

**EXPLANATORY MEMORANDUM TO**  
**THE TRACTOR etc (EC TYPE-APPROVAL) (AMENDMENT) REGULATIONS 2006**  
**2006 No. 2533**

1. This explanatory memorandum has been prepared by the Vehicle Certification Agency, an Executive Agency of the Department for Transport, and is laid before Parliament by Command of Her Majesty.

**2. Description**

These Regulations amend the Tractor etc (EC Type-Approval) Regulations 2005 (“the 2005 Regulations”), in order to implement, for the purposes of the type approval of tractors and similar vehicles, Directive 2005/13/EC, which amends Directive 2000/25/EC to set revised emissions limits for tractor engines, together with 2005/67/EC and 2006/26/EC, both of which simplify, update and consolidate existing requirements. They also revoke the Agricultural or Forestry Tractors and Tractor Components (Type Approval) Regulations 1988 (“the 1988 Regulations”) and Regulations which will be spent on the revocation of the 1988 Regulations.

**3. Matters of special interest to the Joint Committee on Statutory Instruments**

None.

**4. Legislative Background**

4.1 This legislation implements Directive 2005/13/EC relating to the emissions of gaseous pollutants, and also implements Directives 2005/67/EC and 2006/26/EC, which make minor updating and simplifying amendments to a number of other listed requirements. The 1988 Regulations and related Regulations are also revoked.

4.2 Directive 2003/37/EC, which replaces Directive 74/150/EEC, provides for a system of type approval to be applied for tractors and similar agricultural vehicles, which must therefore be of a type approved as conforming to this Directive before being registered, sold or entered into service for the first time. In order to be so approved, a vehicle must comply with technical requirements specified in other Directives, called the “Separate Directives”, listed in Annex II, Chapter B of the Directive 2003/37/EC.

4.3 Directives 2005/13/EC, 2005/67/EC and 2006/26/EC amend, amongst other things, the Separate Directives listed in this Annex in order to update the technical requirements.

4.4 It is a requirement of the EC type approval system that transposition of this Directive must be carried out.

4.5 The 2005 Regulations implement Directive 2003/37/EC in respect of tractors and similar vehicles, and the related Separate Directives. In addition to the amendments set out at 4.3 these amending Regulations amend the 2005 Regulations to

reflect changes made to 2003/37/EC by 2005/13/EC and 2005/67/EC. The detail of the changes made by 2005/13/EC, 2005/67/EC and 2006/26/EC to the directives they amend is set out in the Transposition Note which has been prepared to accompany the amending Regulations. These amending Regulations also revoke the 1988 Regulations (and Regulations which will be spent once the 1988 Regulations are revoked), which recognized the European type approval system introduced by 74/150/EEC (which was repealed by 2003/37/EC), but which did not require compliance with the system in order that a vehicle may enter service. The 2005 Regulations require compliance to the specified Standards in order that a tractor or other machinery may enter into service. So the 1988 Regulations have now been made redundant, and may thus be revoked in order to simplify the legislative structure.

4.6 Like the 2005 Regulations, these Regulations are made under the powers conferred by section 2(2) of the European Communities Act 1972.

## **5. Extent**

This instrument extends to all of the United Kingdom.

## **6. European Convention on Human Rights**

This instrument is subject to negative procedure and does not amend primary legislation. Therefore, no statement as to compatibility has been made.

## **7. Policy background**

7.1 As a member State of the European Union, the UK is required to transpose the type approval requirements as specified by Directive 2003/37/EC and the Separate Directives. These requirements are from time to time refreshed with amending Directives.

7.2 Directive 2005/13/EC amends the requirements relating to the emissions of gaseous pollutants in order to align these with the requirements made (in Directive 97/68/EC) for similar engines used in non-road mobile machinery ('NRMM') in order to simplify the market for the many manufacturers who make equipment for both categories. This will avoid the need to make similar machinery with minor amendments to comply with the differences previously stipulated between the two systems. It also allows the use of a 'flexibility scheme' to allow manufacturers to place into service a limited number of engines that do not comply with a new limit level, thus avoiding wastage, and also provides that replacement engines need only comply with the limit values that applied to the engine they replace when that first entered into service.

