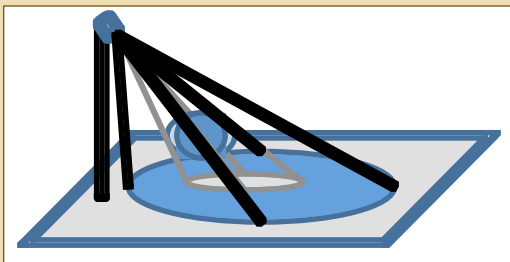
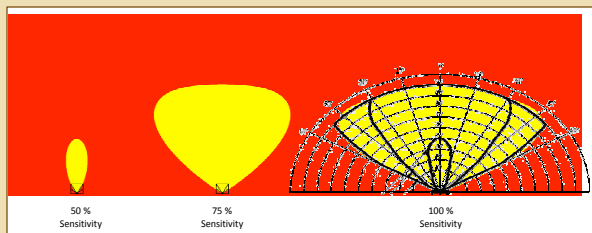


## KENEXIS INNOVATION

As part of the original team of experts that developed the techniques described in the ISA 84.00.07 Technical Report, Kenexis was charged with developing the software that would be required to allow calculation of the metrics that the technical report defined. Through several years of research and extensive validation, Kenexis has been able to develop an unparalleled software solution that performs coverage calculations with a degree of sophistication and accuracy unrivaled by any other software or method.



010612-01

# EFFIGY™



The most comprehensive  
and accurate fire and gas  
mapping software available  
for protective system  
designers.

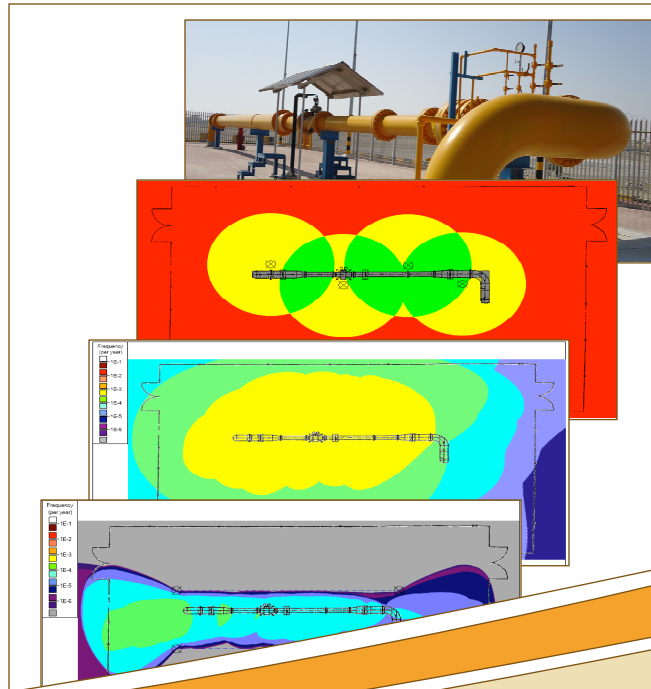
PART OF

# KENEXIS

INSTRUMENTED  
SAFEGUARD SUITE

## PERFORMANCE BASED DESIGN

Fire and gas system design has historically been a challenge. The design of systems was based on inconsistent rules of thumb that resulted in widely varying requirements for similar facilities. In an effort to formalize and standardize the process for designing fire and gas systems, industry experts, including the pioneers at Kenexis, developed the ISA 84.00.07 Technical Report. This built on the performance-based quantitative approaches of the IEC 61511 standard, including safety integrity level (SIL) and added requirements specific to fire and gas detection arrays, notably coverage requirements. Since the release of this technical report, most sophisticated process industry companies have incorporated the concept of achieving quantitative coverage targets into their fire and gas design processes. With the advent of fire and gas mapping for coverage targets using sophisticated computerized tools, such as Effigy™, process safety has taken a step forward.



## CONTACT KENEXIS

### World Headquarters

3366 Riverside Drive  
Columbus, OH 43221  
USA  
Phone: (614) 451-7031  
Fax: (614) 451-2643

### Middle East and Africa

Level 41, Emirates Towers  
P.O. Box 31303  
Dubai  
United Arab Emirates  
Phone: +971 (4) 319-7314  
Fax: +971 (4) 319-7315

### Canada

10665 Jasper Avenue  
Suite 900  
Edmonton, Alberta T5J 3S9  
Canada

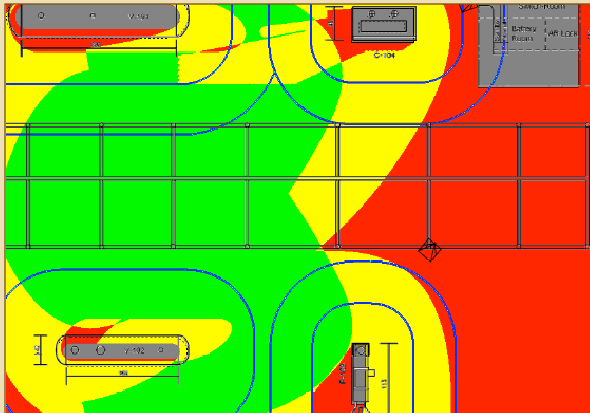
### Chicago

790 Fletcher, Unit 108  
Elgin, IL 60123  
USA

## COMPREHENSIVE SOFTWARE

The Effigy™ Fire and Gas Mapping application is part of the Kenexis Instrumented Safeguard Suite. This suite of tools allows users to create and verify design basis calculations and specifications for the full range of instrumented safeguards including SIS, FGS, alarm systems and more. This suite of tools is available through Kenexis' unique cloud based model and is accessed by any licensed user on any computer, tablet, PDA, or even smartphone through a standard browser. The unique architecture ensures that your software is always available and up to date with the latest performance metrics and equipment databases, removing the IT burden of hardware and software maintenance while allowing you to leverage Kenexis resources for project assistance, outsourcing, and verification and certification of your analyses.

- Compatibility with most browsers / operating systems.
- Extensive standard and custom equipment databases.
- Detailed technical documentation and help.
- Dedicated help desk and support.



## FIRE AND GAS COVERAGE

At the heart of the Effigy fire and gas mapping application is an algorithm for the calculation of the coverage, both geographical and scenario, that considers the specific application, equipment, and instrumentation used in the facility under study. Consider the following features of the calculation engine:

- Analyzes in full 3D, including, detector cone-of-vision manipulation, obstruction location, and obstruction shadow orientation.
- Calculates for any number of user defined elevations of interest.
- Models any brand of detector, and separately assesses all documented sensitivity settings of those detectors.
- Includes a database of most common fire and gas detection equipment and associated performance metrics.
- Models cone-of-vision projections as detectors are moved away from the elevation of interest and rotated away from parallel.
- Obstruction geometries include: cubes, spheres, cylinders, and vessels.
- Presents tabular results of areas where: no detectors are sighted; one detector is sighted; two or more detectors are sighted.
- Presents color-coded graphical coverage maps indicating extent of the various coverage areas.
- And so much more!