Deep dive assessment provides a thorough review of the robustness of barriers protecting against major accident hazards.

Deep dive assessment confirms the effectiveness of barriers to prevent and mitigate incidents with the potential to release hazardous materials or energy with the potential for serious harm to people or the environment.

Over recent years the process industries have experienced many major accidents which have led to higher technical standards and tighter legislative controls. However, more needs to be done.

A growing number of organisations are becoming increasingly aware that safety issues need to be managed in a risk-based way linked to their business needs, but also cost effectively. Good Process Safety Management (PSM) must embrace the way in which people, plant and systems all inter-relate:

- Plant and equipment must be of an appropriate design standard / integrity and be adequately maintained
- Systems / procedures must be fit for purpose and practicable
- People must be adequately competent and work within a positive cultural framework that encourages safe behaviour and a belief that any injury, harm or damage can be avoided

**What we offer**

The ABB deep dive assessment method provides an independent and targeted approach to assessing the way in which the site operation manages process safety risks. It will ensure that key process safety risks have been identified, reduced to tolerable levels and that the site people and processes have the ability to manage them in line with corporate and regulatory expectations.

The deep dive assessment forms the first stage in achieving world class safety performance, and can be offered as part of a full safety management programme from ABB, in which risks are identified, optimum risk reduction solutions sought and then implemented.

The efficient deep dive assessment method has been designed to require minimal preparation from the site management team. It is delivered by working collaboratively through discussion with operations and engineering staff. This brings the added benefit of transferring knowledge to the site team allowing for continuous process safety improvements.

ABB has gained extensive experience in recent years in applying the deep dive assessment methodology across the process industries spectrum (table 1 overleaf).
Outputs from the deep dive assessments have revealed shortcomings which has allowed companies to better prioritise resource and formulate PSM improvement programmes with a sharper focus on their key risks.

The deep dive assessment is typically delivered by two ABB Consultants - one specialising in process safety and one in integrity management. The agenda is as follows:

**Day 1**
- Understand how the site manages process safety
- Review process hazards analysis documentation
- Understand the site’s process hazards

**Day 2**
- Select key scenarios
- Identify layers of protection for each scenario with the participation of site staff
- Test in the field whether layers of protection are in place and being maintained

**Day 3**
- Additional verifications if necessary
- Examination of incident investigation, management of change, pre-start-up safety review, auditing, performance indicators
- Feedback presentation

A report is produced detailing findings and options for risk reduction. ABB can then assist with action implementation to ensure the benefits of the study are realised.

**Benefits**
The deep dive assessment will ensure the client:

- Has control of the key process safety aspects of the business
- Achieves the process safety performance improvements needed
- Spend money on safety management and improvement in the most effective way
- Has a consistent commitment to process safety throughout the business
- Has access to the skills, resources and expertise required

**Why ABB?**
ABB is able to combine technical process safety / delivery and assessment management capability with expertise in training. This has been developed through a background in chemical manufacturing, as a provider of professional process safety management consulting and training, and in improving manufacturing performance through people change processes.

We have extensive experience of introducing improvements and technical solutions in organisations and in managing the necessary changes so prefer to work alongside customers in fully implementing sustainable change.

The ABB approach to process safety involves working with customer teams to ensure we maximise the use of local operational experience and to share our skills and experience. This approach provides optimum solutions by combining best practice knowledge with a true understanding of operational needs.