

Exemption: pressure systems forming an enclosure for high voltage equipment

Britain's workplace regulator has granted a legal exemption that will enable the use of more environmentally friendly gases in the electricity distribution network.

The Health and Safety Executive (HSE) [exemption](#) comes into effect today, Wednesday 1 December 2021 and is applicable to any pressure system containing an insulating and interrupting gas and forming an integral part of high voltage (HV) electrical apparatus.

The decision was made by HSE's Product Safety and Market Surveillance Unit, which acts as a policy lead for Pressure System Safety Regulation 2000 (PSSR), after they were approached last year by the Energy Network Association, the body that represents energy suppliers in the UK.

The PSSR aims to guarantee safe design and use of pressure systems, including high voltage pressurised units, that form part of the electrical network across the UK, and that are critical to maintaining supply. Current regulations include an exception, which effectively exempts application of PSSR to high voltage apparatus which have been manufactured to remain sealed, and which contain Sulphur hexafluoride (SF6) – an extremely potent and persistent greenhouse gas, with warming potential 23,900 times that of CO2 and with atmospheric residence of up to 3,200 years.

The use of SF6 is facing increasing restrictions and potential international bans, prompting leading manufacturers to develop new designs of high voltage electrical apparatus using alternative gasses with significantly lower global warming potential.

The Energy Networks Association on behalf of the electricity network operators requested that the exception be extended to include other gases which meet the same technical and safety criteria offered by SF6.

Luke Messenger, a HSE inspector from the Product Safety and Market Surveillance Unit said:

“The new [exemption](#) removes a barrier to technical progress thereby facilitating the removal of SF6. It will help level the playing field amongst the network operators and will bring equipment user legislation (Pressure Systems Safety Regulations 2000) in line with product supply legislation (Pressure Equipment Safety Regulations 2016).

“Allowing use of alternative gasses without requiring these pressure systems to undergo thorough examination will also help avoid customer power outages and reduce the chance of equipment failures, in turn reducing costs that might be passed on to consumers. This decision will also contribute towards the UK’s Net Zero carbon reduction targets.”

Alternative gasses have broadly similar properties, the equipment is designed to the same standards and is still covered by the requirements of Health and Safety Work Act and the Electricity at Work Regulations for maintenance and inspection, therefore the health and safety standards are not going to be affected.

The class exemption is of most relevance to the electricity distribution and transmission network operators represented by the Energy Network Association and the equipment manufacturers represented by BEAMA, but will equally apply to any other dutyholders operating high voltage electrical equipment containing a pressure system at the generation and consumer ends of the electricity network.

The exemption takes effect from Wednesday 1 December 2021 and will remain in force for five years, when it will be reviewed.

1. The Health and Safety Executive (HSE) is Britain’s national regulator for workplace health and safety. It aims to reduce work-related death, injury and ill health. It does so through research, information and advice, promoting training; new or revised regulations and codes of practice, and working with local authority partners by inspection, investigation and enforcement. www.hse.gov.uk
2. More about the exemption referred to in this notice can be found at: <https://www.hse.gov.uk/pressure-systems/pssr-exemption.htm>
3. HSE news releases are available at <http://press.hse.gov.uk>