ABS Group

RISK AND RELIABILITY

OCCUPIED BUILDING RISK ASSESSMENTS AND SUPPORTING SERVICES

UK operators are required to prepare a safety report; demonstrating that major accident hazards and possible major accident scenarios have been identified, and necessary measures taken to prevent such accidents in line with the Control of Major Accident Hazards Regulations (COMAH, 2015).

What is an Occupied Building Risk Assessment (OBRA)?

OBRA is the process of evaluating occupied buildings for process hazards inside the fence line.

Under the COMAH Regulations, operators must demonstrate that the risks to employees in offices and other work places on site are As Low As Reasonably Practicable (ALARP). Undertaking an OBRA will assist you to demonstrate that you have managed the risks to ALARP and to develop/prioritise your risk reduction measures in your building mitigation plan.

Steps Towards a Safer Facility

- Site Visit
- Scenario Development
- Process Unit Inspection
- Building Inspection

- Building Damage
- Structural Response
- Occupant Vulnerability
- Non-Structural Hazards
- Portable Building Evaluation

- Management of Change Planning Management of Change

1 2 3 4 5 6

- Planning Consequence vs. QRA
- Acceptability Critical Review
- Corporate Standards
- Industry Standard

- Consequence or Risk Analysis
- Model Development
- Dispersion Analysis
- Explosion Analysis
- Toxics Modelling
- Frequency Analysis

- Mitigation Planning
- Detailed Analysis/ Modelling
- Structural Retrofit/New Design
- Process Controls
- Plans/Procedures

Selecting an Approach

There are two methods to approach an OBRA. Consequence and Risk Based.

Consequence Based Approach	Risk Based Approach
• Suitable for Lower Tier COMAH Facilities • More Conservative • Based on Maximum Credible Event (MCE)	• Suitable for Upper tier COMAH Facilities • Based on Both Consequences and Frequencies

Our Services Methodologies

- Consequence Analysis
- Quantitative Risk Assessment (QRA)

Flammable and Toxic Dispersion Modelling

- Scenario Development
- Dispersion Modelling and Extent Of Hazardous Clouds
- Gaussian and Computational Fluid Dynamics (CFD) Models
- Personnel Vulnerability During Evacuation

Explosion Modelling

- Empirical Blast Models
- CFD
- Blast Contours and Loads on Buildings
- API RP 753 Portable Building Siting Map

Building Upgrades

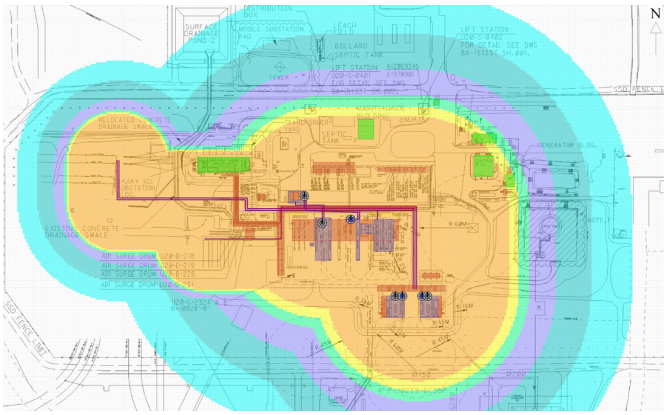
- Direct Component Strengthening
- Building Encapsulation
- Conceptual and Final Designs
- Construction Drawings
- Cost Estimating

Fire Modelling

- Flash Fires, Jet Fires and Pool Fires
- Radiation Contours
- Effects on Buildings
- Personnel Vulnerability During Evacuation

Building Assessment and Design

- Screening Tools
- Single-Degree-of-Freedom (SDOF) Analysis and Pressure Impulse Diagrams
- Finite Element Analysis (FEA)
- Building Damage and Occupant Vulnerability
- Building Blast Design
- Emergency Shelter Evaluation and Design



info@abs-group.com

www.abs-group.com