ABSTRACT

Industry is increasingly moving towards utilizing HIPS to reduce flare loading and prevent the environmental impact of pressure venting. HIPS are becoming the option of choice to help alleviate the need to replace major portions of the flare system in existing facilities when adding new equipment or units. Another benefit is that a process unit protected by HIPS will relieve less frequently and perhaps with less quantity than a process unit designed for full flare loading. In some areas of the world this is becoming important as regulatory agencies place greater restrictions on release of greenhouse gases.

Any justification for HIPS must be thoroughly documented through a hazard analysis, which identifies all potential overpressure scenarios and demonstrates that the HIPS can adequately address each scenario. The ability of the HIPS to adequately address overpressure is limited by the knowledge and skill applied in the identification and definition of overpressure scenarios. Ultimately, it is the owner/operator that must verify that HIPS works from a process and holistic viewpoint and achieves the necessary safety integrity.

Keywords: high integrity protective systems, protection systems, safety instrumented systems, overpressure protection, ASME, IEC 61511, UG-140, API 521