

# Implementing major accident hazard management

Process Safety Management provides a framework to prevent major accidents that can occur when the control of a hazard is lost (e.g. loss of containment of hydrocarbons). TAQA worked with Leidos to fast-track a review of the effectiveness of their major accident hazard (MAH) management approach, versus industry good practice.

## CHALLENGE

As part of the UK Offshore Installations (Safety Case) Regulations 2005, TAQA is required to perform a thorough review of its major accident hazards and the controls in place to manage these across its five platforms in the UK Continental Shelf (UKCS). A key part of this review was to validate the effectiveness of the controls in place.

In addition to addressing the regulatory requirement TAQA wanted to ensure the systems in place were visible, robust and measurable. To achieve this, TAQA worked with Leidos to link Key Performance Indicators (KPIs) to the major accident hazard controls.

## SOLUTION

Leidos ran workshops with a cross section of the workforce. These workshops reviewed plant, process and people management systems that protect against realising a hazard. Working in partnership with ScottishPower (an Iberdrola company) Leidos assessed the controls utilising gap analysis and bow-tie methodologies. This included the development of a risk model which acknowledges that not all the controls are equal in their ability to help prevent a major accident hazard from being realised.

TAQA worked through Leidos' method of ranking the barriers in order of importance based on the effectiveness in preventing an incident. This ranking is used when calculating the status of the KPIs and ensuring that top risks can be easily identified and major accident hazards can be managed to ALARP (As Low As Reasonably Practicable).

## RESULT

The resulting programme of work prioritises the process safety roadmap going forward.

Leidos has provided a dashboard that allows TAQA to see how they are managing their MAHs using automated process safety KPIs.

- ▶ Review of all systems and controls that affect MAH management using bow-tie modelling and gap analysis
- ▶ Facilitation of validation workshops with a cross section of the workforce
- ▶ Development of a formalised Process Safety Management Framework
- ▶ A prioritised and integrated improvement roadmap and business case to support gap closure
- ▶ Identification of the required suite of KPIs with risk weighting applied
- ▶ Pilot automated KPI Dashboard showing the controls which can be currently measured