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Quantitative Risk Analysis (QRA)

Quantitative risk analysis (QRA) provides numerical estimates that allow a business to fulfil hazard identification and risk assessment for their operations. A QRA study includes potential releases of hazardous material, its frequency of occurrence and any consequent risks to which people, the business and the environment may be exposed as a result of a company's activities.

THE Applus+ SOLUTION

Hazard risk assessment is only the first step of the QRA analysis in a comprehensive safety plan. QRA also evaluates both the likelihood and impact of an unplanned event, and therefore allows decisions for hazard and risk management to be made more decisively and cost-effectively.

The Applus+ solution takes a phased approach to hazard and risk analysis when carrying out QRA assessments, in which any hazards are first identified and then the potential consequences are modelled. To complete the assessment, we analyse the consequences of the potential harm or damage caused, and estimate the frequency of occurrence and other possible associated hazards or risks.

The Applus+ team of highly experienced QRA assessment professionals carry out the QRA study into two main phases:

1. Preliminary phase: to ensure that the client's personnel and the relevant authorities fully understand and agree upon the QRA methodology.
2. Detailed QRA analysis phase: involving in-depth work in the following areas: safety-management system, data collection, hazard identification, frequency estimation, event tree analysis, consequence modelling, risk ranking, risk reduction, ALARP analysis and reporting.

The QRA analysis provided by Applus for hazard and risk identification and control:

- provides quantitative results, including factoring in uncertainty for tasks and the total project
- identifies the important contributors to uncertainty, according to task and total project
- identifies potential risk-reduction actions
- identifies key boundary conditions

Target customers

Businesses in all sectors can benefit from a properly executed QRA programme to manage hazard identification and risk assessment. Identifying threats, any consequences and frequency helps operators manage their assets and keep their levels of risk within acceptable parameters.

Key customer benefits

Applus+ helps its clients to effectively manage their QRA analysis and assessments. Our QRA services can result in significant cost savings by reducing interruptions to business, limiting injuries to personnel and preventing damage to equipment.

With well-defined hazard and risk management, the QRA services at Applus+ can help clients to make sound, well-informed business decisions and also assist themto ensure they comply with all of the relevant hazard and risk identification and control regulations for their sectors.