

EXECUTIVE NOTE

THE CONTROL OF VOLATILE ORGANIC COMPOUNDS (PETROL VAPOUR RECOVERY) (SCOTLAND) REGULATIONS 2011

SSI 2011/418

Background

1. The regulations make further provision for the transposition into domestic legislation of Council Directive 2009/126/EC on Stage II petrol vapour recovery during refuelling of motor vehicles at service stations (PVR II). The purpose of PVR II is to reduce the amount of petrol vapour that escapes to the atmosphere as vehicle tanks are filled.
2. In 2008 the Scottish Government amended the Pollution Prevention and Control (Scotland) Regulations 2000 to require PVR II controls for certain service stations so that existing service stations with an annual petrol throughput of 3,500m³ or more, and new stations with an annual throughput of 500m³ or more are subject to PVR II controls. Similar legislation was introduced by the other UK administrations.
3. The requirements of the Directive extend these controls from 1 January 2012, to cover:
 - new service stations below permanent living quarters or working areas with throughput above 100m³ from 1 January 2012;
 - existing service stations undergoing a major refurbishment with an actual or intended throughput at the time of refurbishment of above 500m³ (or 100m³ if below permanent living quarters/working areas) from 1 January 2012; and
 - existing service stations with an annual petrol throughput of 3,000m³ a year by 31 January 2018.
4. A transposition note has not been prepared, and in the Scottish Government's view the resources required to produce such a note are greater than can be justified by the resulting added benefit to the reader.

Policy objectives

5. VOCs contribute to the formation of ground level ozone which can affect human health, damage plants and is a major component of summer smog. Petrol vapour also contains other substances detrimental to health, such as the carcinogen benzene. The major sources of VOCs, such as road transport and industrial solvents, are being effectively addressed through initiatives and legislation such as the EU Solvents Emissions Directive. Whilst the more minor sources account for a relatively small proportion of the total emissions – service stations account for about 2% - these will become increasingly significant as the major sources continue to decline.
6. The UNECE 1991 VOC Protocol aims to reduce VOC emissions and also ground level ozone concentrations resulting from these emissions. One of the obligations the UK has under the Protocol is to apply measures to control VOC

emissions from vehicle refuelling. The 2008 regulations allow this obligation to be met and the Directive provisions further strengthen the controls.

7. VOCs evaporate from liquid petrol inside the fuel tank of a vehicle, filling the air space above the liquid. When a vehicle is refuelled, the VOCs are forced out by the incoming liquid and, unless controlled, escape into the atmosphere. PVR II requires systems to be fitted to pump dispensers, which will capture up to 90% of the VOCs and return them to the pump. This has benefits both for health and for retailers who can resell the captured VOCs. Losses through VOC escape amount to approximately one litre for every 1,000 litres of petrol dispensed.

Transposition options considered

8. The PPC Regulations as amended in 2008 go further than the Directive requirements in the short term, in that they require PVR II compliance for existing service stations from 2012 with an annual throughput equal to or greater than 3,500m³, in addition to new and refurbished ones. Given this, views were sought during the transposition consultation on whether the requirements of the 2008 regulations should be altered to tie in with the Directive i.e. existing service stations no longer required to comply with PVR II until 31 December 2018.

9. Petrol vapour levels already comply with National Emissions Ceilings Directive requirements and this situation is unlikely to change, therefore postponement of the PVR II requirements would not have any adverse impact on our obligations under that Directive or on air quality generally. At the same time, most operators of the relevant service stations have already started to make the necessary changes to their equipment. Feedback from petrol industry representative organisations suggested that there would be little benefit in postponing the requirements, given that there is a financial advantage to operators from resale of petrol which condenses back into the holding tanks, along with the less tangible but still potentially beneficial projection of good environmental credentials.

10. A cost benefit analysis suggested that the savings from suspension of domestic PVR II requirements for the industry on a UK wide basis, in terms of reduced permit and administration costs, would be a relatively low 300K. Taking all of this into account, it was decided jointly by the UK administrations not to take this course of action.

Financial considerations

11. SEPA estimates that between 400 and 500 petrol stations in Scotland will be required to comply with PVR II, the final number being dependent on the petrol throughput over the three years leading up to January 2012. A UK wide Impact Assessment which accompanied the transposition consultation shows a total present value benefit of between £22-71 million arising from transposition, against a total cost of £53-79m.

11. The typical capital costs of installing PVR II controls are estimated to be around £30,000 for a new service station (or an existing service station installing controls as part of a major refurbishment) with annual throughput of 3,000 to

3,500m³. Annualised costs for such service stations are estimated at around £4,000 per year, giving a cost per tonne of VOC emissions abated of £700 to £1,300 per tonne (depending upon whether the value of the recovered fuel is included).

12. Besides the potential for resale of recovered petrol, there are benefits that cannot be easily monetised such as reduced ozone damage to crops and ecosystems, reduction in climate change effects from a lower warming potential of VOCs and benefits for human health.

Equality impacts

13. Potential equality impacts were considered during the consultation and it is not expected that transposition will have any impact on race, disability or gender.

Small business impacts

14. No small or medium sized petrol stations in Scotland are likely to have the annual petrol throughput necessary for PVR II compliance.