TRAP #4:

THE SHORT-SIGHTED EXPANSION TRAP

HOW CONVENTIONAL DESIGN/BID/BUILD LIMITS *FUTURE* EXPANSION OPTIONS BY ONLY PLANNING FOR THE *CURRENT* EXPANSION PROJECT

When the conventional Design/Bid/Build approach is used for plant expansion, important aspects in the current design are often overlooked, making future expansion costs significantly more expensive for plant owners.

Knowing these pitfalls, and understanding the advantages of better alternatives to the traditional design process can significantly reduce your costs when your facility must be expanded in the future.

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HOW DRAWBACKS IN THE TRADITIONAL DESIGN/BID/BUILD (D/B/B) APPROACH INCREASE YOUR FUTURE PLANT EXPANSION COSTS

Applying the conventional D/B/B construction approach on your current project often results in missed opportunities to cut future expansion costs:

D/B/B teams may not include members with the process engineering background and experience necessary to gain an understanding of your process, which is required to reduce both present and future expansion costs.

D/B/B teams don't always have process manufacturing construction knowledge and experience to meet the special design and construction requirements of plant expansion projects.

D/B/B approaches may not employ the advance planning required to identify and incorporate changes to the current building design that can help reduce costs and construction time on future expansion projects.

Missing critical opportunities to make important design changes makes future expansion more costly: These drawbacks can significantly increase your materials and construction costs, and cause unnecessary added production downtime on future plant expansion projects. They may also seriously limit or even prevent future expansion opportunities due to prohibitively high construction costs for the expansion project.

Without a primary focus on your manufacturing process, the traditional Design/Bid/Build approach may struggle to identify the key building specification changes required to minimize your future plant expansion costs.

GUIDED PROCESS SOLUTIONS® (GPS): REMOVING COST & CONSTRUCTION BARRIERS ON YOUR FUTURE PLANT EXPANSION PROJECTS

By applying its process-driven design and construction approach, the GPS design/build system prepares your facility for future growth. GPS can significantly reduce construction costs and production downtime risks for your next process expansion.

Focusing on your special process requirements:

Unlike the conventional D/B/B approach which builds a structure around your process, the GPS team focuses first on developing a deep understanding of your company's unique process requirements, then designs and builds a facility that is optimized to meet your critical requirements.

Utilizing its real-world process construction experience, and applying value engineering approaches to your project, the GPS team develops a design that is not only the most economical and optimized building solution for your process today, but one that incorporates the necessary building specifications and requirements necessary to minimize your future building expansion construction costs.

Focusing on your strategic process goals:

The GPS team understands that every company's process goals and requirements change over time. Because of this, a key part of the design process is to carefully identify and assess the impact of planned changes to your process operations over the next several years, and to incorporate these planned changes into present and future plant expansions.

Many aspects of these process changes, such as the addition of new machines or systems, raw materials transfer methods, new production lines, and other process modifications or enhancements, must be reflected in designs for the current plant construction project, to cut costs and remove construction bottlenecks for future expansion. This focus on the strategic changes in your company's process is typically not incorporated using the traditional D/B/B approach.

Identifying changes in current design features to economize and enable future expansion:

By combining a process-driven approach with practical, extensive construction knowledge, the GPS team carefully evaluates every aspect of your project design to ensure both current and future expansion is successful.

The team identifies key building specifications required in the current design with an eye toward minimizing costs and eliminating excess time and complexity in future expansion construction projects.

Asking and addressing these important, long-range expansion questions early in the design process identifies the changes necessary to minimize costs, construction schedules, and production downtime in future plant expansion projects.

The Guided Process Solutions team combines a process-driven approach with practical and extensive construction knowledge to minimize future expansion costs and complexity on current building projects.

