



Amgen Cymru

IMPLEMENTATION OF DSEAR

PRP 6039

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IMPLEMENTATION OF DSEAR REGULATIONS

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IMPLEMENTATION OF DSEAR REGULATIONS

1 INTRODUCTION

DSEAR (Dangerous Substances and Explosive Atmospheres Regulations) is concerned with protection against risks from fire and explosion arising from dangerous substances used or present in the workplace. All regulations set by DSEAR must be fully complied with by 30th June 2006.

2 AREA CLASSIFICATION

2.1 It is a legal requirement for area classification to be carried out. In summary, this requires the Site/ Manager to identify locations where potentially explosive atmosphere do or could occur and to record this information on suitable drawings.

2.2 All potential hazards are to be categorised into Zones. The Zone number assigned is based on the probability of an explosive atmosphere being present in a given location.

- **High Probability - Zone 0**

A place in which an explosive atmosphere consisting of a mixture with air of Flammable substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.

- **Medium Probability - Zone 1**

A place in which an explosive atmosphere consisting of a mixture with air of Flammable substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

- **Low Probability - Zone 2**

A place in which an explosive atmosphere consisting of a mixture with air of Flammable substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

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Area/Activity	Description	Classification
Vertical Gas Wells	Above Waste	Zone 2
Vertical Gas Wells	Below Waste	Zone1
Perimeter Boreholes	Frequently elevated levels of LFG above the LEL	Zone 2
Leachate Extraction Points	Within Riser and Extraction pipes	Zone1
	Below Liquid (above low water level)	Zone 2
	Below Low Water Level	Non-Hazardous
	1.0m radius around Flange	Zone 2
Knock-Out Pot	If negligible extent around enclosure is fitted,	Zone 2
	1.0m radius around blanking Flange if no outer enclosure	Zone 2
	In inner sleeve above liquid Level	Zone 1
	In main chamber	Zone 2
	Non-hazardous area in inner sleeve, Below liquid level	Zone 2
Spike Wells	0.1m radius around valves.	Zone 2
	Around point where enters waste.	Zone 2
	Inside pin well and pipes.	Zone 1
Leachate Pipework	Area around valves.	Zone 2
Lagoons/Open Tanks	Above Water	Zone 2
	Within Inlet / Outlet Manholes	Zone 0
	1.5 m radius around Manholes	Zone 2
Closed Leachate Tanks	3m Radius above liquid	Zone 0
	Below Liquid (above low water level)	Zone 2
	Below Low Water Level	Non-hazardous
Fuel Tanks (propane)	3m Radius around relief valve.	Zone 2
	3m Radius around connections.	Zone 1
	1.5m Radius around indicator	Zone 1
Fuel Tanks (diesel)	2m Radius around vent.	Zone 1
	Inside tank	Zone 0
	Around pipe joints or couplings	Zone 2
Sampling Points (if gas is released)	1m Radius around point. Regular Methane release	Zone 1
	Accidental/Occasional release	Zone 2
Flow Meter Chamber	Within Chamber	Zone 0
	1.5m Radius Around Chamber	Zone 2
SBR Treatment Tank	Above Liquid Level	Zone 1
	Below Liquid Level (above low water)	Zone 2
	Below Low Water Level	Non Hazardous

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3 PPE

- 3.1 Appropriate PPE should always be used when working within any of the above zones. Mobile phones should not be taken into any zone or area where there is a potential for an explosive atmosphere to develop.
- 3.2 Where gas monitoring equipment is used, the persons responsible for planning the work task should ensure that each item of kit is suitable for use in the appropriate zone.

4 EQUIPMENT

- 4.1 Equipment manufactured against the ATEX Product Directive is marked to indicate its 'Category'. The category is used to select the zone or zones in which that particular equipment may be used safely. This is shown in the table below:

ATEX Category / Zone Relationship		
ATEX Category	Permitted Zone of Use	Design Requirements
1G	0, 1, 2	Safe with two independent faults or safe even when rare malfunctions are considered.
1D	20, 21, 22	
2G	1, 2	Safe when foreseeable malfunctions are considered
2D	21, 22	
3G	2	Safe in normal operation.
3D	22	

- 4.2 For further guidance in relation to the selection of equipment for use in potentially explosive atmospheres, consult ESA TCoP 01.