



Design and Siting of Facilities

Wednesday 28 October 2009

at

One Portland Place, London W1B 1PN

Baker Engineering and Risk Consultants, Inc. (BakerRisk), the European Process Safety Centre (EPSC), and Willis Energy, a division of Willis Group Holdings (NYSE:WSH), the global insurance broker and risk intermediary, are jointly organising a workshop on the design and siting of fixed and portable process plant buildings.

This workshop is designed to provide process plant owners, managers, and safety personnel with a technical overview of facility siting studies, updates on new guidelines and requirements, and recommendations for updating and improving siting studies and personnel safety and protection.

Background

The design and siting of occupied buildings, both new and existing, in process plant facilities is a topic of significant interest to all executives, managers, and safety personnel responsible for process plant facilities. The effective protection of plant personnel in occupied buildings, and the potential issues regarding current technologies and methodologies to evaluate hazards and requirements for personnel protection, has been the focus of industry regulatory agencies in the US for many years. The March 2005 explosion at the BP refinery in Texas City that resulted in 15 fatalities, 14 of whom were in portable buildings, was a watershed event that refocused industry and regulator attention on process safety and facility siting. International regulatory agencies are also concentrating on facility siting guidelines and requirements.

Since the Texas City incident, many process plant facilities have performed facility siting studies to evaluate the potential hazards to plant personnel in permanent and portable occupied buildings. Improved data



Explosion Damage to Control Room

(from research, testing, and accident investigations) and improved facility siting tools and methodologies are now available to support process plant managers and safety personnel in evaluating the hazards, determining the risk and vulnerability to building occupants, and developing effective risk and consequence mitigation plans, including building relocations and upgrades. New facility siting guidelines in the US are being developed that will require process plant owners and managers to comply with updated processes and procedures written to improve the protection of personnel in occupied buildings.

API RP 753 (Management of Hazards Associated with Location of Portable Process Plant Buildings) was issued in July 2007. API RP 752 (Management of Hazards Associated with Location of Process Plant Buildings) is currently being revised, and will be issued later in 2009 or early 2010. These recommended practices (RP) and guidelines will have a significant impact on facility siting studies and the protection of personnel in occupied buildings.

Workshop Agenda - 08:30-17:00

Arrival & Registration
Welcome and Administrative Details
Introduction to Industry Standards
Understanding Explosions
Structural Response of Buildings
Occupied Building Risk Assessment – A UK Regulatory View
[Mark Bishopp, Health and Safety Executive]
Siting Requirements for Permanent and Portable Buildings
Consequence Modeling & Risk Analysis
Summary and Panel Discussion

About Willis Energy

With principal teams located in London, New York, Houston, San Francisco, Calgary, Gothenburg and Singapore, Willis Energy, a division of Willis Group Holdings (NYSE:WSH), the global insurance broker, stands ready to deliver world-class risk management solutions that are highly effective against all levels of technical and operational risks inherent in the energy industry. Willis' Global Energy Practice comprises over 130 energy insurance professionals, working in 10 offices around the world. For more information, please visit: www.willis.com/Client_Solutions/Industries/Energy

About BakerRisk

[BakerRisk](http://www.BakerRisk.com) is an internationally recognized firm specializing in predicting, preventing, and mitigating hazards from explosions, fires and toxic releases. BakerRisk services and focus groups include: Process Safety and Risk Management, Blast and Explosion Effects, Protective Structures Design, Testing Operations, and Accident Investigations. With seven offices (including our UK office) and over 130 employees, the synergy of these groups in a single organisation provides broad, integrated capabilities to develop cost effective solutions to hazards and risks. BakerRisk is the global leader in facility siting studies. For more information, please visit www.BakerRisk.com



Vapor Cloud Explosion Test

About EPSC

The [European Process Safety Centre](http://www.epsc.org) (EPSC) is a member funded network of European process industry companies, insurers, researchers and consultants, who share, develop and promote best practice in the field of process and major accident safety. The Centre's output include the publication of books and production of member reports, organisation of seminars and conferences, and the provision of technical advice and support to the European Commission. EPSC was founded by the European Federation of Chemical Engineering (EFCE) in 1992 and operates as a not for profit. The Centre is administrated by the Institution of Chemical Engineers based in Rugby, UK.



