PRICING RISK ANALYSIS
FROM A CONTRACTOR’S PERSPECTIVE

By Richard Hewitt
FSAWWA Contractors Council

Throughout my career, I have heard it said that a construction contract is nothing more than an assignment of risk. Speaking simply, this is true and generally the greater the risk (or perceived risk), the larger the dollar value of the contract. All construction projects have a certain element of risk, the degree of which varies greatly depending upon scope. How bidders perceive and quantify the risk is the key ingredient for whether or not an owner gets the best value for his or her project.

This article is geared toward water and wastewater treatment plant construction projects where the overwhelming majority of projects are hard bid/lump sum. In a lump sum contract, the contractor is taking all of the risk for quantity takeoff. Naturally, a clear, concise, and well-put-together set of contract documents is imperative to ensure that contractors are comfortable with their takeoff and can price the work as aggressively as possible. If something is unknown or vague, the reaction of a responsible contractor is to add money. Here are several areas where, as contractors, we consistently see work scopes poorly defined:

• Paintings and Coatings—Usually the coatings in administration buildings are defined well, but the limits for specialty coatings such as epoxy lining for basement walls and floors in multiple structures are usually vague. When a painting and coatings subcontractor has a vague scope to price, it rarely leads to aggressive pricing unless the outcome is different and less than what the owner desired. This case rarely ends up with all parties satisfied that contractual obligations have been met.

• Pipe Bedding—Many times it is either unclear in the contract documents or there is a conflict between the drawings and specifications as to what is required for pipe bedding. Again, this can lead to either conservative pricing or contractual conflict if the owner’s intent was to have bedding that was not priced by the contractor.

As mentioned previously, lump sum is the preferred contract type for water and wastewater treatment projects, and it works well in most cases. There are several elements of work that appear on projects that do not lend themselves well to the lump sum format and increase the level of perceived risk to the contractor. These items are very difficult and many times nearly impossible to quantify.

When an owner requires a contractor to put a lump sum price on an activity that is very difficult or impossible to quantify, it rarely results in aggressive pricing from the contractor. The following elements of work lend themselves well to either unit price bid items or an allowance:

• Concrete Spall Repair—It is nearly impossible for a contractor to quantify spall repair on an existing plant. In many cases the areas to be repaired are inaccessible at bid time. This element of work is an excellent candidate for a unit price, either by square foot of repair with a given spall depth or a cubic foot unit price.

• Muck Removal/Removal of Unsuitables—Even with a very good soils report, it is difficult to accurately quantify the amount of muck and unsuitables removal that is required. These work items lend themselves well to unit pricing in which the owner pays only for the actual amount of unsuitables removed. I have seen cases in which the owner will tell the contractor to assume a certain thickness of unsuitables or muck for bidding purposes. This practice helps the contractor in quantifying for pricing the work, but it lays the groundwork for a change order if the quantity increases. It is quite rare for the contractor to volunteer a credit if the quantity decreases. Unless the assumed quantity given by the owner is 100 percent accurate, he or she will end up paying more for the actual work performed and will not end up with the best value.

• Sludge and Grit Removal—Sludge and grit removal from ponds and basins is very similar to muck removal and removal of unsuitables. The owner will see the best value using the unit price method.

• Utility Provider Cost of Permanent Power—Since they are not the end user or customer, contractors are rarely in the position to accurately price the utility’s installation cost for permanent power. If an owner requires the contractor to price this work in a lump sum format, the contractor will likely price it very conservatively. Utility provider cost of permanent power is best handled through a contract allowance in which costs are to be verified and passed through directly to the owner.

• Building Permit Costs—Again, these costs are often hard for a contractor to quantify. They are best handled through an allowance, or the full cost should be defined in the contract.

In all the cases outlined, if the owners go to either a unit price or an allowance, they end up paying only for exactly the amount of work performed. If the items were priced in a lump sum format, there is a 50/50 chance (usually greater) that the owner will end up paying for work that was not undertaken (i.e., the contractor was very conservative because of the perceived risk and priced the work higher than it needed to be).

In every case described, the owner is maximizing the value of his or her project (i.e., the lowest price for the same amount of work) by decreasing either the true risk or perceived risk born by the contractor. In none of these cases is the owner actually taking on more risk by reducing the risk to the contractor. In reality, the owner is also reducing his or her risk as well because there will be less likelihood of changes.

It has been my experience that owners are willing to pay a fair price for actual work performed. They don’t like changes or surprises. I have also found that responsible contractors want to build a project for a fair price with as few changes and surprises as possible. The more a contractor is able to accurately quantify risk and thus cost, the more likely this positive outcome is realized by both parties. Owners can do quite a bit in the preparation of a contract to minimize risk for all parties and lay the groundwork for a successful project with few changes and maximum value.