INTRODUCING AN ALTERNATIVE TO D/B/B FOR PROCESS CONSTRUCTION PROJECTS

THE GUIDED PROCESS SOLUTIONS (GPS) APPROACH ELIMINATES THE COST, CONSTRUCTION, AND PRODUCTION RISKS FOR PROCESS MANUFACTURERS FOUND IN THE TRADITIONAL DESIGN/BID/BUILD METHOD:

- The GPS approach can take months off your construction schedule by accelerating the design, budget, and initial construction stages, therefore getting your new plant into production—and profitability—sooner.
- With GPS, you get a guaranteed, firm price for your project early in the design process, so you can determine the affordability of your project immediately, without production-killing delays.
- The GPS team designs and builds the best and most cost-effective solution for your process, production, future expansion, and business needs by optimizing your building project around your process.
- As a single point of contact for the entire project (including design, estimating, budgeting, and construction phases), the GPS team maximizes cost savings and efficient scheduling opportunities to get your new plant in production, without cost overages or costly construction delays.
- The GPS process-driven design/build system uses an in-house team of architects, professional engineers, and construction staff who work directly with owners to optimize the design of the new facility around the specific industrial process.

CUTTING *FUTURE* EXPANSION COSTS ON *CURRENT* PLANT CONSTRUCTION PROJECTS: The GPS Approach in Action

Asking the right questions today can save substantial costs in the future. Key changes to construction specifications made now on your current plant design—which are often overlooked in the conventional D/B/B approach—can save many costs when these same changes must be made in the future. Here are examples of changes to a current plant design where the GPS team helped the owner to save time and money:

- **Depth of concrete slab: Is your foundation "future-ready?"** Most plant layouts feature offices in the front, manufacturing in the middle, and distribution in the back. Traditional D/B/B approaches will specify an 8" slab for the production area and a lighter 4" slab for the distribution area at the rear of the facility. Facilities usually expand from manufacturing outward into the distribution area, and when this happens, the current slab must be removed and replaced with a thicker slab to support heavier production equipment. While pouring a thicker slab during present construction for both manufacturing and distribution areas may increase short-term concrete costs, these costs could double when the existing slab must be removed and replaced to support a future plant expansion project.
- **Engineer your current expansion to prepare for the next one: How strategic changes to your building footprint now saves money in the future.** During design for the current building project, it is far cheaper to plan ahead for future expansion by adding additional floorspace area with sufficient foundation load-bearing strength, utility, fire protection, and other upgrades. Adding these "bump out" areas to the plan for the current project saves the owner time and money compared to handling future expansion by converting inadequate plant areas, or potentially starting from scratch to expand floorspace alongside the existing plant.
- **How much can you save in the future by building out your utility infrastructure on your current project?** Another area commonly overlooked in traditional D/B/B projects is the need for more space to accommodate new switchgear and other utility connections as the plant expands. Expanding the electrical room's footprint in a current plant building project avoids spending 10 to 15 times more in a few years when extensive renovations must be made to add more electrical capacity for the expanded plant. The same early consideration can also be applied to other major utilities and plant systems, such as natural gas, HVAC systems, conduit runs, steam lines, sprinkler heads, and compressed air.
- **Are your current project's floor plan and wall designs ready for future expansion?** During a plant expansion, future floor and wall expansion needs must be considered. For example, walls in the current plant building project can be designed for easy knockdown to create new floor space areas in future plant expansions, cutting labor and material costs as well as minimizing plant down-time during construction.
- **How will plant automation changes impact your future expansion plans?** Anticipating future process automation initiatives is a special challenge in any current plant expansion. The GPS team evaluates your build-out costs for accommodating future plant automation early in your project. This is more effective than waiting till the design is complete and finding that the updated automation system doesn't fit into your current budget.

By asking the right questions on these and other building design issues early in the preconstruction phase, the GPS team incorporates these and many other critical design changes into current plant building projects, to cut costs and save time on future plant expansion.

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To learn more about Guided Process Solutions, visit: **RLGbuilds.com** or contact Brandon Gartee, Business Development Manager at **Brandon.Gartee@RLGBuilds.com** or **419.720.2677**.