Directives 2005/67/EC and 2006/26/EC each make amendments to a number of Directives in order to simplify the requirements: for instance by permitting alternative lighting layouts, to clarify the testing procedures to be followed, or to update references to the various Standards used, such as OECD and ISO.

7.3 By making the changes set out in regulations 2 to 4, these Regulations ensure that Directives 2005/13/EC, 2005/67/EC and 2006/26/EC will be taken into account as far as the type approval of tractors and similar vehicles is concerned.

7.4 These Regulations amend only the UK legislation relating to the type approval of tractors and similar vehicles. Another SI deals in more specific terms with the

requirements relating to emissions of tractor engines contained in Directive 2005/13/EC (the Agricultural or Forestry Tractors (Emission of Gaseous and Particulate Pollutants) (Amendment) Regulations 2006 (S.I. No. 2393 of 2006) (“the Emissions Regulations”).

7.5 Implementation of these Directives is mandatory. The UK has no option other than to transpose them into national legislation. In a case such as this where the scope of transposing in different ways is severely limited given the nature of the existing type approval legislation, it is not considered appropriate to conduct a formal consultation exercise, but it has become usual to advise the appropriate sector of industry of the necessary changes and ask their opinions. Following this practice, a notification letter was sent by the Vehicle Certification Agency on 25<sup>th</sup> August 2006 to the Agricultural Engineers Association (“AEA”) in order to advise of the imminent transposition and to invite any comment. The AEA was also informed that it was intended that the 1988 Regulations should be revoked. They have made no response.

## 8. **Impact**

8.1 There will be an impact on the costs to businesses as a result of the measures contained in Directive 2005/13/EC, which is detailed in the Regulatory Impact Assessment attached. This RIA was prepared for the transposition of 2005/13/EC in so far as it was transposed by the Emissions Regulations. It is appropriate also for the type approval Regulations in respect of their application to emissions requirements.

8.2 There will be no impact as a result of the minor simplification and updating measures contained in 2005/67/EC and 2006/26/EC, so no RIA has been prepared in respect of these Directives.

8.3 There will be no impact on the public sector.

## 9 **Contact**

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**REGULATORY IMPACT ASSESSMENT  
NEW EMISSION STANDARDS FOR AGRICULTURAL AND FORESTRY  
TRACTORS (EU DIRECTIVE 2005/13/EC)**

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## **1. TITLE OF PROPOSAL**

The Agricultural or Forestry Tractors (Emission of Gaseous and Particulate Pollutants) (Amendment) Regulations 2006, implementing Directive 2005/13/EC of the European Parliament and of the Council concerning the emission of gaseous and particulate pollutants by engines intended to power agricultural or forestry tractors. Directive 2005/13/EC will also amend Annex I to Directive 2003/37/EC of the European Parliament, concerning type approval of agricultural or forestry tractors.

## **2. PURPOSE AND INTENDED EFFECT**

### **2.1. The Objective**

This proposal aims to reduce emissions of Oxides of Nitrogen (NO<sub>x</sub>) and Particulate Matter (PM) from the engines of new diesel agricultural and forestry tractors and provide a single market for tractor engines. It will introduce further emission limits in three stages, which will apply to the whole of the UK.

### **2.2. Background**

#### **2.2.1 Air quality objectives**

Clean air is essential for quality of life. European, international and national legislation set legally binding health and ecosystem based objectives that the UK and other countries have agreed to achieve.

Latest projections, which include already agreed measures, predict difficulties in achieving EU legally binding air quality objectives for concentrations of nitrogen dioxide (NO<sub>2</sub>) and particles (PM<sub>10</sub>) in various areas in the UK. The objective for ozone (O<sub>3</sub>), of which NO<sub>x</sub> is one of the two main precursors, is also unlikely to be met in a large part of England. 122 Local Authorities (LAs) in Great Britain have declared Air Quality Management Areas (AQMAs) for NO<sub>2</sub> and/or PM<sub>10</sub> and are implementing air quality action plans to pursue these objectives. Although tractor emissions are small when compared against emissions from transport they are not insignificant. As tighter emission standards take effect for road vehicles the relative significance of tractor emissions will increase unless further measures are taken to reduce them.

