

## Marches Biogas Dangerous Substances and Explosive Atmospheres Regulations (DSEAR) Curriculum Vitae

THE DSEAR REGULATIONS & PROCESS SAFETY ARE AT THE FOREFRONT OF ALL DESIGN AND SITE WORKS UNDERTAKEN BY MARCHES BIOGAS. ALL ENGINEERS HAVE A HIGH LEVEL OF DSEAR KNOWLEDGE, TRAINING AND AWARENESS, TOGETHER WITH EXPERIENCE OF WORKING SAFELY ON ANAEROBIC DIGESTERS BOTH IN AND OUTSIDE OF NORMAL OPERATING CONDITIONS.

### DSEAR & PROCESS SAFETY SERVICES

**Marches Biogas work with close attention to DSEAR 2002, alongside IGEM/SR/25 and BS EN IEC 60079 (all parts) and are able to provide the following services:**

- Production of DSEAR zoning and assessment to include calculation tables and zoning diagrams
- Review existing site DSEAR documentation, implementation and compliance
- Undertake design, M&E and process improvements to comply with DSEAR safety requirements
- Provide DSEAR training for managers & site operators
- Statutory maintenance of ATEX equipment

Marches Biogas can also offer hazard & operability studies (HAZOP). A HAZOP study is a systematic and structured way of assessing a process and identifying any problems or risks that could cause harm to the plant, people or the environment. Marches Biogas has experience of undertaking these studies and can provide this as a service to proposed or existing facilities.

### EXPERIENCE

#### MARCHES BIOGAS PLANTS

Marches Biogas has designed and built over 30 ad plants throughout the UK with full DSEAR assessments & zoning together with correctly rated equipment for the specific zones. Operators are trained on their responsibilities to comply with DSEAR on an ongoing basis.

#### SEVERN TRENT WATER

In 2022 Marches Biogas started the process of reviewing the DSEAR status of Severn Trent Water's (STW) 36 ad sites with the production of a rag report and recommendations following each assessment. This work is ongoing as the sites are assessed and then re-assessed on a scheduled basis. Marches Biogas also attend STW DSEAR CoP where any particular concerns that are reoccurring across multiple sites or any urgent issues can be raised together with offering our expert opinion on DSEAR safety, systems and procedures.

## **SILO HEADSPACES ON WASTEWATER TREATMENT WORKS**

During 2021/22 Marches Biogas has worked separately with two water companies on the production of potentially explosive atmospheres within the sludge silos containing both raw and digested sludge cake. The work was both site based, and laboratory based and concluded that pre and post digestion cake will produce a flammable mixture of gases. Therefore, the headspace of any sludge cake storage vessel must be risk assessed in accordance with DSEAR and zones applied as appropriate.

---

## **WORKING WITH THE HEALTH & SAFETY EXECUTIVE**

Marches Biogas has on a number of occasions, worked with the HSE where incidents have occurred on site, providing independent and expert knowledge. Post incident support has also been provided to site operators in order to ensure that plant operation can operate in a safe manner with recommendations for remedial works.

## **PROCEDURES, TRAINING & QUALIFICATIONS**

### **PROCEDURES**

Marches Biogas has a DSEAR procedure which forms part of the company management system outlining the objectives, responsibilities and arrangements for DSEAR. This document sits alongside other critical company procedures which includes hazard identification, risk assessment & hierarchy of control. Procedures are available on request.

---

### **TRAINING & QUALIFICATIONS**

All Marches Biogas engineers are required to have a good understanding & comprehension of DSEAR through both internal & external training courses. The company also has a number of engineers with the following qualifications.

- Ex 11 – preparation, installation, inspection & maintenance of mechanical equipment in explosive atmospheres
- Ex01, 02, 03, 04 – preparation, installation, maintenance & inspection of electrical equipment & systems
- CompEx f – compEx foundation in hazardous areas

Engineers have also undertaken training with the Health and Safety Executive's in house training scheme on hazardous area classification and gas safety.