

'Expert' Hazard Awareness Course Agenda

| Day | Course content |
|--------------------------------|--|
| Day 1 (1200 – 1630) | <p>Arrival to Spadeadam</p> <ul style="list-style-type: none"> • Security clearance • Welcome • Safety brief • Seminar aims <p>Dispersion</p> <ul style="list-style-type: none"> • Dependence of fluid type on the outflow from a loss of containment • The effect of gas/vapour density on dispersion • Characteristics of vapour dispersion following liquid spills • Potential effects from delayed ignition • Gas accumulation within confined structures • Factors affecting the dispersion of releases in offshore and onshore facilities and pipelines • Toxic releases <p>Practical demonstration</p> <ul style="list-style-type: none"> • Liquid Nitrogen Spill • Butane vapour cloud deflagration <p>Incident workshop</p> |
| Day 2 (0900 – 1615) | <p>Explosions</p> <ul style="list-style-type: none"> • What is an explosion? • Flammability of gas-air mixtures • Mechanism for pressure generation in congested process regions • Effect of combined congestion and confinement on explosions • Deflagration to detonation transition • Methods for estimating the explosion loading generated in real conditions and risk based approach to setting design targets • Explosion mitigation <p>Practical demonstration</p> <ul style="list-style-type: none"> • Confined, vented explosion • Hydrogen detonation <p>Incident workshop</p> |

| | |
|---------------------------------------|---|
| | <p>Fires</p> <ul style="list-style-type: none">• What is a fire?• How fires occur• The characteristics of pool fires |
| <p>Day 3 (0900 – 1500)</p> | <p>Fires continued:</p> <ul style="list-style-type: none">• The characteristics of jet fires• How fires cause damage/injury and how the potential for damage can be assessed.• How the effects of a fire can be mitigated <p>Practical demonstrations</p> <ul style="list-style-type: none">• Pool fires<ul style="list-style-type: none">○ Methanol pool fire○ Diesel pool fire• Jet fires<ul style="list-style-type: none">○ Spindle jet fire○ Misaligned flange jet fire○ Large jet fire○ Kerosene jet fire (liquid phase) <p>Incident workshop</p> <p>BLEVE and mitigation</p> |