
- **Shine**
  - Keep tools and cabinets clean
  - Keep trash/expendables out of the way
- **Standardize**
  - Follow all A&B-established Lean and 5S standards
  - Clearly label parts and tools storage areas
- **Sustain**
  - Assign daily 5S tasks to the team
  - Ensure that everyone takes responsibility to enforce the standards

To help keep all associates pulling in the same direction, field supervisors are responsible for establishing job-site performance goals and providing feedback as the team strives to meet those goals. Supervisors will also communicate all performance expectations on a daily basis. Daily and weekly checklists will be completed for every job based on the performance goals assigned to the team. This is sustained through a program of regular audits and scoring of the team's 5S performance by the Installation Management Team.

Conclusion

A&B Process Systems has become a recognized industry leader in the design, fabrication, automation and installation of turnkey process-piping systems by taking a proactive approach to becoming a one-stop solution for its clients. Over the years, A&B has established and refined a set of Project Management guideposts that help it consistently achieve this goal. At the same time, it has been forward-looking in trying to further refine and improve its procedures, as evidenced by the heightened commitment to Lean manufacturing principles and adherence to 5S standards. The result is the creation of a true partner for its clients that has their best interests in mind as they deploy manufacturing and product-handling systems for some of the world's most significant industries.

About the Author

Buck Evers is the Director of Installation Services for A&B Process Systems, Stratford, WI, with more than 25 years of experience in the military and equipment manufacturing for the food industry. He can be reached at buck.evers@jbtc.com or by calling 1-888-258-2789. A&B Process Systems, a product brand of the JBT Corporation, is an industry leader in the design, fabrication, automation and installation of turnkey stainless-steel industrial and sanitary process systems for use in a wide variety of industries. For more information, please visit abprocess.com. JBT Corporation is a leading global technology solutions provider to high-value segments of the food-processing and air-transportation industries. For additional information, please visit jbtc.com.

The Latest Step Forward

One of A&B Process System's newest and most revolutionary innovations as it continues to improve its Project Management capabilities is the development is what it is calling its eSUB Construction Software. eSUB is a Cloud-based Project Management system for subcontractors that strives to eliminate all technical and communications hurdles while enabling technicians to more efficiently get their work done on site and simultaneously keeping the back-office operation in the loop.

The foundation of the eSUB software platform is the Daily Reports that are created by the field supervisors. Key to these reports are a series of digital photos that the field supervisor will take everyday and upload to the eSUB system, where they can be viewed by the client and construction manager. The field supervisor and construction manager will use the results in the Daily Reports to update and maintain the production schedule. The reports will also be used to identify any issues that may need to be mitigated with these communicated to the customer and the back-office staff.

The main benefit of the eSUB software is that field supervisors are now provided a real-time global view of their projects on a daily basis, which can help them respond to any issues related to budget change requests, completion timelines, tasks, personnel and scope-of-work activities. Every bit of project data is right at their fingertips, including all budgeting and personnel time-card information, which removes the need for the office to reenter the data via accounting software.

In the end, what makes the eSUB software such a step forward for field supervisors is that it allows them to make real-time decisions on-site because they possess fingertip access to all crucial project-related information. Having a Cloud-based system with all documentation hosted in a single place provides users with a security blanket that takes much of the worry, anxiety and, yes, trepidation, out of the processing-piping installation process.