

A Better Way to Build

Design. Bid. Build. For years, it's been the process industry's standard in construction projects. But, the earliest stages of a conventional design/bid/build (D/B/B) approach can be risky for process manufacturers. Plant designs generally are finalized at an early stage by engineering firms or on-staff engineers.

Ofentimes, the design does not cover the project's entire scope from the perspective of the owner's process needs. A holistic understanding of the owner's process needs is the key to creating the best, most-economical and constructible design for the new process-driven project in question.

It's time to re-examine how the process industry constructs and upgrades facilities. Maybe design/bid/build isn't the answer. Maybe traditional isn't the most effective delivery method. Maybe it's time to think differently and consider an integrated design-build approach focused on process-driven construction.

That's where the concept of process-driven design/build, such as Rudolph Libbe Group's Guided Process Solutions (GPS), system comes in.

The process-driven design and construction approach gives customers a single point of contact and a holistic viewpoint of the entire project from start to finish. GPS system specialists either self-perform or manage sub-contractors, identifying potential design and construction roadblocks before they become costly problems and keep the job on time and on budget.



This delivery method optimizes both design and construction for industrial process projects in a way that saves time and money," notes Brandon Gartee, business development manager for GPS. **"All aspects of this approach revolve around the owner's process needs.**



UPFRONT PROBLEM SOLVING

The GPS method helps process manufacturers avoid some of the 'traps' of traditional D/B/B. For example, inaccurate budgeting can come from overlooking the specific process, or from minimal contractor input early in the preconstruction phase where opportunities for savings are the greatest. The design could be for a building that is too large or too small or lacks the proper infrastructure to support the process, causing delays and cost overruns.

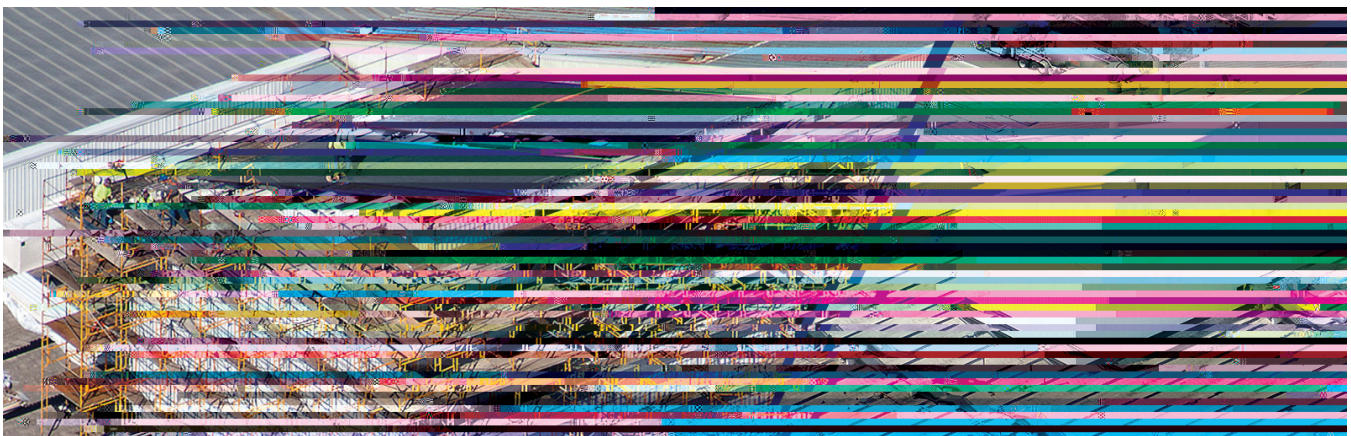
This approach optimizes communication among all the project stakeholders. It brings everyone involved in the planning, design and preconstruction together earlier rather than later.

Each member of the preconstruction team—which includes the owner, architect, engineers and design/build contractor—considers the following key questions to help optimize the project:

- › Can the existing process continue running throughout construction?
- › What sort of space profile and footprint does the building need to accommodate the process?
- › Can utility and other building infrastructure costs be minimized in the new design?
- › Does the design meet the owner's process goals from the standpoint of budget, schedule and constructability? Or, are there better options?
- › Can building materials costs for process operations be reduced?

Using this model, the client, engineering firm, architect and contractor work together to identify project scope and needs. They identify and discuss upfront any critical design changes needed to prevent or correct potential problems before they become "baked in" to the design. This communication mitigates the high risk of cost overruns and construction delays before they happen.

By challenging design assumptions from the start, the GPS team generates savings by optimizing the project to fit the owner's individual process," Gartee says. "We differentiate ourselves by focusing on our owner needs and process goals. Everything else about the design evolves from there.



Such was the case when RLG partnered with an auto-battery-manufacturing plant in Holland, Ohio. The company wanted to increase its production capacity for automotive Absorbent Glass Mat (AGM) batteries. Doing so required a multi-phase construction project. The project required a new processing tower with relocation of the existing battery line as well as an oxide-phase expansion which included installation of new equipment.

The GPS specialists knew a traditional construction method wasn't going to work. The design needed to be created around the customer's process. Using GPS, the team worked together in careful preconstruction planning. They also adapted as equipment delivery issues arose – a key factor to the project being completed on time.

By working closely with the customer and tailoring the project to its process requirements, RLG helped the company increase production capacity to six million automotive AGM batteries at this facility. It was the first plant in North America to make them. Since then, the company has worked with RLG to complete oxide additions at two other plants located in



