

WHITE PAPER / **STREAMLINING PIPELINE INSTALLATIONS**

# WHY A SINGLE-SOURCE APPROACH BENEFITS SOME PIPELINE PROJECTS

BY Dana Book, PE

The location of oil and gas pipeline installations outside the confines of conventional construction sites adds complexity to everything from permitting and community outreach to land acquisition. These projects benefit significantly when every step is performed by a single team.





*Installation of a natural gas pipeline.*

The most critical part of any relay race is the moment when one team member transfers the baton to another. Good handoffs require skill, collaboration and careful coordination, with the team member holding the baton always mindful of the receiver’s needs. Poor ones slow down the team and threaten its success.

The same might be said for pipeline projects, where the interdependency of project team members runs deeper than in many other types of projects. When miles of private property are involved, land acquisition can impact surveys and environmental permitting can impact design, which subsequently affects procurement and construction. Pipeline projects that utilize separate teams to execute these individual tasks tend to discover what some in the industry already know: the more parties involved, the more handoffs must be navigated.

Conversely, bundling multiple pipeline services and assigning them to a single, experienced project team can result in a more integrated project with fewer handoff points. A single-source pipeline service provider can help you realize multiple other benefits, from reduced

schedule risk and improved quality to greater design and construction innovation — all delivered via a single point of responsibility.

A true single-source approach focuses on bundling preconstruction activities — routing, surveys, land acquisition, permitting, community relations and more — all the way through design and potentially procurement. This comprehensive approach can benefit pipeline projects for wide-ranging reasons.

**Pre-construction activities leverage design.** The choice of route is a major contributor to a pipeline project’s construction cost. Each alternative presents unique constructability considerations, some of which can only be defined during pre-construction activities, such as land acquisition and permitting. These pre-construction activities are interrelated to pipeline project design. Some level of project definition (i.e., design) is necessary to begin community outreach, permit applications, land acquisition and other pre-construction activities. These activities can lead to route modifications, which in turn can impact design.

A project's success can be enhanced if these and other factors are addressed early so that route changes, if any, can be implemented and the pipeline constructed at the lowest practical cost. The further along a project is in design and construction, the more expensive any pipeline route modifications become.

This interrelation of preconstruction activities and design allows a pipeline design team with preconstruction activity experience to provide additional value to the project.

**Integrated services bring efficiencies.** Working with a supplier who delivers multiple services increases the efficiencies between these activities. A single supplier working on both land acquisition and design, for example, will require less coordination to obtain survey permission than a team with multiple suppliers. A single-source supplier also can minimize the chances of lost data or missed task deadlines by managing cross-functional activities internally and keeping the owner informed of results. By eliminating a design firm's need to provide permit material to other companies, the single-source approach also reduces permit requests and wait times.

**Schedule performance can benefit, too.** Acquiring rights-of-way and certain permits can occupy a pipeline project's critical path, making it necessary to perform those tasks simultaneously with design. Schedule risk increases when project task transitions require separate teams to interface.

Because of the efficiencies obtained through utilizing a single-source supplier, these transitions occur within a single team and can minimize schedule risks.

## THE BOTTOM LINE

A single-source supplier with broad experience can add value to the overall project. A supplier with the resources, capability and experience to deliver multiple services will inherently understand more facets of a pipeline project than a firm focused on individual tasks.

A supplier's familiarity with the scope executed by others or directly by the owner enables it to make better decisions and recommendations related to its own project scope. This big-picture knowledge strengthens and adds value to a project — whether it is 50 miles long or 500.

## BIOGRAPHY

**DANA BOOK, PE**, is director of pipeline services at Burns & McDonnell, specializes in routing, design, procurement, construction services, permitting and land acquisition for pipeline projects. His work has focused on design and construction of natural gas utility and natural gas transmission pipelines. Dana earned a bachelor's degree in civil engineering from the University of Nebraska-Lincoln.

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