Wall Test in BakerRisk Shock Tube

Workshop Fees

£300 plus VAT for non-members
£150 plus VAT for IChemE members
£50 plus VAT for EPSC members

Registration and Information

For enquiries and to register for the Workshop, please contact Sam Atkinson or Lee Allford via telephone on +44 1788 534418 or email satkinson-epsc@icheme.org. A VAT invoice will be issued on receipt of payment. Substitutions are welcome at any time but no reimbursements are offered on cancellations or no shows from registered delegates. We reserve the right to cancel or alter the programme.

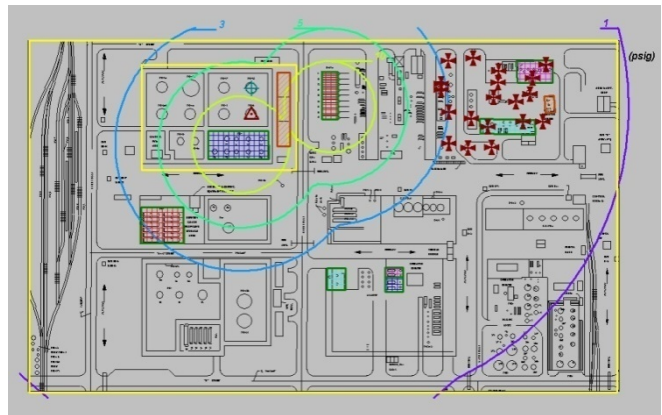
Venue

One Portland Place, London W1B 1PN

EPSC Contact Information

EPSC
165-189 Railway Terrace
Rugby
CV21 3HQ
United Kingdom
Tel: +44 (0) 1788 534409
Fax: +44 (0) 1788 560833

www.epsc.org



VCE Pressure Contours predicted using BakerRisk SafeSite3G®

BakerRisk Speaker Biographies:

Quentin A. Baker President

Baker Engineering and Risk Consultants, Inc.



Quentin Baker is President of Baker Engineering and Risk Consultants. Quentin holds a B.S. in Mechanical Engineering from Texas A&M University and an MBA from the University of Texas at San Antonio. He has over 30 years experience in R&D, testing, hazards analysis, engineering projects, and accident investigation in the fields of combustion, explosions, and blast effects. Mr. Baker has contributed to the development of blast prediction methods and building occupant injury models. He has conducted numerous facility siting studies in refineries, petrochemical plants, fertilizer plants, and specialty batch process plants. He has investigated over 75 explosion accidents. Mr. Baker participated on the API Task Force that developed RP 753 for siting of portable buildings, and is revising RP 752 for siting of fixed buildings.

Raymond H. Bennett, Ph.D., PE Senior Principal Engineer

Baker Engineering and Risk Consultants, Inc.



Dr. Bennett has provided consulting and engineering services to government and private sector clients in the areas of blast resistant design, explosives safety, physical protection and risk assessment for more than thirty years. He has developed structural dynamics analysis and damage assessment methodologies for blast loads that are frequently used in siting evaluations. He has served as a Subject Matter Expert for chemical processing companies performing Security Vulnerability Assessments (SVAs) and has performed blast vulnerability assessments for more than 30 commercial airports. His military experience includes eleven years with the U.S. Air Force Weapons Laboratory, where he was the chief of the structural dynamics section. He has participated in both full and small-scale explosive tests on structures and equipment to determine their vulnerability to weapon effects. Dr. Bennett participated on the API Task Force that developed RP 753 for siting of portable buildings, and is revising RP 752 for siting of fixed buildings.

Robert J. Magraw Principal Consultant

Baker Engineering and Risk Consultants, Inc.



Mr. Magraw holds a BSc. in Environmental Sciences and has over 20 years experience in risk analysis and safety management. He has an extensive background in the nuclear industry where he has held specialist and management roles in international businesses. He has conducted safety analyses and prepared safety cases for a broad range of nuclear facilities, developed and implemented corporate standards and management systems and led corporate oversight programmes. He participated in several joint industry working parties with UK HSE. Since joining BakerRisk he has conducted process hazard analyses, quantitative risk assessments, siting studies and insurance risk engineering reviews for clients in the UK, US, Middle East and Africa. Mr. Magraw has recently been appointed Manager of BakerRisk's UK office in Chester.