When the Czech branch of a globally recognized leader in industrial weighing, feeding, measuring and process technologies encountered technical design challenges in providing an explosion protection concept for a client, they turned to IEP Technologies Europe for an innovative and low maintenance solution. The end user, a major building materials and solutions company with plants and operations worldwide, produce a range of construction materials including cement, aggregates and ready-mix concrete for use in small, local housing developments and discussions involving IEP Germany, Hoerbiger Austria and the customer an

design challenges that needed to be overcome. After several technical meetings and discussions involving IEP Germany, Hoerbiger Austria and the customer an

acceptable solution was developed to provide explosion protection not only for the individual sections of the pre-heater (feeders, conveyors, chutes, ducting etc), but which crucially also prevented any explosion events from propagating through to associated equipment.

The primary explosion protection was achieved through installing multiple Hoerbiger EVN flameless explosion venting valves to specific locations within the process. The ATEX compliant EVN valve consists of a circular venting device with an integrated flame arrester.

When an explosion occurs, the venting device responds rapidly by opening and directing the vented explosion through the flame arrester, where the hot gases are cooled as they pass through the flame arrester material thus preventing flames from being expelled into the surrounding area.

A key feature of the EVN design also enables the valve to re-seal after activation, allowing the unit to stay in place to safeguard against future events without needing any maintenance or resetting, whilst integrated electronic controls keep plant personnel informed of the status of the system.

However as previously noted, it was vital to prevent explosive events occurring anywhere in the process from triggering secondary explosions that could be potentially devastating to the overall plant and any operating personnel working in the vicinity. Using data supplied by the customer and after detailed calculations and modelling it was determined that a workable solution could be found by using normal “product build-up” levels as an internal isolation barrier against explosion propagation. To ensure the correct filling quantities are maintained, level controls are installed to provide alarm/shutdown in case the product build up is not adequate to provide this degree of isolation.

After considering other alternatives this innovative solution was validated and accepted as a practical and low-maintenance solution by the customer, and they awarded the order to IEP Technologies. In February 2018, a quantity of 23 EVN valves of various sizes together with other installation materials were delivered to the site in Canada. The customer was extremely satisfied with this solution and intends to use it in future projects.

The technical design challenges presented by the demands of this project together with the hardware and protection concept proposed and ultimately selected by the customer fully illustrates IEP’s capability as a Trusted Industrial Explosion Protection Partner, comprising material testing, engineering review and design, system supply and ongoing maintenance, training and support. IEP Technologies Europe is part of the global HOERBIGER Safety Solutions network, with sales, service and support centres located across North America, Latin America, Middle East/Africa and Asia/Pacific, as well as Europe.

To learn more about Industrial Explosion Protection or to find your local IEP sales, service and support centre visit www.ieptechnologies.com or contact: +49 (0) 2102 5889-0

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