



TECHNICAL SAFETY STUDIES TO SAVE MONEY

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In the last years, the growing demand by the public opinion regarding safety for workers and environment has prompt the Companies to invest in Loss Prevention activities.

Nevertheless, some Engineering Procurement Construction Companies are still reluctant to invest in Health, Safety and Environmental studies, since they are not aware of the huge benefits that they could fall into. Based on the results of Auriga Consulting activities, always more frequently, investing few tens thousands of euros, several EPC Companies can save several millions of euros. The value added of HSE activities makes this job very interesting and exciting, especially when you can see tangible benefits of your analysis.

To support this thesis, in this paper a case study is presented: the study performed during the design of a Compressor Building for evaluating the design accidental load and for properly sizing the explosion relief panels. The explosion risk for the building was assessed by means of a Computational Fluid Dynamics software, first evaluating the ventilation and the flammable gas dispersion within the building and then simulating the potential explosion scenarios. The exceedance curves have been utilized. Explosion load was compared to environmental loads in order to design the Compressor Building, maintaining the integrity throughout its design life. Significant economic benefits were achieved by using CFD software, instead of worldwide recognized simplified models.

Keywords: HSE studies, Explosion, Risk assessment, CFD model, Compressor Building.

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