TRI-SEN
TURBOMACHINERY CONTROLS

PODCAST EPISODE TRANSCRIPTION

Episode Summary:

In this episode Tom Bailey and Jim Jacoby (VP of Technology at Tri-Sen) discuss the viability of “freezing” the measured flow when an anti-surge controller flowmeter fails.

Tom: Hi, and Welcome to the Turbomachinery Controls Podcast where we will be informally discussing turbomachinery controls and turbine safety-related questions and topics. Opinions expressed here are our own and not necessarily those of Tri-Sen. I’m Tom and I’m with Jim Jacoby, Vice President of Technology here at Tri-Sen.

Jim: Hey, Tom.

Tom: Hey, Jim.

In this episode, we’re going to be tackling a question asked by our Asia Pacific Sales team again, and that is; how about freezing a flow meter as an anti-surge control fallback strategy? Good idea? What do you think?

Jim: No, not a good idea.

Tom: Okay...

Jim: One of the common fallback techniques is to basically ignore temperature or pressure transmitter failures. But when you do that, you essentially turn your controller into a min [minimum] flow controller. It just has a constant flow set-point and that set-point usually is based on some conservative value that you determine ahead of time, either by substituting a default or fallback value for the pressure or the temperature or just inserting a flow setpoint and using a flow controller. The problem though is if you freeze the flowmeter, you have no idea where you are. You are blind at that point. There is nothing to tell you if you are anywhere near an operating condition that might damage the machine.

Tom: Right.

Jim: Now, there are some techniques using the amperage from a motor-driven machine that you can use to infer the flow. That’s not as good as a flow [signal] but could be used to substitute for a flow. But just ignoring flow essentially is --

Tom: Seems crazy, right?

Jim: Yes.

Tom: On the surface, I do not know, but it just seems kind of nuts.

Jim: You have to hope that nothing is changing when you do that.

Tom: And you do not need to control that anyway [*you don’t need a controller if nothing is changing*].

Jim: Right. Yes. When you lose the flowmeter you want to put the valve in manual and then the operator needs to watch other attributes of the process to make sure that the machine is safe. Watching the speed for fluctuations in the speed, or fluctuations in the motor current... increases in the pressure ratio would be another thing to watch for. But right away, you need to fix your flow meter. That needs to be the highest priority at that point.

Tom: Okay, so it is a bad idea?

Jim: Yes. There is no value.

Tom: Got it. Okay, Asia Pacific team, there you have it.

Jim: Yes, do not freeze flow meters.

Tom: That is it for this episode. Drop us an email at turbomachinerycontrols@tri-sen.com, and let us know what you got in your mind. Thanks for listening. We will see you next time.

[END]