In addition to concentration based objectives, the UK is signed up to a legally binding ceiling on total annual emissions of NO<sub>x</sub> (1167 kilotonnes to be achieved from 2010 onwards) under the EC National Emission Ceilings Directive. There is a significant risk that the UK will not meet its target. In addition the National Emission Ceilings Directive is likely to be reviewed in the near future. There is likely to be increasing pressure from Europe to agree further reductions in NO<sub>x</sub> emissions to reduce the human health effects of NO<sub>2</sub>, ozone and particles, and to reduce the environmental effects of nitrogen deposition.

#### **2.2.2 EU & US Emissions Standards**

EU Directive 2000/25/EC sets mandatory emissions standards which must be met by new agricultural tractor engines. This Directive was transposed into UK law by SI 2002/1891, "Agricultural or Forestry Tractors (Emission of Gaseous & Particulate Pollutants) Regulations 2002". It aligned diesel emission standards for tractors with non-road mobile machinery (bulldozers, excavators, forklift trucks, loading shovels, portable generator sets and portable

air compressors) set by EU Directive 97/68/EC. Emission standards were tightened in two stages (I and II) between 31st December 2000 and 31<sup>st</sup> December 2002. They regulate the maximum allowable emissions of NO<sub>x</sub>, PM, hydrocarbons (HC) and carbon monoxide (CO). Stage I is already in force for all engine categories and Stage II has now entered into force for almost all engines. Stage I & II are predicted to bring about major reductions (>50%) in emissions from this sector of machinery. Both Stages are aligned with US regulations, allowing manufacturers to sell the same products in both markets.

The regulations banned the initial entry into service of engines that did not meet emission standards on specific dates. However, Member States were allowed to postpone such dates by up to two years. The proposed draft regulations will impose new emission standards aligned with recently tightened limits for non-road mobile machinery (NRMM) in Directive 2004/26/EC which brings in tighter emission standards in three stages (IIIA, IIIB and IV) to be phased in between 31<sup>st</sup> December 2005 and September 2014. These standards are also aligned with recently introduced US Tier III & IV standards.

Harmonised standards allow off-road engine manufacturers to produce common products for use in NRMM and tractors in both EU and US markets. This is particularly important for this industry where product volumes are lower than in the on-road sector. It ensures that manufacturers have access to both markets and reduces the unit cost impact of complying with emissions standards.

We have explored ways of simplifying current legislation when transposing the new requirements. Our draft legislation therefore provides a consolidated table of emissions standards imposed by both the latest and earlier directives. These tables identify the limits that specific engines must meet, based on power output, their date of production and entry into service. This should significantly improve ease of reference, as details of current emission standards for earlier, current, future tractor models may be found in one document. However, the latest and earlier directives specify binding EU requirements, which must be implemented in UK law. There are no national tractor emissions requirements which could be relaxed or repealed. Consequently, no other simplification measures are possible.

## **2.3 Risk assessment**

*The proposed Stage IIIA, IIIB & IV standards reduce NO<sub>x</sub> and PM emissions: the two main pollutants emitted by diesel engines of continued air quality concern.*

### **2.3.1 Short term health effects**

Air quality has serious implication for people's health. DoH's Committee on the Medical Effects of Air Pollutants (COMEAP) estimated the number of deaths and hospital admissions for respiratory diseases affected per year (in 1996) by PM<sub>10</sub>, NO<sub>2</sub> and Ozone. They were:

PM <sub>10</sub>	Deaths brought forward: 8,100 (GB urban). Hospital admissions (respiratory) additional or brought forward: 10,500.
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NO<sub>2</sub><sup>1</sup> Hospital admissions (respiratory) additional or brought forward: 8,700.  
Ozone<sup>2</sup> Death brought forward: between 700 and 12,500 depending on threshold for health effects.

Hospital admission (respiratory) additional or brought forward: between 500 and 9,900 depending on threshold for health effects.

COMEAP has also recently concluded that PM<sub>10</sub> may be associated with cardiovascular hospital admissions.

### ***2.3.2 Long term/chronic health effects***

Whilst emissions have decreased substantially since 1996, COMEAP have also said that long-term exposure to air pollutants is likely to damage health and reduce life expectancy. Such effects are not included in the above figures, however, when quantified they represent the majority of the health impacts attributed to air pollution and substantially increase the magnitude of the health effects of air pollution.

