



EUROPEAN COMMISSION  
DIRECTORATE-GENERAL ENVIRONMENT

Brussels, 20 July 2009

## **GUIDANCE NOTE**

**on notifications of exemptions from the vapour pressure requirements for petrol  
pursuant to Article 3(4) and (5) of Directive 98/70/EC relating to the quality of  
petrol and diesel fuels**



## GUIDANCE NOTE

### **on notifications of exemptions from the vapour pressure requirements for petrol pursuant to Article 3(4) and (5) of Directive 98/70/EC/EC relating to the quality of petrol and diesel fuels**

#### **1. INTRODUCTION**

Article 3(4) and (5) of Directive 98/70/EC of the European Parliament and of the Council amended by Directive 2009/30/EC as regards the specification of petrol, diesel and gas-oil<sup>1</sup>, gives Member States the possibility of notifying the Commission that, subject to the Commission's assessment, they intend to exempt petrol placed on the market from the requirement to comply with the summertime vapour pressure limits stipulated in Directive 98/70/EC.

Two specific derogations are possible but only one may be utilized by a Member State. Member States may request a bioethanol waiver that constitutes an increase in the maximum vapour pressure of petrol blended with bioethanol. Alternatively, Member States with low ambient summer temperatures<sup>2</sup> may request a waiver to increase the vapour pressure of blended or non-blended petrol. Approval of both waivers is subject to the Commission's evaluation of the Member State's request. The Commission is required to evaluate the socio-economic, health, and environmental impacts of each waiver and, if a waiver is granted, to evaluate its duration. The evaluation will be based on a comparison of a situation with and without the sought after waiver. Member States currently taking advantage of the low ambient summer temperature waiver must submit a request pursuant to this guidance note to continue applying the waiver.

The purpose of this guidance note is to facilitate the preparation, submission and accurate assessment of the notifications in accordance with Article 3(4) and (5) and to provide guidance to Member States on the content and amount of information to be provided. If the Commission considers that the conditions for an exemption have not been met, it may raise objections within 6 months of receipt of the complete notification. Member States bear the burden of proof that those conditions are fulfilled and must therefore provide the Commission with all the relevant information that it needs to carry out its assessment.

---

<sup>1</sup> OJ L 140, 5.6.2009, p. 88.

<sup>2</sup> Denmark, Estonia, Finland, Ireland, Latvia, Lithuania, Sweden and the United Kingdom



## **2. BACKGROUND**

### **2.1. Air pollution legislation**

Petrol contains a mixture of different volatile organic compounds (VOCs) including benzene which can evaporate from liquid petrol at ambient temperatures. When VOCs evaporate they can contribute to local air quality problems or undergo chemical conversion in the atmosphere and contribute to the formation of ground level ozone by reaction with nitrogen oxides in the presence of sunlight. Ozone is a transboundary pollutant that can be transported large distances in the atmosphere.

Directive 2008/50/EC established a target value (TV) for ozone for the protection of human health of  $120 \mu\text{g}/\text{m}^3$  as a daily maximum concentration measured over an 8-hour period which is not to be exceeded more than 25 times per calendar year. Member States are obliged to take all necessary measures not entailing disproportionate costs to comply with this target by 1 January 2010. In 2007<sup>3</sup> the TV value was exceeded in a significant part of Europe. Exceedances were observed in 17 EU Member States at 27% of monitoring stations providing reports. This affected approximately 28% of the area for which data was reported and approximately 28% of the total population of the EU. Generally, the highest ozone levels were found in southern and central Europe, where widespread exceedances of threshold and target values for the protection of human health occurred. The lowest ozone levels occurred in the Baltic States, Scandinavia and large part of Western Europe.

Directive 2008/50/EC also lays down a limit value for the maximum permitted concentration of benzene in ambient air of  $5 \mu\text{g}/\text{m}^3$  expressed as an annual average. This requirement comes into force from 1 January 2010 but may be extended by 5 years pursuant to Article 22 of Directive 2008/50/EC. In 2006, benzene limit values were exceeded in 16 zones of which 2 zones also exceeded the limit by more than the margin of tolerance. The total population potentially exposed in these 16 zones was 14.5 million people.

