

COMAH Safety Report: Human Factors Petroplus Coryton Refinery

As a top tier COMAH site the Petroplus Coryton Refinery was required to submit a number of Safety Reports as part of the periodic review process. Atkins assisted Petroplus in developing its Safety Reports in general and provided the expertise to develop the human factors elements of the Establishment Safety Report.

The Control of Major Accident Hazards (COMAH) Regulations aim to prevent and limit the consequences of major accidents at sites that store or process dangerous substances.

To comply with the COMAH Regulations, operators must demonstrate that 'all measures necessary' have been taken to prevent and mitigate the effects of major hazards. COMAH 'top tier' sites must

prepare and maintain a COMAH Report that provides this demonstration. This COMAH Report must be updated at a minimum of every five years.

Atkins assisted Petroplus in updating 21 Safety Reports for their Coryton Refinery as part of the five yearly review. As part of this process Atkins provided specialist expertise to address the impact of human factors on asset integrity.

After the previous Safety Reports had been issued, the HSE introduced further guidance on what they expect COMAH sites to demonstrate with regard to the human factors that might influence major accident hazards. Therefore the Establishment Safety Report needed to be revised in relation to human factors.

The HSE describe the human factors as the environmental, organisational and job factors as well as human and individual characteristics that influence behaviour at work and can affect major accident hazards.

The HSE describe 14 key human factors topics that they require to be addressed. These are:

- Alarm Handling
- Interfaces
- Safety Critical Communications
- Supervision
- Behavioural safety
- Procedures

- Training and competence
- Organisational change
- Staffing levels and workload
- Managing human failures
- Fatigue from shift work and overtime
- Organisational culture
- Integration of human factors into risk assessment and investigations
- Human factors in design

The Atkins' specialists worked with the Refinery's Safety Engineers and Managers to identify the evidence that would enable them to demonstrate in the Establishment Safety Report how the Refinery addressed these 14 key topics.

The evidence for how the key human factors topics had been addressed was identified from a review of the Refinery's procedures, working practices and other documentation. This enabled Petroplus to submit a revised Establishment Safety Report to the HSE in a timely manner.