

The AIChE Netherlands / Belgium Section is pleased to invite you
to attend the Lecture Dinner Meeting:

'Basic Process Control System (BPCS) Reliability in Risk Analysis'

Florin Omota, Fellow on Process Control and Functional Safety - Fluor

Thursday February 29th, 2024 – Golden Tulip, Zoetermeer

Program

17.30 – 18.00	Registration
18.00 – 19.00	Lecture
19.00	Dinner

Summary

The automation of industrial processes normally relies on two systems, a Basic Process Control System (BPCS) accessible to the operator and an independent Safety Instrumented System (SIS).

The Basic Process Control System (BPCS) is a system which handles process control and monitoring for a facility or piece of equipment. It takes inputs from process instrumentations or sensors to provide outputs based on design control strategy. The Basic Process Control System is responsible for maintaining the process parameters at optimum operating conditions within the required boundaries, therefore being also the first layer of protection against hazards.

The Safety Instrumented System (SIS) is designed according to IEC 61511:2016 standard to implement very specific Safety Instrumented Functions (SIF's). A SIF is composed of one or more sensors, a logic solver and one or more final elements (e.g. pumps to stop or valves to close).

Sharing a sensor signal in BPCS and SIS is often seen as unacceptable in risk analysis studies, like Hazard and Operability (HAZOP) and Layer of Protection Analysis (LOPA). An innovative approach is proposed to quantify the level of protection provided by BPCS in conjunction to the classical SIL verification method. Any extra BPCS protection layer can offer risk reduction for the SIS. Without considering the safety contribution of the BPCS, the SIS system would be overdesigned resulting in extra cost.

As a case study, sharing three sensors between SIS and BPCS will be explained in more detail. SIS offers the possibility of using the same three sensors in 2 out of 3 (2oo3) voting configuration. BPCS is using the middle out of three (Moo3) value for more reliable process control and additional protection.

This study demonstrates that sharing BPCS and SIS instrumentation can improve both safety and controllability, increase the overall availability of the plant and reduce both CAPEX and OPEX.

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Professional Background of the Speaker

Florin Omota, Fluor Fellow on Process Control and Functional Safety – Fluor

Florin Omota is Fluor Fellow in Process Control and Functional Safety working as Process Engineering Manager in Amsterdam office. He joined Fluor in 2005, later becoming a subject matter expert in process control. In 2018 he was certified as Functional Safety Expert by “exida” (experts in safety, availability and security).

He also worked as Chief Engineer in an ether glycol and derivatives plant in Romania. In 1999, he joined the Chemical Engineering Department at the University of Amsterdam as a researcher in process simulation and reactive distillation of fatty acids. He holds a PhD in catalyst modification, slurry reactor performance and scale-up. He is married and has one son studying Chemical Engineering at TU Delft. His hobbies are electronics and chess.

Registration Form

Yes, I would like to attend the Lecture Dinner Meeting with the subject 'Basic Process Control System (BPCS) Reliability in Risk Analysis' on Thursday, February 29th, 2024.

Company:

Name:

Job Title:

Email:

Diet:

Please send the invoice to:

Company:

Attn.:

Address:

City:

Reference:

Fees

Participant: 95 Euro

Sponsor: 60 Euro

Registration by mail: aiche@kborganisatietalent.nl

A week before the start of the Lecture Dinner Meeting you will receive a confirmation with practical information and your invoice. Free cancellation is possible, when in writing, 48 hours prior to the event.

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