There is evidence from the United States that long term exposure to particulate air pollution is associated with a decrease in life expectancy. In addition, whereas acute effects are mainly experienced by the elderly and those in poor health, studies have shown that chronic effects can also be experienced by people in 'typical health' rather than particularly poor health, thus affecting a larger proportion of the population. In 2001 the COMEAP published a report on the long-term effects of particles on mortality (Department of Health, 2001). COMEAP concluded that it was likely that long-term exposure to particles reduced life expectancy. Hence, since 2001 the Interdepartmental Group on Costs and Benefits and Air Quality (IGCB) has followed the COMEAP recommendation and quantifies the long-term mortality effects from reductions in PM<sub>10</sub> emissions in any benefits assessment<sup>3</sup>.

However, these health effects are due to emissions from all sources of which tractors are only a small part. Health evidence is not sufficiently definitive to judge exact health impacts from tractor emissions. Although tractors do not produce emissions in urban areas, they do contribute to background pollutant concentrations, increasing the risk of exceedances of air quality targets in urban areas. In addition, there are no threshold concentration levels below which PM<sub>10</sub> has no effect on health. Therefore reductions below air quality target values also deliver health benefits. Furthermore NO<sub>2</sub> is an ozone precursor and projected exceedances of ozone targets are widespread and are not limited to urban areas.

## **2.4 Main Provisions of the Proposal**

Directive 2005/13/EC contains 3 stages of future emissions limits (Stage IIIA, IIIB & IV) applying to tractors already within the scope of Directive 2000/25/EC.

### **2.4.1 Stage IIIA**

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<sup>1</sup> The reliability of the estimate for NO<sub>2</sub> is much less certain and ought to be considered with care.

<sup>2</sup> Estimates for O<sub>3</sub> are presented as NO<sub>2</sub> is a precursor for O<sub>3</sub>. It should be noted that a large component of O<sub>3</sub> has a transboundary nature. EU wide measures to reduce emissions of precursors, such as Euro standards, would eventually benefit the UK as well. Latest health studies indicate that no threshold might exist for O<sub>3</sub>. If this is confirmed the top figure of the range given above will apply.

<sup>3</sup> An Economic Analysis to inform the review of the Air Quality Strategy Objectives for Particles, A second report of the IGCB group, DEFRA, September 2001.

Stage IIIA will come into force in 2006-8, tightening NOx limits by 30-40% relative to Stage II, but makes no reduction in particulate (PM) limits other than for the smallest engine category (18-37kW). Stage IIIA is aligned with US Tier III emissions limits, so would allow industry to offer a single product in US and EU markets. For small engines (37-75kW) the predicted technology required to meet these limits includes engine modifications, adoption of electronic engine control, improved fuel pumps and limited, uncooled Exhaust Gas Recirculation (EGR). For larger engines which already use electronic engine control, the technology predicted to be adopted includes engine modifications, common rail injection, air-air charge cooling and limited, uncooled EGR.

The standards proposed for the smallest engine category (18-37kW) are those set in US Tier II legislation. This broadly represents reductions of 20% in NOx and 25% in PM relative to EU Stage II. Significant further reductions for the smallest engines are considered impractical, because adding after treatment devices would be disproportionately expensive and low power, frequently 2 cylinder engines cannot practically be turbocharged.

#### **2.4.2 Stage IIIB**

Stage IIIB will come into force in 2010-12 and tightens PM limits by around 90% relative to Stage II & III, but generally leaves other limits unchanged. It is expected that in addition to the technology described above, this would force the adoption of diesel particulate filters (DPFs) on tractors. To ensure reliable operation of DPFs fuel of 10 mg/kg sulphur (virtually 'sulphur free') would probably need to be adopted (tractors currently use gas oil which is regulated to 2000 mg/kg sulphur, falling to 1000 mg/kg from 2008).

DPFs have been developed successfully for the on-road sector and there has been some international experience of traps on non-road equipment. But further work will be required to develop DPFs suitable for all machinery types, including tractors.

#### **2.4.3 Stage IV**

Stage IV tightens NOx limits by 75% on >75kW engines and comes into force in 2013, this is expected to force the adoption of Selective Catalytic Reduction (SCR) de-NOx after treatment systems in addition to DPFs. These systems rely on adding urea to reduce the NOx over a catalyst. This presents a risk that users will not keep urea tanks filled up (tanks might need refilling once a month), meaning that NOx emissions could rise to the levels of a Stage IIIB engine.

