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VIRTUAL TRAINING COURSE

# Layer of Protection Analysis (LOPA) awareness (T242A)

This course provides an awareness and basic understanding of LOPA.

[21 September 2023 - Virtual classroom](#)



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# Layer of Protection Analysis (LOPA) awareness (T242A)

A training course to provide an awareness and basic understanding of LOPA.

Regulations today ask industry to manage risk by assessing the risk and taking appropriate action.

LOPA is a method of risk assessment, which is used to carry out SIL determination to comply with the IEC 61511 functional safety standards, but is increasingly used in early design to assess whether further risk reduction is required.

LOPA is a tool that can be calibrated at the time of use, to allow assessment of the risk reduction required to give a tolerable level of risk.

Inappropriate use and application of LOPA can adversely affect the integrity of layers of protection specified. Either resulting in insufficient risk reduction or over specification leading to unnecessary spend in capital and operational budgets.

## **Duration**

1 day

## **Price**

£650 +VAT

## **The benefits**

This course will be of benefit to managers and engineers who need to use LOPA as a method of risk assessment.

## **The course**

On completion of the course, you should be able to:

- Carry out a risk assessment using LOPA and appreciate the potential pitfalls
- Understand its application in SIL determination

## **Course structure and content**

A technical course aimed at responsible managers and engineers.

- Basic risk assessment concepts and criteria, risk aversion, tolerability including an exercise
- Hazard identification, assessing frequency and consequence
- Identifying initiating causes and independent layers of protection (IPLs)
- LOPA use with several practical exercise examples
- The impact of humans in the equation
- Selection and application of data within a LOPA
- Illustration of importance of independent layers or protection

## **Course tutor**

**Rachel Spoonley** is a Principal Safety Consultant, who has a degree in Chemical Engineering with over 30 years' experience in a variety of roles in the process industries. She has worked in design and operations for a range of industries from continuous bulk chemical and batch chemical manufacture, to utilities and effluent treatment. Rachel has been a HAZOP and LOPA leader in chemicals, oil and gas and the power sector for over ten years.

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## **Agenda**

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Introduction and background to functional safety

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Risk and criteria

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Hazard identification, initiating causes and IPLs

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Concepts of LOPA, protection layers and conditional modifiers

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Failure data and its use and application

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Human failure

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Dependency

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ABB reserve the right to amend the course agenda.

## **How to book**

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