Pretreatment & Organic Finishing

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Responsibility is Everyone's Job

Blame is a word that has been around a long time. I have to say it has often fit me when I have done something that I should not have done.

From kindergarten through college we are taught what the word means, and how to avoid being blamed. Today, while trying to be politically correct, can we say what we really want to say without putting ourselves in jeopardy? How can we determine the correct words to use when writing letters, technical papers, official documents, or preparing exams? How can we get our message across, by voice or pen, to express the correct meaning or instruction? Can we stand behind our words or messages, and feel that everyone who hears or receives them is fully informed and understands them?

My thesaurus gets used about as much as my dictionary, but even so, I flounder for words. No, not flounder, that's a fish. What I mean is vacillate. No, fluctuate. No, I'm not moving while sitting trying to make up my mind. It is my mind that is changing, allowing me to evaluate the many available options.

Who Gets Blamed?

No, I am not trying to get rid of the blame. I did it. I am beginning to see why we get blamed for doing what we thought was the correct thing to help. Helping to remedy what looked like a major problem was my intention. My intention, however, conflicted with my knowledge of what not to do.

We held a meeting three days before the incident occurred. Everyone agreed that "nobody" would turn a valve, or throw a switch, until the operators were involved.

I walked in shortly after the second shift came to work. The new process of chemicals was about three days into the startup, and seemed to be working much better than the previous process. The counterflow rinse installation was still giving us some problems with adjusting the volume and pressure. Otherwise, the changeover and modifications were yielding good production quality and reduction in the use of water.

Then, the chief operator and the chemical supplier, asked: "Why is the rinse tank foaming over, and why is no water flowing in the post-rinse risers?"

I looked into the rinse tank and opened the doors between the stages. "Sure-nuff," there was no water flowing through the nozzles. I went over to the ozone unit and found that the main supply valve was turned off and the tank was about to overflow. I then asked: "Who turned the valve off?" No one knew. So, what do you do? Yep, I started to open the valve slowly while one of the operators watched for the flow.

"Hey! Turn that valve off," came a quick response. Some maintenance workers were adding flow regulators and alarm valves to the lines.

Now, whom do we blame? Me for turning the valve on? The chief operator and chemical supplier for asking why there was no water? The pipe fitters who had not informed the operators? The supervisor, who was not there, but who had informed the first shift about what was going to happen? The first shift, because when it did not happen during the shift, no one informed the second shift? I suppose we are all to blame in some way, because we all were trying to get the best from the system.

A New Process

The installation and startup of the counterflow rinsing with filtration and ozonation was a new process. Everyone was still looking for things that would need adjusting or correcting. The pre-rinse waters flowed into an equalization tank (pH adjustment), then into ozone injection and through sand-bed filtration, before going to the post-rinse risers. The ozone is an aid to reducing organics, and to help remove them through the sand-bed filter. The ozone also seems to reduce the dissolved solid content of metals by converting their oxides for filtering—metals, such as sodium and iron, and to a lesser degree, zinc, copper and aluminum.

The client had determined that if an alarm system was installed in the pipelines to activate when the pressure dropped, or when the water stopped flowing, there would be less need for constant monitoring by personnel. Then by installing diversion flow valves, the DI water could be automatically diverted to assure that the counterflow system would continue to operate until someone could determine what went wrong. This was an excellent decision, because the system has been operating for several months, and each operator and manager knows that we humans cannot be "blamed" for future mistakes caused by failure of the mechanical system.

Typically, rinse waters that are recycled increase in organic contamination, soil accumulation, and particulate, which will show up as streaks or blemishes on the surface, before or under the paint. The use of such technologies as filtration, ozonation, equalization and evaporation-distillation, will soon pay for installation, and allow a system to move toward water reduction, recycling of water, and closed loop discharge to a POTW—except for the volume of sludge or solids that will be generated and must be accounted for in a disposal program.

The spent chemical cleaning and phosphating baths will be another subject for a future article.

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