#### **2.4.4 Flexibility**

Tractors include some specialised applications produced in extremely low volumes. Regular redesign of products which sell in very small numbers is prohibitively expensive. Flexibility provisions which allow engine manufacturers to sell a small number of old specification engines are included. This provides a supply of engines for low volume products allowing tractor manufacturers to delay redesign of such products.

#### **2.4.5 Durability**

The Directive also introduces emissions durability requirements for tractor engines, requiring manufacturers to demonstrate at the type approval stage that the emissions performance will



be maintained across several thousand hours of operation. The exact procedures for demonstrating this are left at the discretion of the manufacturer and approval authority.

#### **2.4.6 Transient Test Cycle**

For Stage IIIB a new transient test cycle for particulate emissions testing is introduced (to reduce testing burden the same cycle may optionally be used for gaseous emission testing also). This cycle is intended to better represent the tractor operating conditions under which peak particulate emissions occur.

### **3. Consultation**

#### **3.1 Within Government**

The Department for Transport have consulted widely within government during negotiation on the Directive, including DEFRA, DTI, Cabinet Office, FCO and the Devolved Administrations.

#### **3.2 Public Consultation**

The UK consulted a wide range of stakeholders, such as engine and equipment manufacturers, trade and agricultural associations, including the National Farmers' Union. No significant user comments were received during public consultation. Prior to consultation, manufacturers conveyed the view that achieving global harmonisation the most important issue for them. Manufacturers have stressed that the tractor industry has much lower design resource than the on-road sector and also much lower sales volumes to recover development costs. They therefore considered it essential to be able to develop a single product for EU & US markets and supported aligning EU with US-EPA standards.

### **4. OPTIONS**

#### **4.1 Identifying the Options**

This is a "single-market" Directive setting mandatory requirements which the UK is obliged under EU law to implement. The intention of the Directive is to create uniform emission standards for tractor engines across the EC and therefore the options for implementation are very limited.

**4.1.1 Option 1:** Do nothing - do not enact the Directive in UK law.

**4.1.2 Option 2:** Implement the Directive by regulation.

### **5. COSTS & BENEFITS**

#### **5.1 Business sectors affected**

The Directive primarily affects manufacturers of engines for tractors who will have to redesign engines to comply with the new standards. In addition tractor manufacturers will

have to redesign their products to accommodate new engines, the physical dimensions and heat rejection requirements of which will have changed.

UK tractor manufacturers mostly rely on separate engine manufacturers to supply engines. The engine manufacturers obtain engine type approval, which the tractor manufacturer includes for whole vehicle certification. Therefore the directive affects both of these parties. One major UK manufacturer (Case New Holland) produces both engines and tractors. UK engine manufacturers affected are Cummins, JCB, Perkins and Case New Holland. UK based tractor manufacturers affected are Case New Holland, McCormick, International, Trantor and JCB. Importers of tractors must also comply. The proposal will also affect manufacturers of fuel injection systems, turbochargers and exhaust after treatment equipment since these are key components in engine emissions control. The Directive will significantly affect purchasers of tractors and hence certain sectors in the agricultural industry. This is explained in more detail in section 5.3.2.

## **5.2 Benefits**

### **5.2.1 Option 1**

- Economic.

Doing nothing, (not implementing the Directive) would bring no economic benefit.

- Environmental.

This option would result in no environmental benefit and the current level of health impacts and associated costs would still be incurred.

- Social.

This option would result in no social benefit.

### **5.2.2 Option 2**

- Economic

The Directive provides common EU standards and also maintains broad alignment with US emissions limits. Alignment of standards is the highest priority for manufacturers, they consider this to be essential for economic viability and future technological progress. It allows manufacturers to provide common products meeting a truly global market, across the UK, EU and USA for NRMM and tractor applications. Manufacturers benefit from lower costs and simplicity in organising development and production. This means larger sales volumes against which to recoup investment costs and economies of scale in component production cost. This is more crucial for tractors than for car and truck manufacture, where production and sales volumes tend to be much higher. UK companies specialising in catalytic after-treatment systems would have increased market opportunities beyond road vehicles. If tractor manufacturers had to produce separate products to meet non-aligned standards for the UK, Europe and the USA, then the costs to them would be far higher. Tractor manufacturers cannot give a figure on such costs, but they emphasised that developing separate products for different markets was not commercially viable. The cost, and complexity of redesigning machinery, and providing different components, tooling and extra technical support to meet different standards would deter most, if not all tractor manufacturers from setting up separate

production lines. They would target countries with the best return, ignoring the others, leading to a confused and fragmented market.

