The classification of hazardous areas is an integral part of the overall risk assessment process required under Regulation 7 of the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) and Regulation 9 of the Prevention of Fire and Explosion and Emergency Response Regulations 1995 (PFEER).

Its purpose is to define the extent, frequency and duration of an explosive atmosphere (the zone). The zone in turn defines the requirements for the selection of equipment and protective systems so as to control the probability of equipment becoming a source of ignition to a tolerable level. Compliance with all the regulations in DSEAR is mandatory for any onshore operator handling dangerous substances. Whilst certain parts of DSEAR and all aspects of PFEER must be followed for any operator of fixed offshore installations.

However many operators fail to comply with these regulations by having out of date area classification documents. Although there is no compulsory interval for reassessing area classifications, they should be reviewed if any changes are made to the plant. Best practice indicates that area classification should occur to coincide with the re-submission of the COMAH or offshore safety case.

What we offer
ABB can provide an area classification study to determine the size and nature of flammable zones, using pragmatic guidance and suggesting measures to minimise the zones for improved safety and reduced costs.

We can classify individual operations right through to a complete high hazard site, with any level of available equipment / site information. We can update existing drawings, or if little / no drawings exist we can complete a full site survey to ascertain what equipment is present.

By utilising our operational experience and working knowledge of high hazard operations we can assess layout drawings and P&ID’s to identify the points of release of flammable gas or vapour, the frequency of these releases and the quantity of material release. In addition, the internals of process equipment may be a hazardous area, if both gas / vapour and air are present, though there is no actual release, an aspect often missed from classification drawings.
ABB can apply the most appropriate guidance and standards to determine zone extents as well as carrying out calculations or dispersion models to provide accurate classification answers. This allows the accurate selection and installation of equipment in each area to reduce the ignition risk on-site.

Hazardous areas are classified into zones based on an assessment of the frequency of the occurrence and duration of an explosive gas atmosphere, as follows:

- **Zone 0** - An area in which an explosive gas atmosphere is present continuously or for long periods
- **Zone 1** - An area in which an explosive gas atmosphere is likely to occur in normal operation
- **Zone 2** - An area in which an explosive gas atmosphere is not likely to occur in normal operation and, if it occurs, will only exist for a short time

As operating and maintaining a zoned area is both costly in terms of maintenance, time and specialised equipment, wherever possible we will aim to make pragmatic judgements to minimise the extent of zones areas.

Our hazard area assessment provides a report which can be used as part of the COMAH or offshore safety case and updated hazard area drawings which will allow the right standard equipment to be specified.

**Benefits**
- Help maintain license to operate
- Compliance with legislation
- Reduced risk of incident
- Complete picture of ignition risks on-site

**Why ABB?**
Our engineers and consultants have an operational background and use their experience to make pragmatic technical judgements. This approach ensures cost effective solutions that can be practically implemented.

Our consultants have a deep understanding of legislation and standards, and are actively contribute to British and International Standards committees and industry bodies.

We run area classification training course and have trained hundreds of engineers in this area.

A number of our consultants are trained to work offshore in the UK sector, allowing detailed surveys of installations.