

For immediate release!

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***SIS-TECH Introduces a Low-Cost, High-Availability
High Integrity Level Protection System***

HOUSTON, TEXAS (July 2007) - SIS-TECH, a premier provider of safety instrumented system products, training, consultation, and engineering services, is proud to introduce its High Integrity Level Protection System.

SIS-TECH's High Integrity Level Protection System is designed as a low-cost, stand-alone, non-programmable logic solver. When designed, installed, operated, tested, and maintained in accordance with IEC 61511 standards, the Diamond-SIS provides >99.9% availability. It has been certified by Factory Mutual (FM) as fit for use in high integrity protection system applications up to and including Safety Integrity Level three (SIL 3).

Dr. Angela Summers, world-renowned safety system expert and SIS-TECH's founder and president says, "Following the explosion and fire at the Buncefield Oil Storage Depot near Hemel Hempstead, Hertfordshire, U.K., investigators reported that the explosion resulted from thousands of gallons of gasoline (petrol) overflowing a storage tank after automated monitoring systems failed to operate. Had the Buncefield facility applied the principles described in international safety standard IEC 61511 (British Standard EN 61511) and installed appropriate high integrity protection systems, it is likely that this incident would never have occurred."

Using SIS-TECH's Diamond-SIS and 340 Trip-Amp modules as its foundation, SIS-TECH's High Integrity Level Protection system employs 2oo3 (two out of three) voting to provide users with a fault tolerant logic solver that is physically separate and independent from other systems including basic process control and tank gauging systems.

The Diamond-SIS can be implemented to interface with legacy single loop controls and hardwired annunciator panels, thereby supporting remote control and data acquisition without introducing new and unfamiliar hardware into older

process unit settings. The Diamond-SIS is a mix of proven relay logic design, key proprietary components, and qualified systems engineering, allowing some customization opportunities to meet packaging and interface requirements.

INVESTIGATION RECOMMENDATIONS

Following an explosion and fire at the Buncefield Oil Storage Depot, an investigation was directed by Great Britain's Health and Safety Commission (HSE) - an agency that is similar to OSHA (Occupational Health and Safety Administration) in the United States.

Chaired by Lord Newton of Braintree, the HSE Investigation Board issued its findings and recommendations in a 52 page report titled "Recommendations on the Design and Operation of Fuel Storage Sites."

The report categorizes its 25 recommendations in six areas:

- Systematic assessment of safety integrity level requirements - Recommendation 1.
- Protecting against loss of primary containment using high integrity systems - Recommendations 2-10.
- Engineering against evaluation of loss of primary containment - Recommendations 11-16.
- Engineering against loss of secondary and tertiary containment - Recommendations 17-18.
- Operating with high reliability organizations - Recommendations 19-22.
- Deliver a new high performance through culture and leadership - Recommendations 23-25.

A common theme in several of the recommendations is the importance of:

- Applying the principles defined in IEC 61511 (BS EN 61511);
- Establishing appropriate Safety Integrity Levels (SIL); and
- Conducting periodic proof testing in accordance with pre-established policies and procedures.

CHARACTERISTICS OF HIGH INTEGRITY PROTECTION SYSTEMS

Included in the "Recommendations on the Design and Operation of Fuel Storage Sites" reports is the statement, "The occurrence of a massive fuel vapor explosion confirms the overriding need to ensure the integrity of the primary means of containment; in other words, to make sure that liquid does not escape from the vessels in which it is normally meant to be confined."

The report goes on to endorse the principals defined in IEC 61511 as good engineering practices appropriate for use in Buncefield-type (petroleum storage) facilities. These principals include:

- Establishing a methodology that considers:
 - the existence of nearby sensitive resources or populations;
 - the nature and intensity of depot operations;
 - realistic reliability expectations for tank gauging systems; and
 - the extent/rigor of operator monitoring.
- Use of high integrity systems as a means of protecting against loss of primary containment.
- Fitting a high integrity, automatic operating overfill¹ prevention system (or a number of such systems as appropriate) that is physically and electrically separate and independent from the tank gauging system.
- Using an appropriate methodology to determine the required safety integrity level (SIL).
- Periodic reappraisal of installed systems to ensure continued conformance with IEC/BS EN 61511 standards.
- Completion of regularly scheduled proof testing in accordance with the established and validated policies and procedures.