Various Community instruments have been implemented to limit VOC emissions including those emitted from the use of solvents in industrial installations<sup>4</sup>, and in paints and varnishes<sup>5</sup>, as well as those emitted by road vehicles<sup>6</sup>. In addition, national limits apply to Member States' total emissions of VOCs pursuant to Directive 2001/81/EC on national emissions ceilings<sup>7</sup>. Each Member State's

---

<sup>3</sup> [http://reports.eea.europa.eu/technical\\_report\\_2008\\_5/en](http://reports.eea.europa.eu/technical_report_2008_5/en)

<sup>4</sup> Directive 1999/13/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations: OJ L 85, 29.3.199, p. 1.

<sup>5</sup> Directive 2004/42/EC on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations: OJ L 143, 30.4.2004, p. 87.

<sup>6</sup> Regulation (EC) N° 715/2007 on the type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 & Euro 6) and on access to vehicle repair and maintenance information, OJ L 171, 29.6.2007, p. 1.

<sup>7</sup> Directive 2001/81/EC on national emission ceilings for certain atmospheric pollutants: OJ L 309, 27.11.2001, p.22.



emission ceiling for VOC emissions must be attained by the end of 2010 and maintained thereafter. According to 2006 data, five Member States have predicted that they will exceed the ceiling by 1-25%. Based on an evaluation of Member State national plans and 2010 VOC projections, it was reported that additional Member States may fail to comply with their respective 2010 ceilings. According to the modelling presented in this evaluation<sup>8</sup>, four additional Member States may be at risk of exceeding their 2010 ceilings by 1-50%. This situation would impact more than 60% of the EU's population.

## **2.2. Petrol vapour emissions and the effect of ethanol**

The vapour pressure of a particular liquid VOC is a measure of how easily molecules evaporate. Where chemically very different compounds are mixed, there is an increased tendency for molecules in the mixture to evaporate and this is observed when ethanol is mixed with petrol. In fact, vapour pressure for bioethanol blends increases in a non-linear manner to a maximum of 8 kPa in addition to the regulated base level of 60 kPa corresponding to a 5-10% bioethanol blend by volume.

An increased vapour pressure of petrol will increase the emissions of hydrocarbons during petrol storage and distribution and refuelling of vehicles and it will also increase the evaporative emissions whilst the vehicle is at rest (so called "diurnal" emissions) and whilst the vehicle is moving (so called "running losses"). These emissions derive from fuel permeation through the plastic and rubber components of the fuel system and breathing losses where petrol vapour is vented from the tank as a function of temperature. Diurnal emissions are captured by the European type approval procedure for passenger cars and light commercial vehicles whilst "running losses" are currently unregulated. Both increase as a function of fuel volatility. Increased temperature will also lead to an increase in overall emissions of petrol vapour.

## **2.3. The "low ambient summer temperature" derogation**

Article 3(4) of Directive 98/70/EC as amended permits a derogation from the general vapour pressure requirements for petrol placed on the market in the EU. However, and where the conditions in Article 3(5) of the Directive are satisfied, a higher vapour pressure limit of 70 kPa may be permitted.

## **2.4. The "bioethanol" derogation**

Subject to the conditions in Article 3(5), Member States may permit an increase in the maximum summertime vapour pressure when bioethanol is blended with petrol. The allowed increase varies according to the precise ethanol content and is tabulated in Annex III of the Directive. The maximum permitted increase is 8 kPa corresponding to 5-6% bioethanol by volume. Member States shall specify the requested vapour pressure change.

---

<sup>8</sup> [http://ec.europa.eu/environment/air/pollutants/pdf/evaluation\\_TechnicalReport.pdf](http://ec.europa.eu/environment/air/pollutants/pdf/evaluation_TechnicalReport.pdf) figure 2.9



### 3. NOTIFICATION PROCEDURE

Member States shall indicate which waiver is desired and the requested maximum vapour pressure and waiver duration. Notifications must be submitted to the Commission by the Permanent Representation of the Member State in question, and not directly by any regional or local authority concerned.

The notification must be marked “Fuel Quality Vapour Pressure derogation – Directive 98/70/EC” and must, in order to be valid as an official notification, be addressed to:

**European Commission, Secretariat-General, 1049 Brussels**

In addition, a fully electronic, text searchable copy of the notification should be sent by e-mail to the mailbox:

**ENV-98-70-VP-WAIVER@ec.europa.eu**

All notifications will be made public via the Commission's Europa and/or CIRCA web sites. Notifications should not exceed 10 pages and may be supported by technical annexes or partial reports that constitute relevant information. The notification and the supporting documents should be submitted in English when possible. The notification and the supporting documents should be submitted in two separate documents.

