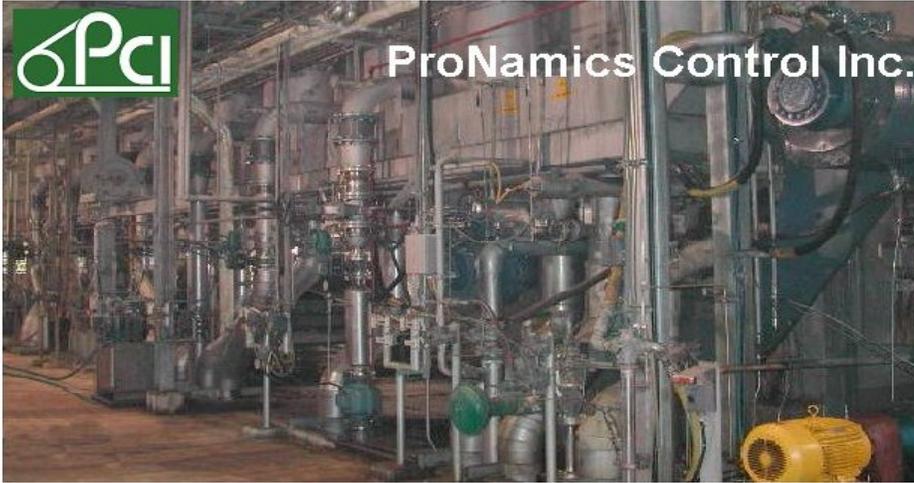




ProNamics Control Inc.



A control loop that is well designed, maintained and tuned can play a key role in minimizing process variability. Unfortunately the control loop often acts to increase process variability due to poor valve response, oscillatory controller tuning and sensor problems.

The objective of the two day E&I Field training course is to apply the concepts presented in the PCO course to selected process and control systems.

Field Training Course

Ways to improve control loop performance

Topics covered include:

- P&ID / Control Strategy review
- Field assessment of process and control equipment
- Measuring process variability
- Conducting open loop bump tests
- Developing Tuning strategy
- Calculating Tuning constants
- Conducting Setpoint and Load response tests
- Preparing survey report

The field training is conducted in the form of a small scale process control optimization survey. Classroom time is used to review the results of each survey step and to develop strategies for follow up steps. At the end of the survey a report is prepared with findings and recommendations.

Course Fees

CDN	\$1200.00
USD	\$1000.00

(Canadian Taxes Included.) Fees include a full set of course notes.

Course is limited to 4 participants to provide individual attention and to address specific attendee issues.



Course Schedule

Day 1

Lecture 8:00 – 10:00	Process Control Optimization Review Process dynamics, Open Loop Bump tests Lambda tuning procedures, Setpoint / Load response Tuning strategy development
Classroom 10:00 – 11:00	Team P&ID review - survey process system Identify key process control loops Review Control strategy Collect loop data – sensor, valve type, tuning, filtering
Field 11:00 – 12:00	Field Inspection Sensor / valve condition Loop health assessment, Cavitation Discussion with operators

Lunch Break

Classroom 13:00 - 14:00	Preparation for Data Collection Data Collection Tag list / Software review
Field 14:00- 16:00	Variability data collection
Classroom 16:00- 17:00	Analysis of variability data Trend plots, power spectrum, correlation tools

Day 2

Field 08:00 –10:00	Open Loop Bump testing Develop Bump test strategy, Discussion with operators Conduct open loop bump tests
Classroom 10:00 –11:00	Review Bump test results
Classroom 11:00-12:00	Controller Tuning Preparation Lambda selection Calculation of tuning constants Simulator testing
Lunch Break	
Field 13:00 –14:00	Setpoint and Load response testing Setpoint /Load response Comparison
Field 14:00- 16:00	Variability data collection Variability with new tuning
Classroom 14:00- 16:30	Report Preparation Summary of loop findings and recommendations
Wrap-Up and Discussion 4:30 – 5:00	

Course Location...

The course is being held at a conference facility. Attendees are responsible for arranging their own accommodations.

Accommodations ...

For convenience, we recommend that registrants stay at the hotel course site.

About the Course ...

The course begins with a review of the main concepts presented in the Process Control Optimization course.

The field training is conducted in the form of a small scale process control optimization survey. Classroom time is used to review the results of each survey step and to develop strategies for follow up steps. At the end of the survey a report is prepared with findings and recommendations.

Who Should Attend...

This course is designed for E&I technicians and process engineers who have previously taken the ProNamics Process Control Optimization PCO course.

The PCO concepts are applied to plant process systems, increasing the comfort level of the students in loop optimization procedures.

Instructors Include...

Doug Nelson, P.Eng. has over 30 years of industrial process control experience. He has extensive experience in process control training of operators, E/I techs, process control engineers and managers.

George Jablonsky, ASCT is a recognized expert in optimizing and troubleshooting process control performance.

About ProNamics...

ProNamics Control Inc. is based in Vancouver, BC. The company conducts process and control optimization surveys, prepares process simulations to establish best practices and provides a range of training courses related to process control optimization. Visit our web sites at www.pronamicscontrol.com for more information about our services.