

Request for planning permission: Entertainment Resort Complex, Bedford

Response to Environmental Statement – Universal Destinations and Experience UK Project

Subject: Response to Environmental Statement – Universal Destinations and Experience UK Project; potential geological hazard not considered in ground investigation (Relevant to NPPF Ground conditions and pollution para 196.).

BGS Role and Technical Authority: The British Geological Survey (BGS) is the UK's principal provider of geoscientific data and expertise to government, industry, and the public. As part of UK Research and Innovation (UKRI; a non-departmental public body of the Government), BGS delivers impartial assessments of subsurface conditions, geological hazards, and environmental risks. With respect to the consultation, our capabilities include advanced ground gas monitoring, geological modelling, and site-specific hazard evaluation to support planning and infrastructure development.

Background: The geological setting of the Universal Destinations and Experience UK Project site closely resembles that of Cleat Hill, located approximately 3.5 km away. On 19 October 2024, a residential property in Cleat Hill was destroyed in an explosion that tragically claimed two lives¹. The incident has been linked to the unexpected release of naturally occurring methane gas derived from potential deep geological sources². Although formal investigations are ongoing and a definitive cause has yet to be established, the event has triggered parliamentary scrutiny of current regulations governing ground investigations and drilling practices³. While there is no confirmed evidence of similar gas accumulations at the proposed Universal site, the broadly comparable geological conditions and proximity to Cleat Hill suggest that a similar risk may plausibly exist and warrants further evaluation prior to the commencement of ground works.

Key Issues: Ground gases may originate from:

1. Natural geological sources (e.g. methane from rocks rich in organic materials);
2. Legacy industrial activity (e.g. seepage from landfills, contaminated ground);
3. Damaged shallow subsurface infrastructure (e.g. leaking pipes or buried utilities).

Ground investigation documents for the proposed Universal Theme Park indicate that gas monitoring is being considered⁴. However, this appears to focus on risks associated with legacy industrial activity and the potential for damaged shallow infrastructure. These types of investigations typically involve surface-level and shallow subsurface monitoring, and while the Environmental Statement does not specify installation depths, standard practice suggests they are likely limited to 1–3 metres below ground level. This approach may overlook deeper gas accumulations originating from natural geological sources, which could exist well below the

zone that was monitored for the Environmental Statement. Such gases may remain undetected until disturbed by subsequent ground investigation or construction activities (potentially including, for example drilling for ground-source heat). At Cleat Hill, the incident involved borehole drilling, therefore any similar works during ground investigation or substantial subsurface development—such as the construction of foundations, basements, or utility corridors—could also trigger gas migration. If present, methane pockets could travel through geological pathways (e.g. permeable layers, faults, fractures) or artificial conduits (e.g. drainage systems, service ducts, tunnels), potentially accumulating in enclosed spaces. This poses serious health and safety risks, including explosion or asphyxiation hazards. Although regulatory guidance exists for managing pressurised gases during drilling⁵ and borehole operations⁶, early awareness of potential gas sources and their depth is critical to effective risk mitigation.

Recommendations: BGS recommends the following actions:

1. Natural Gas Risk Assessment: A targeted geological study should assess the potential for deep methane generation and migration. This should include surface and subsurface surveys and monitoring prior to and continuing through the project lifecycle.
2. Assessment of Future Development: Any future expansion/further development of the site should be subject to renewed gas risk assessment. The Cleat Hill incident illustrates how previously stable settings may be disrupted by new subsurface activity⁷.
3. Regulatory and Stakeholder Engagement: Collaboration with the Environment Agency, Health and Safety Executive, and local authorities is essential to ensure risks are regulated and mitigated. Continued engagement with technical stakeholders, including BGS, is recommended throughout the project lifecycle.

Conclusion: Given the scale of the development and proximity to a recent geological gas hazard, BGS recommends proactive, evidence-based assessment of underground gas hazards and any associated risks. BGS is available to support further investigations and provide technical input as required.

References

- 1 – BBC News (21/10/25): Fatal Bedford house blast 'at site of previous natural gas leak' (<https://www.bbc.co.uk/news/articles/cly4y42vn0xo>)
- 2 – Geology description of Bedford area. (Barron et al. 2010 Geology of Bedford district – a brief Explanation of the geological map. British Geological Survey 1:50,000 Sheet 203 Bedford, ISBN 978-085272661-7)
- 3 – Hansard (21/11/24): Cleat Hill Heat Pump Incident (<https://hansard.parliament.uk/commons/2024-11-21/debates/966322C3-1DED-41E1-8804-0743C1796292/CleatHillHeatPumpIncident>)
- 4 – Universal Destinations and Experience UK Project ES Vol. 1 Ch. 11 (Ref: 2.11.0) (https://assets.publishing.service.gov.uk/media/685a8a3645eea7ef2e62072d/11_-_2.11.0_Chapter_11_-_Ground_Conditions_Soils_and_Agricultural_Land.pdf)
- 5 – British Drilling Association (Feb 2025): Managing Pressurised Gases During Drilling (<https://www.britishdrillingassociation.co.uk/wp-content/uploads/2025/03/Managing-the-risk-of-encountering-pressurised-gas-during-drilling-V4.pdf>)

- 6 – HSE: Borehole Sites and Operations Regulations 1995 – Guidance on Regulations L72 (<https://www.hse.gov.uk/pubns/ priced/ l72.pdf>)
- 7 – Ground Engineering (04/11/24): Two dead after explosion in Bedford following heat pump drilling (<https://www.geplus.co.uk/news/two-dead-after-explosion-in-bedford-following-heat-pump-drilling-04-11-2024/>)