BEST PRACTICE

LOCATION:	**Asphalt/Coating plant**	**ARTICLE YEAR**	**2013**
ACTIVITY:	**Maintenance & Housekeeping**	**COMPANY:**	**Aggregate Industries**
SUB ACTIVITY:	**N/A**	**COMPANY LOCATION:**	**Melbur Works**
BEST PRACTICE No:	**BP894**	**COMPANY TEL:**	**01726 861140**
COUNTRY OF ORIGIN:	**United Kingdom**		

TITLE

Silo safety system fully testable at ground level

ARTICLE

DESCRIPTION

A new hydrated lime silo was noted to have powder around the pressure relief valve (PVR) after deliveries suggesting that it was being over pressurised, there were filter problems or issues with the delivery procedure. Warning beacons and alarms were not always visible or audible to driver during discharge and there was no automated shut off at high pressure.

Regular maintenance of the silo safety components required an operative to visit the top of the silo working at heights of nearly 20m. The operative could only conduct simple visual checks that did not represent a true test of the operability of the equipment.

Using MPA guidelines on how to prevent over pressurisation of storage and, working with Hycontrol Ltd, the following changes were made

• A patented sensor was installed which used the filter air supply to detect if the sensor was blocked, broken or non-operational. It would also indicate if there was no air supply to the filters and clean the sensor. The high pressure activation point was set before the activation point of the PRV, preventing a near miss condition and the discharge of product in to the atmosphere.

• A test mechanism was added to the high level probe that was designed to stop the probe vibrating and the re-start the vibration simulating what would happen when the probe came into contact with the silo material.

• A test that utilised the air supply to filters to lift the PRV plate at the same pressure as it was designed to activate during normal operation. A proximity sensor would detect if the plate had fully raised and seated.

• The system would not allow a delivery to take place without a full test of each of the components with the press of one button at the fill point. The simple test takes only 6 seconds and will then open the fill point valve to allow a delivery. If during a delivery the silo reaches high pressure or high level the system will automatically shut the fill point valve.

• New panels have been put in line with where the lorry driver discharge controls are, which show available tonnage readings.

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BENEFITS

• Reduced risks of working at heights, slips trips and falls
• Improved driver and plant safety during discharging
• Improved maintenance as the system logs facilitate preventative maintenance

ARTICLE IMAGES

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