



Case Study

Safeguarding Your Silos - Hycontrol ensures essential Silo Safety for Sika

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When global sealant and adhesive specialists Sika suspected its over-pressurization control system fell short of existing regulations, they asked a global supplier of such systems to investigate and recommend a suitable new system.

Integrated SPS silo protection systems, installed and commissioned by Hycontrol, are ensuring global sealant and adhesive specialists Sika meet the latest MPA (Mineral Products Association) safety guidelines. The new over-pressurisation systems have been installed on nine 50-tonne capacity silos at their UK headquarters in Welwyn Garden City, three containing cement and six containing sand. Sika had become concerned that the existing protection systems fell short of the MPA guidelines and asked Hycontrol to carry out a thorough survey of the silos so that updated instrumentation could be installed. The company has extensive experience in the design and installation of compliant silo protection systems and their engineers found evidence that product had been leaking from the pressure relief valves at the top of the silos, clearly showing that all was not well. The survey revealed that the silos were fitted with their original outdated hinged-door pressure relief valves (PRVs) and the high level alarms (HLAs) were provided by aging paddle switches. In addition there was no pressure monitoring

instrumentation or auto-shut off systems to halt the filling process if pressure or product level in the silo exceeded safe levels. MPA guidelines for silo protection systems recommend that silos should be fitted with three essential components:

- a pressure relief valve, suitably sized for the application;
- an effective high level alarm device, programmed to allow sufficient ullage above the final product level and
- an auto shut off system that halts the filling process should the level in the silo exceed safe levels.

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In addition to meeting the MPA requirements, Hycontrol's SPS system also includes an integrated pressure sensor and a ground level testing (GLT) feature, the latter allowing operators to test all key components including the PRV before each and every fill. For Sika's application, Hycontrol's final recommendation was for nine complete SPS silo protection systems. Each one incorporates the manufacturer's latest pressure relief valve, a self-cleaning DP150 diamond point vibrating probe on a one meter long cable providing the HLA, a FLEX501-D pressure sensor and a bespoke alarm panel with GLT capabilities and auto shut off. Hycontrol's MD Nigel Allen is clear on the importance of effective silo protection: "Silo protection systems sit on top of silos often 'out of sight out of mind' and are expected to work if there is a problem. Even if regular visual inspections are carried out, our experience shows that these cannot necessarily determine whether key components such as the PRV will work when required. Our GLT capability carries out a quick, effective test in a few seconds and only when the system has passed can the interlock be opened to commence the filling process in a safe and secure manner." Sika's Engineering and Facilities Manager Nick Luxemburg is very pleased with the new installation: "We take site safety very seriously and had recognised that the existing silo protection systems needed upgrading. The complete installation has been carried out with minimum plant disruption, with Hycontrol engineers working closely with our in-house staff. The SPS systems let us rest assured that the silo filling process can be carried out safely and expediently. Following on from this installation we have had no hesitation in ordering similar systems for our two new silos."