Recommendation 4 states, "The overfill prevention system (comprising means of level detection, logic/control equipment and independent means of flow control) should be engineered, operated and maintained to achieve and maintain an appropriate level of safety integrity in accordance with the requirements of the recognized industry standard for 'safety instrumented systems', Part 1 of BS EN 61511."

SIS-TECH'S SOLUTION

SIS-TECH's High Integrity Level Protection system fulfills all the requirements identified in the report for "logic/control equipment." Each SIS-TECH High Integrity Level Protection System supports analog or digital sensor (input) signals. Its two field-adjustable setpoints allow shutdown to be executed for high and low input signals - a requirement of HSE report Recommendation 8.

¹ High level events are not always the only unsafe condition that owner/operators of petroleum storage facilities need to prevent. When floating roof tanks are used, a low tank level can result in loss of transfer pump feed resulting in possible significant hazards as well as potential pump damage.

Process variables and system-generated alarms can be remotely displayed using optional serial or hardwired communication capabilities.

Its 5 Amp rated relay output can de-energize multiple final elements, including motor control circuits and/or solenoid-operated valves.

Process startup (or re-start) is aided through local or remote manual reset capabilities. The capability to connect the High Integrity Level Protection system to one or more local and/or remote manual emergency shutdown (ESD) buttons is also available - a requirement of HSE report Recommendation 6 and 13².

The system can be powered from 24VDC, 110VAC, or 240VAC and is available with redundant power supplies and/or an uninterruptible power supply (UPS).

It is constructed for installation in Class 1, Division 2 areas (Class 1, Zone 2) and has a temperature rating of -22F to 167F (-30C to +75C).

Bryan Zachary, SIS-TECH's product director says, "With its 2003 voting architecture, on-line diagnostics and testing capabilities, SIS-TECH's High Integrity Level Protection System meets the fault tolerance and probability of failure on demand average required of Buncefield-type applications."

The Technical Resources section of SIS-TECH's Web site at http://www.sis-tech.com/technical_resources.html includes:

- A complete copy of the Buncefield Investigation Recommendations report "Recommendations on the Design and Operation of Fuel Storage Sites."
- Articles and papers describing other forms of high integrity protection systems.
- A paper titled "High Integrity Pressure Protection Systems" that was included in the *Instrument Engineers Handbook*, Volume 3, Chapter 2, Section 6.
- and much more.

ABOUT SIS-TECH:

SIS-TECH, founded in 1999 by Dr. Angela Summers, is comprised of an engineering entity, SIS-TECH Solutions LP, and a product entity, SIS-TECH Applications LP.

² The report recommends installing gas detection systems as an early indication of loss of containment and thus provides another manual or automated input to the level protection system logic/controller.

SIS-TECH's slogan, "We're proven-in-use®" is the result of its extensive list of alliance customers ranging from large corporations to small specialty manufacturers in the refining, chemical, petrochemical, gas processing, and production industries.

SIS-TECH SOLUTIONS LP focuses on providing cost competitive engineered solutions that are designed in accordance with international safety standards such as IEC 61511/ISA 84.01-2004.

SIS-TECH's consultants apply risk assessment principles to design complete lifecycle solutions that meet or exceed the intent of the latest international good engineering practices, as well as incorporating the client's operability and reliability goals.

SIS-TECH's engineered solution offerings include, Compliance Programs, Risk Analysis, Alarm Management, Design, Verification, Programming, Commissioning, Validation, Training, Proof Test Supervision, and Hot Cutover Assistance.

SIS-TECH APPLICATIONS LP commercializes technology based on the unique designs developed by SIS-TECH Solutions consultants and engineers.

SIS-TECH products use field-proven components to achieve the high reliability and integrity required of today's instrumented system application, while providing cost effective, proven performance.

SIS-TECH products use field-proven components to achieve the functionality required for applications such as Burner Management Systems (BMS), High Integrity Protection Systems (HIPS), Automated Testing Packages, and Diagnostic Packages.

To learn more about SIS-TECH, visit <http://www.SIS-TECH.com>