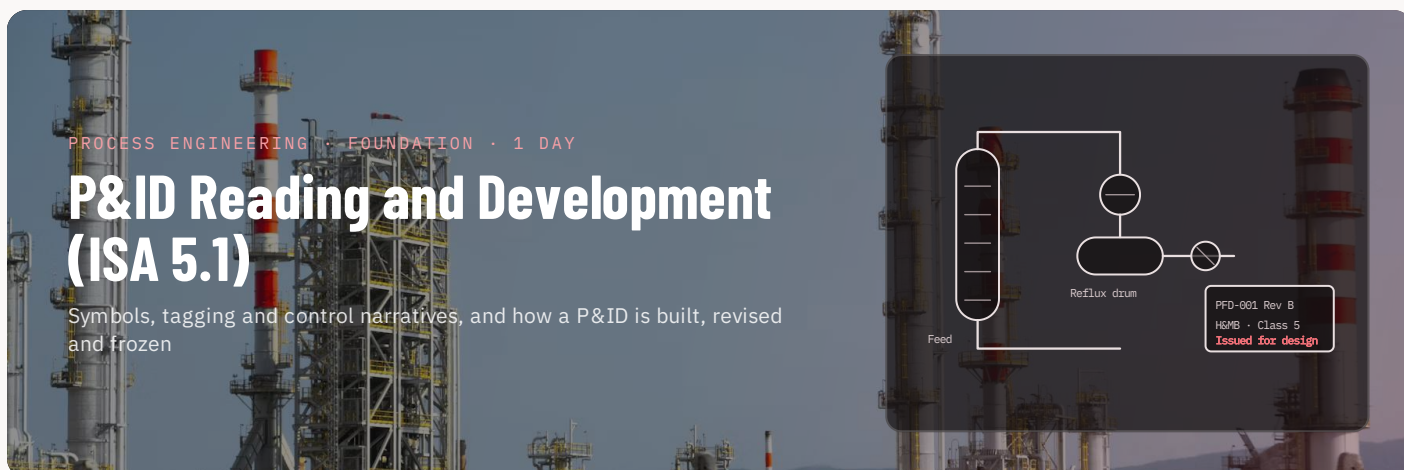




DURATION
1 day

LEVEL
Foundation

FORMAT
On-site classroom · virtual instructor-led

LANGUAGE
English

MAX. PARTICIPANTS
16

Your

own P&IDs used in exercises

1

P&ID developed from a PFD

40+

symbols and tags decoded

◆ Overview

The P&ID is the drawing every discipline, every HAZOP and every permit depends on, and it is also the one most people read only partly. The course covers ISA-5.1 symbols and identification, instrument and line tagging, control loops and interlocks as drawn, and typical site lead-sheet conventions, then has participants develop a P&ID from a PFD and mark up an existing one for a change so that they understand what a revision costs.

◆ Learning outcomes

- Read instrument symbols, function identifiers and loop numbers to ISA-5.1 and the site lead sheet
- Trace process lines, utility connections, spec breaks and insulation classes from the line number
- Identify control loops, interlocks, relief devices and their set-points as drawn
- Develop a P&ID from a PFD, including valves, drains, vents and instrumentation needed for operation
- Mark up a P&ID for a change and follow it through MOC and as-built
- Spot common drawing errors and omissions before they reach a HAZOP

◆ Who should attend

Junior process, instrument and project engineers; operators and supervisors moving into technical roles; maintenance planners and HAZOP scribes

◆ Course outline

MORNING

Drawing hierarchy: BFD, PFD, P&ID, isometrics (ISO 10628) · ISA-5.1 symbols and identification letters · loop numbering, tag formats and lead sheets · line numbering, piping classes, spec breaks · valves, drains, vents, sample points, spectacle blinds · reading exercise on participants' own P&IDs

AFTERNOON

Control loops, cascades and split ranges as drawn · interlocks, SIS functions and cause-and-effect references · relief devices and set-points · P&ID development from a PFD workshop · revision control, holds, clouds and as-built · MOC mark-up exercise and common errors checklist

◆ Standards referenced

ANSI/ISA-5.1 · ISA-5.3 · ISO 10628 · ISO 14617 · PIP PIC001
ASME B31.3

◆ Tools & exercises

Exercises on the site's own P&IDs and lead sheets; drawing templates provided

◆ What's included

- ✓ Course manual and slide pack
- ✓ Software access for the course
- ✓ Post-course Q&A with the instructor
- ✓ Exercise and case-study pack
- ✓ Competency quiz and certificate
- ✓ Templates used in the exercises

PREREQUISITES
None

CERTIFICATION
Certificate of completion

INSTRUCTORS
Practising engineers — TÜV HAZOP Leader, CCPSC and IEC 61511 Functional Safety certified — with 200+ years of cumulative plant experience.

Book this course or build a custom curriculum

On-site at your plant or virtual · in-house groups · competency assessment included

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