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WHITE PAPER / **BUILDING A SUCCESSFUL PIPELINE PROJECT**

COMMUNICATE TO ACCELERATE PIPELINE PROJECT DELIVERY

BY Kevin Adams

In any successful relationship, constant communication is crucial, and pipeline projects are no different. To execute these complex projects during complicated times, the right team, tools and approach can streamline processes to overcome myriad obstacles. Though not a revolutionary concept, communication helps deliver predictable pipeline results.

Pipeline projects take on many shapes and sizes; no two are the same. Each project, regardless of size, scope and location, has its own unique set of challenges. Among the most common:

- Easements and rights-of-way
- Location
- Material availability
- Other utilities
- Permits
- Subsurface conditions
- Weather

Overcoming such obstacles requires a clear understanding of the scope of work as well as project expectations — and such understanding surfaces through upfront, effective communication with all parties involved. These days, with many face-to-face interactions on hold, the importance of open communication is more evident than ever.

This understanding emerges when the information receiver acknowledges the information giver; there's no ambiguity and everyone is on the same page. In today's world — where communication, especially written, can be instant and often misinterpreted — it's critical to be clear and concise to eliminate the potential for ambiguity, especially as it relates to complex project needs and contractor capabilities. When in doubt, pick up the phone or schedule a video call to address questions and concerns, and the earlier, the better. The success of the project depends on it.

CAPABILITIES

With the number of critical infrastructure projects increasing on a global scale, pipeline companies are realizing they have more projects to build than their regular group of contractors can staff. To get the work done, pipeline companies have looked to their trusted contractors for support; however, not all are equipped with the skill sets required to successfully deliver certain projects.

Each pipeline contractor has its own sweet spot regarding projects that best fit its capabilities. To avoid significant project losses and maintain lasting relationships, pipeline companies should have frequent conversations with contractors to gauge their capabilities, and personnel experience, and identify those sweet spots. This is where open and honest dialogue comes into play.

To gain additional — and important — insight, here are a few topics a pipeline company might want to discuss with contractors:

- Diverse contractor, including minority-owned, woman-owned or veteran-owned business enterprises.
- How much and what types of work is subcontracted? This is beneficial to know in case the original knowledge base or circumstances have changed.
- Number and type of construction crews with average size:
    - Distribution, main and service.
    - Transmission, pipeline and station.
        - For transmission and distribution crews:
            - What's the ability to "expand" and "contract"?
            - Have they added any new superintendents? If so, can they provide a resume?
    - Trenchless (horizontal directional drilling and jack and bore).
- Number of employees, direct and indirect.
- Review safety data — Total Recordable Incident Rate (TRIR) and Days Away, Restricted or Transfers (DART) — at least annually.
- Union or nonunion? (One-time question.)
- Has the firm recently added any new customers? If so, which ones and what type of work has been performed?

DESIGN

Successful project communication begins way before design. Pipeline companies selecting routes that minimize or eliminate potential issues seems like a no-brainer, but that's easier said than done. In many cases, no other choice exists but to traverse environments — urban and

rural settings alike — that present numerous challenges, which is why the list of common obstacles noted above should be considered during design. Many of these issues are unavoidable, but impacts can be minimized with improved planning. For example, researching wetland impacts for a coastal, private easement pipeline in advance of route selection is necessary. Installing additional pipe to avoid or minimize wetland impacts can significantly save pipeline companies on the front end as well as on the back end of the project. Another example that can reduce overall project costs is providing more geotechnical data during the request for proposal (RFP) for construction. The additional geotechnical data gives the bidding contractors a better sense of what cannot be seen from the surface.

Additional success on pipeline projects can be achieved when pipeline companies design their projects with constructability in mind. This should be something considered by all design disciplines — civil, mechanical, electrical, structural and environmental. Oftentimes, this process can be enhanced by asking construction contractors for advice during design. Many contractors will perform this service at no charge just for an opportunity to bid the project.

THE CONSTRUCTION RFP

Successful project communication continues with the creation of the construction RFP. However, variations to RFPs are as numerous as pipeline companies themselves. The "right" version is the one where the pipeline company and contractor both agree on quantities prior to construction, identifying a clear method for handling the known unknowns and unknown unknowns. Regardless of the chosen method, detailed definitions in an RFP for pay items, scope of work terms and other project specifics will go a long way in reducing or eliminating ambiguity during instruction. Missing information could lead to change orders or, in some cases, ill will.

Having RFPs with hundreds of unit items can be tedious to track for both the pipeline company and contractor. On the opposite end of this method, having one lump-sum price for a large pipeline project with many variables can hurt both parties. The pipeline company could get pricing that is "loaded" — a conservative bid with significant contingency — to cover all possible worst-case scenarios and end up paying more than the project should cost. On the other hand, the contractor could provide a low lump-sum price, where costs could escalate with potential change orders. Federally mandated replacement and integrity requirements drive much of this work as well as shifts in population centers requiring more natural gas for homes and businesses.

CONSTRUCTION

Once the contract is awarded and the project is under construction, effective and frequent communication remains a crucial component for project success. Several tasks can make this a reality:

- Frequent, digital face-to-face progress meetings with key stakeholders.
  - Frequency depends on the stage of the project. More frequent (i.e., weekly) meetings are effective at the beginning of the project, while less frequent (i.e., biweekly) meetings are common once the project is nearing completion and only a few tasks remain. This should be something dictated by key stakeholders, and flexibility to adjust schedules is necessary.
  - During these meetings, there should be a consistent agenda, and the project manager should keep the team on task. If issues arise that can be handled by a subset of the stakeholder team, suggest those issues be managed outside of the update meeting.
  - Meetings should be kept to an hour or less. Longer meetings historically have been less effective and lose interest of many participants.
- Various logs of data should be created and maintained throughout the life of the project. These include but are not limited to:
  - Action items.
  - Change control items.
  - Issues.
  - Lessons learned.
  - Requests for information.

- Schedule updates including start and finish dates of all tasks. This should be completed in an approved scheduling software (i.e., Primavera or Microsoft Project).
- Units installed tracking and progress.

CLOSEOUT

The last 10% of most projects is typically the hardest to finish. Often overlooked, project closeout after completion is a time that can provide valuable insight and conversation around lessons learned in preparation for future projects. Pipeline companies and contractors generally are looking beyond the current project even before it's completed. They're already on to the next, so these discussions rarely take place. But project closeout doesn't have to consume an entire day — and with today's virtual technology, this can happen in the comfort of everyone's own office — so it's not too difficult to realize the benefits of these types of discussions for both the company and contractor.

From the perspective of all parties involved, projects that go smoothly make life easier. Continued performance on multiple projects that deliver predictable results can lead to a strong, continuous relationship between the pipeline company and contractor. Effective communication greatly benefits overall project success.

BIOGRAPHY

KEVIN ADAMS, a senior project manager in the Construction/Design-Build Group at Burns & McDonnell, has more than 30 years of industry experience and management. Beginning his career as an engineer for a utilities company, he worked as a construction, engineering and distribution supervisor before advancing to manager, superintendent and estimator. Before joining Burns & McDonnell, he established the transmission pipeline division for a contractor in the Southeast that led to more than $70 million in projects in 2018 and 2019.

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