TRI-SEN
TURBOMACHINERY CONTROLS

PODCAST EPISODE TRANSCRIPTION

Episode Summary:

In this third-of-three episodes Bill Barkovitz (President at Tri-Sen), Jim Jacoby (Senior Vice President), and Tom Bailey discuss integrated turbine control. Specifically, what are the limits of turbomachinery controls integration

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Tom:
Hi and welcome to the Turbomachinery Controls podcast, where we'll 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 Bill Barkovitz, President here at Tri-Sen

Bill:
Hey, Tom

Tom:
And Jim Jacoby, Senior Vice President of Technology at Tri-Sen.

Jim:
Hey, Tom.

Tom:
So in this last segment of this three-part series, I wanted to ask what are the limits of integration; how much of the controls can actually be put together? Is it the DCS, or have we reached the limit, or is it something else?

Jim:
Well, that is-- The DCSs would tend to be the natural end of that integration. But we don't know for sure that DCSs are going to be there in another 10 or 15 years, either. Once upon a time, plants didn't have a DCS, and somebody could come up with a new idea that actually goes back to some kind of a distributed arrangement where--

Tom:
Yeah, right. I remember talking to someone about actually putting the controllers on the valve, right, which is SCADA-esque, I guess. I'm not sure. SCADA always confuses me. But it sounded SCADA-esque to me; where now we are back to a disintegrated control and all the processing happens locally, and then it's just sort of being amalgamated or something however you want to say it. It's just put together somewhere else.

Jim:
So it would seem that that type of system if the DCS manufacturer opened up his control network to other people that the IO is-- or that local control could be done either by a DCS IO module or by a turbomachinery control module. The movement towards putting the controls into the DCS makes a little bit of sense when you're talking about, say, a compressor control because the compressor is so heavily integrated into the process itself. And the IO is not that special…turbines; it's a little more difficult. But ultimately, it's really nothing about the hardware. What really it gets down to is that the expertise of the engineers that are doing that control in whatever platform it is, and DCS companies have a hard time being specialists on everything. So that's going to be the real challenge for that type of integration into the DCS; how does a DCS manufacturer provide the ability to do a competent job of controlling a compressor turbine?

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Tom:
Yeah, I guess up to this point, they buy it. They buy that competency, really; you know guys like Emerson and the bigger companies.

Jim:
Yeah, they partner with somebody or buy them outright. But then, at some point, there is still some specialty required for some of the IO. And at what point does it not make sense for them to try to maintain that product line.

Bill:
It's a very low volume.

Jim:
For them...

Bill:
Yeah. You're talking about a couple of IO...

Jim:
Right. I mean, it's even hard for a large PLC company to justify that kind of hardware development and made-- it's not just development, and you know, it's because their platforms get upgraded. So that is why it may make sense in the future for the DCS companies to take that partnership a little deeper into the turbomachinery company and have some communication link that brings that up into the DCS.

Bill:
I think one of the reasons why we're kind of where we are today in terms of the sweet spot of integrating all the turbomachinery control into a PLC, and it doesn't happen as much in the DCS, is also a commercial issue. One of the drawbacks with DCS systems is when you add users, or you add a node, there is quite a bit of overhead, and so just from a purely commercial standpoint in the initial investment, it can be quite significant compared to a typical PLC. And so maybe as those costs come down, it will make more sense going forward.

Tom:
I was going to say that one of the things that you get [is] the speed of response with a PLC, which is… it's not so much the control side of it. It's a troubleshooting side of it, troubleshooting later on. There are some real benefits from not going too far with the integration. I don't know if they are outweighed; you know day-to-day operations or by other stuff or not.

Jim:
That is an excellent point. The data acquisition is key when you're trying to troubleshoot, and a one-second update from a DCS is just not going to tell you anything in the life of a steam turbine or even a compressor. A lot can go wrong in one second, and being able to get that in 50 or 100-millisecond increments gives you a lot better resolution to define what the problem was or find what went wrong.

Tom:
Okay. Well, there it's then, and that is it for this episode. Drop us an email at turbomachinerycontrols@tri-sen.com to let us know what you got on your mind. Thanks for listening and we'll see you next time