The Commission will have six months to assess the notifications, starting on the day following official registration by the Commission of an official and complete notification. Where no objections are raised within six months of the receipt of all relevant information, the Member State concerned may apply the requested derogation.

A letter confirming registration of the notification will be sent to the Member State concerned. Where necessary, a letter will be sent specifying any information which is considered to be missing and which therefore would still need to be submitted within the specified deadline. The assessment period will, in that case, start to run on the day following registration by the Commission of the receipt of all requested information completing the notification. If the requested information is not submitted by the deadline set, the right to raise objections is reserved against the aspects of the notification not sufficiently substantiated, and, for reasons of legal certainty, in any case within six months as of the registration of the complete notification. The Commission may also adopt a decision in cases where no objections are raised.

Given the fact that VOC emissions from the storage, distribution and use of petrol arise from activities across a Member State and that emissions in one part of a Member State can affect air quality in other parts (or indeed in other Member States), the Commission requires that any notification should be in respect of the entirety of a Member State's territory.

Prior to the amendment of Directive 98/70/EC, Member States with low ambient summer temperatures could already avail themselves of a waiver pursuant to the provisions of Annex III. These provisions continue to remain in force until such



time as the Member States transpose the amending Directive 2009/30/EC, the deadline for which is 31 December 2010. As such there is no urgency for the Member States to submit notifications with respect to the continued use of this waiver. For such cases notifications should be submitted in the first half of 2010 and by 30 June 2010 at the latest so as to afford the Commission the full six months in which to raise objections before the transposition deadline expires.

In the case where Member States are seeking approval for a bioethanol waiver, they are requested to submit their notifications at the earliest by 1 October 2009 and at the latest by 30 June 2010 if intending to apply the waiver on the date of transposition of the newly amended Directive 2009/30/EC.

Directive 2009/30/EC must be transposed into national law by 31 December 2010 and effectively enters into force on that date in the Member States. A failure to respect the vapour pressure requirements of Directive 98/70/EC after this date will constitute an infringement of Community law unless a derogation is in place.

Pursuant to Article 3(5), the Commission shall assess the desirability and the duration of each derogation requested. If the evaluation of the proposed derogation duration or desirability reveals a potential lack of compliance with Community legislation on air quality or air pollution, then the derogation application will be rejected.

#### **4. INFORMATION REQUIREMENTS FOR BOTH VAPOUR PRESSURE WAIVER TYPES**

The duration and the desirability of waivers will be evaluated in accordance with timetables foreseen for the introduction of amendments to pertinent legislation or results of reporting pursuant to the pertinent legislation. The waiver duration will also be evaluated with respect to the time required to offset socioeconomic impacts.

The assessment of notifications will be conducted in accordance with the following information supplied by the Member States that are common to all evaluation criteria:

- The forecast quantity of petrol to be supplied to retail outlets in the Member State concerned as well as the proportion this represents of the Member State's total amount to be produced during each calendar year for which the derogation is sought.
- The forecast quantity of petrol to be supplied to retail outlets in the Member State concerned, for which a derogation is sought, during each year for which the derogation is sought.
- The quantity of petrol supplied to retail outlets in the last calendar year in the Member State concerned that cannot currently meet the regulated maximum vapour pressure limit and, if applicable, the associated percentage of bioethanol content of that petrol. The quantity of petrol exported in the last calendar year from the Member State concerned and the associated average vapour pressure of that petrol.



- The quantity of petrol forecast to be supplied to retail outlets in the Member State and, if applicable, the associated percentage of bioethanol content that would not meet the regulated maximum vapour pressure limit during each calendar year for which the derogation is sought.

In addition, the assessment of notifications will be conducted in accordance with the following socioeconomic and environmental criteria.

#### **4.1. First criterion – direct socioeconomic problems**

Socioeconomic problems constitute any social, financial or economic impact to implementing the regulated vapour pressure of 60 kPa. Member States must provide information about the impacts on petrol producers and/or petrol suppliers of not having the derogation. Information must be provided about:

- A short description of the technical and market-based difficulties to comply with the regulated maximum vapour pressure of petrol of 60 kPa and the corresponding percentage of Member State petrol to be supplied to retail outlets including, if applicable, information on the expected rate of penetration of bioethanol as a constituent of petrol as defined by Directive 98/70/EC.
- The options available to make the necessary technical adaptations to existing infrastructure and installations associated with petrol production and supply, the requisite durations to make such adaptations in order to comply with the maximum regulated vapour pressure of 60 kPa and the corresponding percentages of Member State petrol to be supplied to retail outlets. This should include an assessment of importing fuel of the necessary quality given that the EU is a net exporter of petrol.
- A short description of the implications on the economic operation of the refinery and supply infrastructure including impacts on employment associated with implementing the above technical adaptations.
- The potential disruption to petrol production and supply associated with implementing the above technical adaptations. The potential for mitigating such disruption via imports of petrol of the requisite quality should be addressed.

