Southern Pipeline & Construction Pipeline College Class
Presentation Notes
By Brad Davis -April 2, 2019

1. Pre-Planning
   1.1. Internal/External Engineering Services
      1.1.1. Force account third party services
         1.1.1.1. Hourly/Day rate inspection or % margin engineering services not willing to work quickly with the contractor being paid lumpsum. Lumpsum contractors need questions answered immediately since waiting time costs money plus the possibility of rescheduling.
         1.1.1.2. Third party inspection with unrestricted access to confidential billing rates and payment information. If the field inspection knows the costs of pay items, they may decide if the work is worth the cost rather than complete the scope of work.
         1.1.1.3. Multiple external engineering services not coordinating the integration of certain materials and design factors on the same project. The contractor needs only one scope of work to do the same job, not several different scopes of work.
   1.2. Budgeting
      1.2.1. Historical data or year over year comparisons may not be a viable option for in house numbers from an owner, this information can usually be gathered from multiple contractors with little effort.
   1.3. Access Roads
      1.3.1. Existing private roads, we see many landowner disputes due to the interpretation of current state or better. As contractors we take multiple steps to protect ourselves, however this is a timely and costly part of clean up that keeps coming back up.
      1.3.2. New private roads, in the past this has been easier to get away from, so to speak, most land owners are more receptive and easier to please than owners of existing roads.
   1.4. Extra Work Space
      1.4.1. Horizontal Directional Drill/Bore Boxes, far too often we see the bore boxes too small for the equipment necessary to install the Horizontal Directional Drill. And we also see the bore boxes over existing lines. This is a costly adder when considering the overall cost of the Horizontal Directional Drill.
      1.4.2. Changing working site, while understood as a necessary evil, in recent years this has become way too easy to map out on google earth without considering the effects in the field and the logistics necessary to complete this juggling act. On jobs where the new pipeline parallels an existing pipeline, the engineer will change from one side of the existing pipeline to the other side requiring the contractor to lay pipe backwards or to cause two move arounds. This just increases the costs.

1.4.3. Waterbody crossings, when you drill you need a certain size Extra Temporary Work Space and when you open cut you need another or you spend extra time and money moving equipment or dirt up the Right of Way.

1.4.4. Two-tone/cut areas. This is one of the most missed Extra Temporary Work Spaces we encounter, this requires first-hand knowledge and extensive experience moving dirt to properly identify the size and position of the Extra Temporary Work Space.

1.4.5. Hydro-test sites, we commonly see no Extra Temporary Work Space at the hydro test sites, there is a need for extra space due to the equipment necessary to complete the pig runs and hydro-test.

1.4.6. Parking/Staging areas, for every area that Right of Way is restricted or access is limited, staging areas are required for equipment and vehicles, to decrease bottle neck.

1.5. Permitting

1.5.1. Road use bonds. Public roadways are not all created equal, in many jurisdictions now access is being withheld for large truck and construction activities. Many jurisdictions are requiring owner companies to post bonds before contractors can acquire permits for use.

1.5.2. Temporary or permanent road approaches. Often missing from the bid package is any evidence that of road approach or driveway permits. This is a common oversite in many states.

1.5.3. Hydro-test water use and discharge, common oversite due to the varying jurisdictional requirements

1.5.4. Utility crossing permits. Valid information that can be used in the bidding process to ensure costs are captured as an effort to reduce change order request. Many times, the crossing agreements are not shown on the line list. The post award notification of third-party requirement or restriction result in change of conditions.

1.5.5. Waste generation. Some jurisdictions require the owner to submit a waste stream profile for each project.

2. The pre-bid meeting

2.1. Interaction with project stake holders is one of the most beneficial aspects of an accurate bid. It is a good practice to have all shareholders attend and be available for comment during the pre-bid meeting.

3. Bid information provided

3.1. Accuracy of drawings issued drawings, elevation detail not consistent with existing appurtenances, bill of materials, missing items or wrong takeoff numbers, lacking useful information

3.2. Schedule, realistic start and completion dates

3.3. Construction Specifications. All or none approach, blast transmitting irrelevant specifications or contradictory to the Scope of Work.

4. Pre-bid Q/A
   4.1. Answer by committee. In todays mobile society we find it is almost impossible to get an answer to even a simple question.

5. Bid Submittal Requirements
   5.1. Deadline, is there enough time for Contractors to fully evaluate the project?
   5.2. Bid Form, are significant cost factors quantified? Common to see quantities with held or internalized, then applied after the bids are submitted. Generally, units with a 0 or 1 qty will have a higher cost.
   5.3. Schedule, the schedule drives pricing, unrealistic schedule = unrealistic cost.

6. Contractual Requirements
   6.1. Insurance, increased General Liability, drive higher cost on many projects today, we are seeing some projects that require single job increased limits with a cost of $2,000,000.00 annually.
   6.2. Bonding. Gas companies see it as protection, for the contractors it is just a loan, we undergo the same under writing. Like increased limits on General Liability the bond is often mis represented and mis calculated. Example, it in not ever necessary to bond the entire contract amount, at no point would a gas company be out the entire contract amount on a progressively paid contract. Bonding the entire amount is just paying unnecessary premiums to the bonding company.
   6.3. Retainage, the way retainage is released varies greatly in our industry. Some companies weaponize it and some have a sensible approach to releasing it. With some companies it is normal to add back the full retainage burden to the contract and then forfeit it and let someone else do the final cleanup, especially on large scale projects.
   6.4. Warranty
      6.4.1. If there was an industry average I would like to say it was 12-months. We see some companies requiring up to 28-month warranty periods. I'm not sure what the exposure risk expectation of the owner is but this is a significant cost driver compared to a 12-month period.

7. Bid selection
   7.1. Alternate proposals often frowned upon but often necessary. Some contractors experience will provide a less costly alternative to perform the work.

8. Construction Requirements
   8.1. Land Owner Requirements. Typically, this bill of materials document is as fluid as the schedule. It has become normal practice to begin construction without having secured all of the right of way or finalized all of the terms and conditions from the landowner. Very often the updated/final line list is not distributed to the contractor until well into to final cleanup. When landowners require additional work then the contractor has additional costs.
   8.2. Materials provided by the company are always troublesome, I think in part due to the fact the original Bill of Materials are incomplete or incorrect due to the purchasing

process for many owner companies. In all of the purchasing that takes place we see that the materials are not usually screened for quality and when they are checked in are not made sure that the heat or serial number matches the MTR. Two of our biggest complaints in the field are foreign made fittings and weld neck flanges with ovality issues.

8.3. Revegetation. While many jurisdictions have wildly different approaches to revegetation, we encounter land owner or permit requirements that are not suitable for reestablishing growth in some areas.

8.4. Erosion Control Devices. Owner companies tend to have Erosion Control Devices or Best Management Practices on a per unit pay item in most contracts. This has a negative overall effect on the long-term stability and the revegetation of their right of ways. Often this is looked at by the field inspection staff as a way to save money and look better to the owner company at the risk of negative reactions from the respective authorities and land owners. This is a corner that is cut at the discretion of the company representative far too often causing problems.