

# BIDDING D(e)FFECTIVELY:

Electrical work bites

AN ARTICLE

BY

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A sorry fact of life for the owner operator and Sole Proprietor is that you have to often times bid for work. You visit the job site, you even take pictures. You talk about the job with the customer and you take every precaution to cover your backside sitting area with both hands and a safety net for hard costs, materials, labor, assistants, profit, burden, taxes, and on and on. This bidding junk chews up one to many days of your life on nothing more than a gamble that you are the winner of the work and not cousin Vinnie.

## BE THOROUGH:

This is the mantra of all estimators which is only one of your me, myself and I hats. You spent an inordinate amount of time trying to be sure that you crossed all the legs and soldered twice. You send in the bid price and now you go on to other sure things and wait. Time passes, life crawls and you all but forget that you even bid the job and then get the email that you are the winner of the work. In this case, you are going to install surge arresting on the 120/208 three phase power panel in the transmitter room for one of your favorite people. How wrong can this go? There are only a few parts, (or so you thought) and you will be bringing in your favorite Electrician to do the hot panel work. There are multiple UPS systems in the room to cover the power glitches if there are any (which there shouldn't be) and this is day time work. Hallelujah! Your customer agrees to a job date and time. Your Electrician agrees to be there with you to do his part, the materials are all in hand and it's off to the races.



## THE INSTALL ATTEMPT;

Remember the two life theorems. What could possibly go wrong and There is plenty of time to panic later. Everyone shows up for the job. You and the electrician take apart the cover plates on the two target panels and no breakers trip, no wires get smooshed and you begin to mount the surge arrestors. This is existing work so you selected parallel type arrestors as opposed to series inserted models which would certainly require a shut down and massive re-wiring of the mains. So Simple!

The covers come off and new 3/4" knock outs have to be drilled and punched since there are none left in the bottom of the panels. Eh, no biggie. The wires on the arrestors are long enough to reach the new circuit breaker locations and the mechanical part goes like a swim. Now it is time to mount up the new circuit breakers. UUUhhh, what in the name of all that is unpleasant is this.? There are no bolt hole finger mounting bars for the breakers.

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Nothing in the buss bar stack even remotely matches the circuit breakers that the supply house and the panel manufacturer specified for this install since you sent them the photo of the panel, all the labels, tags, and serial number plates. AAAwww come on now. This just turned in to the circus freak show and the customer is standing there eating his popcorn staring you and the electrician trying to listen to your hushed feverish conversation that is quickly going no where.

You try to get the customer to go sit down, but he won't leave. You and the Electrician decide to call tech support at the panel manufacturer and once they actually answered the phone on the 11th try you have the guy rolling on the floor for your bad luck telling you that the photos that you sent can't be of the panel with that particular model tag. This model of panel is shipped with bolt in



bars for the circuit breakers. Your panel does not have any and the neat burn mark might be a clue why.

When you quoted the job you might have seen this act of decades old sabotage, but little did you know that if you had taken off the cover to the panel (which no one does) to price the work after photographing all of the panel data plates, you would still be screwed. No one in their right mind would have noticed that fingers were missing since everyone assumes that they are naturally already on there because the panel ships fully loaded with them. After an hour of this embarrassingly hysterical laughter

by the guy in tech support, he figures out that someone removed the buss bar fingers for some unknown reason which disabled all of the remaining breaker slots in the panel. He gives you a part number for a replacement finger kit and wishes you a happy day.

Now What.

The customer is rapidly switching back and forth from entertained to hostile and you try to explain to him that whoever installed this panel sabotaged it and you find out that you just called the owners brother a thief. Oops. Back to Now What?

The factory guy gives you the model number of a still available replacement parts kit for your panels, and the parts are in stock in Northern Kalamazoo and can be to you in 3 days because they don't ship over night.

The parts show up and the whole side show starts up again. At least the arrestors are mounted. At least the circuit breakers are on site. Now you have to convince the owner that you are going to have to shut down the panels (the station) for up to 20 minutes because installing buss bar bolt in fingers is a hot box job, and for safety, the panels need to be down. This is where the yelling starts, and the owner tells you that none of the UPS's can hold their load for more than 5 minutes since the generator comes up in 30 seconds to relieve the UPS's of their job but not in this case.

After considerable finger pointing at you, it is decided that one panel at a time will be pulled down and worked by two guys to try to beat the 5 minute shot clock of battery failure. The UPS's will be allowed to recharge and the second panel can be attacked after that. Now you are on the hook for three times the cost of your Electrician, extra parts that you did not count on and the wrath of your popcorn eating customer who has lost all interest in his bowl of snack food.

**BUT I DID EVERYTHING RIGHT:**

OK so you did everything right. Good for you and the little consolation to the fact that the panels were sabotaged when they were installed. Little consolation to trying to get the cost over runs from your now steamed customer. A long history of meritorious service went slithering down the drain on this one so simple install of two circuit breakers and two surge arrestors.

**THE LESSON:**

There is no substitute for old age and treachery. There is no substitute for looking at everything, touching everything and photographing all of the data plates, and having lists of the intended equipment that you have to deal with. Even with these tools in hand, the foo bird can darken your day for such a simple little \$4.00 part. There is no logic as to why someone would remove a factory installed part from an electrical panel, and the likelihood that you would have noticed the bars missing would have been pretty low, especially since you, your electrician and your combined 78 years of electrical experience stood right there and didn't see this one coming. You even had the guy at tech support from the manufacturer rolling on the floor so don't feel too bad. Explain the issue as palatably as possible to the customer. Show him that you handled the situation with a minimum of loss of fingers and blood and the job is now completed with minimal loss of up-time for the equipment. Hope for the best that he calls you again and keeps you on his Christmas card list.