Technical Automation Services Corporation

PRESENTS

Improving Sample System Reliability

TASC—Technical Automation Services Corporation

We specialize in Analyzer Systems Integration, Technical Services & Support, Training and Environmental Consulting & Testing . Since 1990, we have been providing quality products, personnel and services to our Customers.

The Program

Sampling systems are known to cause most of the problems with process analyzers. It follows that better sampling design is the most efficient way to achieve higher analyzer reliability. With less analyzer downtime, you will save maintenance time and get greater benefits from the analytical measurements.

During the two day class we will cover sample system design principles in detail and will give students practice at applying them to typical plant conditions.

Instruction is by lecture, demonstration and class exercises. Each student will receive a workbook with copies of the presentation materials and many practical problems to solve. Some engineering software will be provided and used in class to make design decisions.

2012
TASC
2000 NASA Parkway
Seabrook, TX 77586
Tel No. 281-474-3232
$895.00 per person
Lunch provided each day

THE INSTRUCTOR

Tony Waters has 40 years experience with process gas chromatographs and other analyzers. He has founded three companies to provide specialized analyzer services to the process industries and is an expert in the application of process analyzers in refineries and chemical plants.

Tony developed these training courses from his long experience in the field. His presentations are always popular, and have equal appeal with engineers and maintenance technicians. The seminar has been presented in Australia and in many of the countries of Asia, Europe, Middle East, North America and South America.

WHO SHOULD ATTEND?

Process Analyzer Maintenance Technicians

Process Analyzer Engineers

Reliability Engineers

Instrument Engineers

Analyzer System Design Personnel

TASC Technical Automation Services Company

ACE Analyzer Consulting Engineers, LLC

For more information or to register please contact Michelle Lee

(281) 474-3232 - mlee@tascorp.com

Improving Sample Systems Reliability

2012

This is an advanced class for analyzer engineers and technicians who need to improve the performance & reliability of their process analyzer sampling systems. Actual design exercises are used to practice design principles which can be used in the plant to improve speed of response and system reliability. Since most sampling difficulties are due to inadequate design, knowledge of these principles will allow graduates to quickly diagnose on-site design errors and properly correct them. Some exercises use custom software.

If possible, please bring a laptop

- What we need to know; design parameters
- How to specify a process nozzle
- Sample tap & probe design issues
- When a field station is essential … or desirable
- How to sample high-pressure gas lines
- How to vaporize a liquid sample at the process tap location

- Design issues for fast loops and sample return lines
- Figuring the required flow rate (it's not just time delay!)
- How to calculate the fluid velocity in each line segment
- Laminar or turbulent flow?
- The effect of line temperature and pressure
- How to calculate the pressure drop in each line segment
- The effect of line elbows and elevation change
- Exercises with a pressure-drop calculation spreadsheet (student laptop required)

- When do gases condense and by how much?
- How to prevent (or cause) condensation
- How to read phase diagrams
- Bubble point & dew point; triple point & critical point
- How to vaporize a sample for analysis
- How to deal with aerosols, emulsions & foams

- Introduction to SP76 modular sampling components
- Review of NeSSI specifications, expectations and current status
- Using status indicators and controls
- How to configure modular sample systems
- Exercises with a commercial configuration program (student laptop required)

Our "Troubleshooting Process Sampling Systems" class which is held two days prior to this course is an excellent preparation for this advanced class.