

Example: Preventing fires in the process industry

Situation:

To better compete, save money, increase efficiency the process industry be it the oil and gas, the chemical industry or the pharmaceutical industry is often designing, redesigning, changing, developing or inventing new processes. The process itself, the process materials, the required environments or the required equipment often have an inherent risk potential that requires special attention. Opening new frontiers has the side effect that unknown paths are taken and new risks arise. Society requires more and more and tolerates less and less major accidents.

Approach:

The natural path to approach these new endeavours is to prevent thus “act” beforehand instead of “react” when it is too late. In our society real cost effectiveness is reached when using all means necessary so that failures are prevented instead of trying to fight the results. In this respect an appropriate and individual risk analysis process, with the right knowledge-holders, is essential. For fire risks an analysis to identify the mechanisms of ignition and fire growth (or explosion) is essential. In most cases a two fold approach is necessary and should include:

1. the establishment of **potential fire scenarios** and
2. the **expected damage** that these scenarios can generate.

In detail this could look as following:

- Evaluation of the process and potential failure modes.
- Evaluation of the consequence of each failure mode
- Determination of a safety strategy.
- Establishment of the outcome when safety measures are implemented.

Conclusion:

With a preventive approach based on a solid technical analysis costly accidents and failures can be prevented.

Safety enhancing measures can be implemented in an appropriate manner in the design phase of a process. This is cost effective because it not only prevents expensive retrofitting but also provides from the onset the correct measures. Many times standard measures are costly and could result in no enhancement of safety. An individual analysis can show this and define the strategies that will give greatest impact on the improvement of safety.

It is important to get confirmation what:

can and can not
be done, what
should and should not
be done.

If you feel that we could help you with a risk analysis do not hesitate to contact us.