Control Arts
Control Software Review

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Probably the #1 operator complaint of any DCS is the flood of alarms. One study found that an operator in an industrial processing plant experiences an average of 17 alarms per hour, and takes action on only 8% of these! A poorly designed alarm system can be the fastest route to economic loss - if you want to improve your alarms, see the article "Release 500 and Alarm History Analysis"

⊠ Spotlight ⊠
How to Get a Business Case

You know that your plant performance would improve substantially by implementing the CA Toolkit; but in order to get funding for the project you need to complete a business case analysis showing rate of return and payback period. We now have someone on staff at Control Arts who can put together the Business Case Analysis for you. Just call (510) 838-2062 and ask for Lisa. Call now so that you can start realizing improved profitability for your plant in 1997.

Release 500 and Alarm History Analysis

So you're upgrading to Release 500 for your TDC3000! *Do you ever get asked what the benefits to the plant will be relative to the investment in time and money?* The widely promoted "improvement" in alarm handling on the TDC3000 would certainly be valuable. However, is the more extensive range of alarm parameters really useful? You will still have to figure out how to set these parameters - and lets face it, you haven't even had time to go through all the alarm parameters on Release 430 to make sure they're set correctly.

So how can the Control Arts Alarm

History Analysis help? This PC-based program performs a range of tests on a database of alarm occurrences - tests that let you quickly determine the following:

1. Which alarms may be eliminated when another alarm occurs? For example, if the low flow alarm always goes off after the pump status alarm trips, then you should set the contact cutout parameter to suppress the low flow alarm.
2. Are there redundant alarms that can removed entirely, not just "cutout" with the contact cutout parameters?

Control Arts Course:
Registration Deadline

A good engineer, like a good mechanic, should have a wide variety of tools available for use. If you're only using PID and MVC controllers, see "Controller Smorgasbord" on page 2.

Remember if you are planning on attending the next Control Arts Course "Process Control with the TDC3000", send in your registration forms. The registration deadline for the next session is April 30, 1997. The course will take place June 5 -9, 1997 in San Francisco, CA.
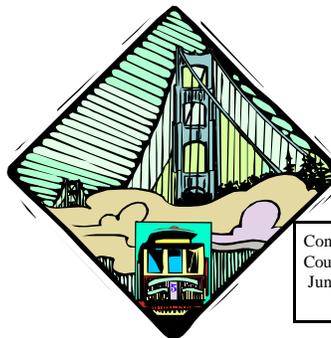
Control Arts
Course:
June 5-9, 1997

Learn methods to help maximize the profitability of your plant's TDC3000 using advanced algorithms and control methods. Dr. Fraser Forbes of the University of Alberta, and Dr. Alan Hugo of Control Arts will guide you through 5 days of lectures, computer simulations and hands-on control exercises — all activities are aimed at updating and expanding your process control skills. These are skills that you will be able to apply immediately at your plant or refinery for marked control improvement. If you need an application form, contact Control Arts Inc. (info, p.2).
Be sure to wear flowers in your hair!

Controller Smorgasbord

There are many types of controllers available for use in your plant. Matching the correct controller to a particular problem is a challenge — but will help you get the best performance from your system. *Between the two extremes of PID and multivariable controllers there lies a range of controllers that are tailored for certain well defined situations.* These controls will give you excellent control with a minimum amount of installation or maintenance effort. The accompanying table lists these process situations and the available Control Arts Toolkit control solutions which can be used to quickly solve your process problems:

☆**Remember**☆ The wrong controller is more than just costly to implement - it will be harder to maintain, confusing to the operators, and decrease plant reliability. You don't want to spend millions of dollars more on control than

Process Situation	Tool-Kit Solution
Poor control due to deadtime or inverse response	Model-Based Control
Level controller not using all of vessel surge capacity	Optimal Level Control
Single input needs to control several outputs at constraints	Override Selector
Several inputs control a single output, with a secondary objective	Multiple Secondaries, Prioritized Secondaries, Pass Balancing
Several constraints, several inputs, fast dynamics	Linear Program

you should! Match the tool to the job so you can get better results in less time. Control Arts software gives you the tools to implement all the above controllers with a minimum of effort. Call us today!

Release 500 and Alarm History Analysis (cont'd)

(Continued from page 1)

3   Are there common patterns to your alarm occurrences? If you get the same multitude of alarms every time C-101 trips, why not replace these alarms with one that tells the true story?

4   Are there any alarms that occur much too frequently (which are driving your operators crazy)?

5   Are there any chattering alarms (which are also driving your operators crazy)?

Examining a database of alarm occurrences with the right tool will quickly determine these things. Conversely if you suspect that a particular alarm is problematic and should be changed, the tool can help you validate your suspicions. Improvements in the alarm system will help the operators manage the plant more effectively; in addition, it will provide the business case justification that your boss will be looking for on the plant investment in the Honeywell upgrade!

Sounds great, now how do you go about logging all these alarms? There's (at least) two ways - the first is to send the alarm journal to a VAX, and store it in a flat file. Release 500 contains the utilities to convert the Honeywell files to standard flat files. If you don't have a VAX, or don't want to overload it, you can hook up a PC to the printer port on the operator console, then have the console "print" all alarms. Control Arts has PC software that will capture this output and build an ACCESS database automatically. Easy, because Control Arts

Notification of Price Increase

Effective January 1, 1997, the price of the Control Arts Toolkit and the Alarm History Analysis Tool will increase by approximately 15%. In order to avoid paying the higher rate, place your order before the end of the year. If you need to provide a Business Case in 1996 to get funding approval, refer to the article at the top of page 1 for assistance.
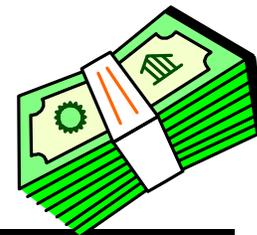
Control Arts Information

Control Arts Inc.

Please feel free to contact us if you have any questions or would like to receive a Control Arts product brochure.

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Coming soon on the World Wide Web:
http://www.controlarts.com