



CASE STUDY

OCCUPIED BUILDING RISK ASSESSMENT

CLIENT: CONFIDENTIAL

LOCATION: SCOTLAND

HIGHLIGHTS

- OBRA
- Fire, Gas and Blast
- Quantified Risk Assessment

THE CHALLENGE

Our client requested Arthian to undertake an Occupied Building Risk Assessment in relation to Eastern Green Link 2 Project. This facility was potentially subject to major hazards including fire, gas and blast.

Arthian prepared an OBRA which considered:

- A review of the proposed building geometry and form.
- A review of previously completed quantified risk assessment (QRA) studies.
- Determination of individual and societal risk levels for a baseline building form.
- Comparison of individual and societal risk levels against HSE guidance.
- Where appropriate the recalculation of risk levels for a building form incorporating specific protection measures.
- The production of a performance specification for any appropriate protection measures.



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THE SOLUTION

The proposed building is potentially exposed to a range of hazards. Some hazards, i.e the 26in BP gas pipeline, indicates that the associated risks are acceptable.

However, there is no statistical data available in relation to the risks regarding the adjacent fuel tankage area and Score gas turbine test facility. Due to the significant nature of these hazards, an approach based on a precautionary principle is appropriate.

These unquantified risks can be alleviated by implementing simple measures into the building design. Such measures would be recognised by anyone familiar with the OBRA process. By specifying the details of building construction, potential threats can be reduced at little additional cost.

The proposed buildings, will be modern, rapidly constructed, braced or portalised steel framed. Through the selection of cladding, HVAC equipment, and doors/windows, occupants will be protected against toxic gas, smoke, thermal radiation, and overpressure effects.

These features will also enable the buildings to be used as a shelter-in-place, where for a specified duration its occupants would be safe. The specified features should not need any special control or maintenance.



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