MANAGING RISK AND LEGAL LIABILITIES IN ENGINEERING

3 CPD POINTS

SAIChE 437



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Course Outline

The main objective is to provide engineers with the fundamentals of risk management and legal liabilities avoidance in design and practice and to thereby limit the risk of failure and avoid the excessive costs of failure and downtime resulting.

Economic benefits are achieved with the risk avoidance and mitigation strategies as well as directions provided on ISO 9001 as a risk reduction strategy. The Life-time considerations in designs is a further main discussion point for economic benefits in design.

This important Course is on the management of risk and legal liabilities in engineering analyses risks and liabilities that affect all engineering products and projects and can of course lead to outcomes of litigation and substantial penalties and legal claims. Risks, liabilities, and failures are studied extensively and are linked to the essential role of designed lifetimes of engineered products.

The liabilities for professional engineers and engineering companies are considered through the main legally relevant documents such as Terms and Conditions, Design Lifetimes, Guarantees and Warrantees, and SEP and GEP (Sound Engineering and Good Engineering Practices).

Important factors and principles in design are then evaluated and discussed including negligence, competency, and the importance of the Engineering Standards in managing risk and legal liabilities. There is detailed attention to the subjects of compliance to the appropriate Engineering Standards, especially the responsibilities of Professional Engineers spelt out in the Standards.

The Course also addresses the OSH Act and the Regulations therein and the impact on engineering design approaches as well as the links to Engineering Standards such as SANS 347 (Pressure Vessels) and SANS 310 (Storage of Hazardous Chemicals). The NEMA and SEMA Acts are also dealt with as areas of potentially high liabilities and penalties and are introduced under the environmental principles, decision making and penalties and liabilities topics, which are all core to the Act.

The ISO 9001 sub-course also mentions and provides key points from ISO 9001 and especially the topic of non-conformances. Non-conformances have a high probability of being the cause of failure, which when significant, can lead to failure consequences that can or may invite litigation.

There is an important sub-course included for the Design Algorithm that E4A provides to manage designs and thereby limitation and avoidance of risk and liabilities. This sub-course also shows the importance of the analysis of critical variables. There is also a linked toolbox sub-course provided on materials and corrosion as the lead factor in degradation and thus a high-risk area in design.

Finally, there are selected risk sub-courses analyzed and presented to the attendees as well as risk checklists for all the major equipment types. There are also many sub-courses and supporting literature for attendees to study in the private time planned sector.

The final summary is prepared as a series of DESIGN STAGES OR STEPS in the E4A master chart manner with control checklists and the appropriate design approaches. We include in the Course Interesting and unusual case studies and factual examples of risk management.

Who should attend?

All qualified engineers, technologist and technicians who want to fully understand the modern need to deal with multi-variable problems and improve their design skills across many areas of current engineering work. We also address the economic impacts of multi-variable problems.

Requirements?

All E4A courses are live, on-line (webinar based) and extend over two days.

Quantity discounts are available for group attendances or multiple bookings paid in advance.

All courses include:

a. Interesting pre-reading material is sent to attendees normally two days prior to the start.
b. Course materials are emailed ahead to you for the course, and your personal library.
c. ZOOM links are sent to you 2 days prior to the course start date.
d. The Course framework and time-plan is sent ahead to attendees as an Excel Document enabling easy tracking.
e. Workshops, which include case studies and worked examples, are interspersed with tea and lunch breaks and all materials are sent ahead to attendees for these exercises.
f. A Certificate of Attendance, with CPD points reflected, is provided at the end of the event.

There is a full scope of reading material that extends the Course to enable the award of 3 CPD points and we will provide those details and discuss with attendees how these details can be addressed, at the time of your registration for the Course. The full live on-line attendance remains at 2 days.

Register?

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