#### **4.2. Second criterion – compliance with Community air quality and pollution legislation**

##### *4.2.1. National emissions of VOCs in 2010*

Member States must provide realistic and reliable predictions of their emissions of non-methane volatile organic compounds (NMVOCs) for the year 2010 and state how these predictions compare relative to the emission ceiling stipulated in Directive 2001/81/EC. These estimates of emissions:

- Must be shown to be consistent with the methodologies permitted by Directive 2001/81/EC to satisfy the obligation for the reporting of emissions and emissions projections to the Commission.



- Must include an assessment of the proposed derogation on national NMVOC emissions by assessing the changes in emissions in all relevant emitting sectors. As a minimum, this should cover (1) the storage of petrol at terminals and its distribution to service stations; (2) the storage of petrol at service stations; (3) the fuelling of motor vehicles including accidental spills; (4) evaporative losses for motor vehicles at rest; and (5) evaporative emissions from vehicles in use ("running losses").

Based on reports prepared for the Commission and Member State projections, it is possible that some Member States may not be able to comply with their emission ceiling for NMVOCs in Directive 2001/81/EC. In such circumstances, the Member State must, in its notification, provide information on the additional measures (assuming that the derogation is implemented) it intends to implement so as to demonstrate that it will comply with its emission ceiling in 2010.

#### 4.2.2. *Air quality: ozone*

The Member States are under a duty pursuant to Directive 2008/50/EC to ensure compliance as far as possible with the target value for ozone. In addition, the emissions of ozone precursors in one Member State can contribute to elevated levels of ozone in other Member States. Given this, the following information shall be provided in the notification:

- The impact of the derogation on ozone concentrations in the Member State making the notification relative to the case where no derogation is implemented. Changes in ozone concentration should as a minimum be expressed in a form that enables a simple comparison to the ozone target value in Directive 2008/50/EC. The information is most likely to be in the form of results of recognised air quality models.
- The impact of the derogation on ozone concentrations in other Member States.
- Pursuant to Articles 17(1) and (2) of Directive 2008/50/EC, Member States must take all necessary measures not entailing disproportionate costs to ensure that the target value for ozone is attained by 1 January 2010. Where the target value is exceeded, Member States must ensure that the programme is prepared pursuant to Article 6 of Directive 2001/81/EC and, if appropriate, an air quality plan is implemented in order to attain the target values, except where not achievable through measures not entailing disproportionate costs. In their notification, the Member States should explain
  - (1) How the proposed derogation is compatible with the preceding obligations in relation to the attainment of the ozone target value.
  - (2) Whether the proposed derogation appears in any air quality plan or programme prepared pursuant to Directives 2008/50/EC or 2001/81/EC respectively.
  - (3) Whether additional measures to reduce VOC emissions are envisaged that would outweigh any increase in emissions following implementation of the derogation.



#### 4.2.3. *Air quality: benzene*

An air quality limit value for benzene exists in Directive 2008/50/EC which must be attained by 1 January 2010 although this deadline may be extended by 5 years subject to certain conditions defined in Directive 2008/50/EC. In respect of their obligation to ensure compliance with this limit value, the Member States' notifications must provide the following in respect of the proposed derogation:

- Information regarding any exceedences of the limit value (or limit value plus margin of tolerance) for benzene in air in recent years. This should be based on assessments and reports made pursuant to Directive 2008/50/EC (or earlier legislation).
- Quantification and a short description of the associated methodology used to quantify the expected increase in benzene concentrations at locations where such concentrations may be elevated compared to general background levels and where there may be a greater risk of the limit value being exceeded. This should include locations in the vicinity of service stations or other major sources of benzene emissions such as petrol manufacturing and storage installations.
- An assessment as to the impact of the derogation in relation to compliance or otherwise with the air quality limit value for benzene in 2010.
- Where there is a risk of non-compliance with the limit value in 2010, what additional measures are being considered to outweigh the additional emissions caused by the derogation and to ensure that compliance is achieved?