- Environmental

The main purpose is to reduce NO<sub>x</sub> and PM emissions, to reduce health effects. Whilst agricultural equipment operates mostly outside areas of poor air quality, NO<sub>x</sub> and PM emissions are not purely a local problem and non-urban NRMM still contributes to background levels of pollution in areas of poor air quality.

Predicted annual emissions savings delivered by each Stage are given in Table 1 (these are cumulative rather than incremental savings for each Stage). Savings for each Stage are quoted relative to a 100% Stage II compliant fleet and are quoted for the year where each Stage reaches it's maximum penetration into the fleet e.g. for Stage IIIA this will be when Stage IIIB enters into force, for Stage IV it will be the year by which the entire fleet is assumed to be Stage IV compliant. To give an indication of the significance of these savings they are also quoted as a percentage of UK total emissions against a 2002 baseline.

	Year	NO <sub>x</sub> (ktonnes )	PM (ktonnes)
<b>Stage IIIA</b>	2011	5.40 (0.3%)	0.1 (0.1%)
<b>Stage IIIB</b>	2014	9.56 (0.6%)	0.47 (0.3%)
<b>Stage IV</b>	2026	21.9 (1.4%)	1.29 (0.8%)

**Chart 1: Annual emissions savings relative to a Stage II compliant fleet**

A full analysis of monetary benefits from emissions reduction requires a detailed benefits assessment of air quality at a spatial level. This would identify the health and environmental benefits from improved air quality. It is not possible to perform this type of assessment due to lack of regional tractor activity data.

As an alternative, it is possible to make use of monetary estimates of damage costs per tonne for different pollutants and compare the costs with the damage costs saved by the new tractor emissions standards. Whilst this is less satisfactory than a detailed benefits assessment it is useful as a guide to the relative costs and benefits of the new standards.

Illustrative damage costs per tonne for PM<sub>10</sub> and NO<sub>x</sub> have recently been estimated for transport. Since the vast majority of emissions from tractors occur outside of urban areas, the damage cost for PM<sub>10</sub> applicable to rural areas has been used. This is lower than the average damage cost and reflects the fact that lower population densities in rural areas mean that emissions of PM<sub>10</sub> there have lower health effects. These damage costs are presented in Chart 2. These are DEFRA's interim damage costs per tonne. Revised estimates will be published in the Air Quality Strategy Review later this year.

Damage costs per tonne from transport in 2010 <sup>4</sup>		
Pollutant	£ per tonne (2005 prices)	
	Central Low	Central High
PM <sub>10</sub> (rural value)	£4,246	£26,955
NO <sub>x</sub>	£200	£1,267

**Chart 2: Damage costs per tonne of pollutant [Source: AEA Technology (July 2004), provisional estimates, discounted values]**

These damage costs are a subset of all the potential damages caused by PM<sub>10</sub> and NO<sub>x</sub> emissions and are therefore likely to be underestimates of the real damage costs per tonne associated with these pollutants. Other caveats associated with these damage costs are detailed in Annex A. In addition, while this analysis focuses solely on costs and benefits to the UK from UK action, due to the trans-boundary nature of air pollution there would be additional air quality benefits to the UK from EU action.

- Social

This option would result in no social benefit.

### 5.3 Costs

#### 5.3.1 Option 1

- Economic

By not implementing this Directive, the UK would incur various costs. It is a mandatory Directive which we are obliged to implement. Failure to do so would lead to infraction proceedings and ultimately fines being imposed by the European Court of Justice that would continue until the Directive becomes effective. Tractors are a small source of UK emissions in NO<sub>x</sub> and PM. But added to overall emissions from all sources, it could contribute to breaching binding air quality standards. This could mean more ECJ fines.

Non-aligned standards would greatly impede fair competition by imposing barriers to the movement of goods in the single European and wider global market. This would considerably reduce the financial incentive for manufacturers to develop new tractors with improved emissions technology. It would greatly increase the complexity of tractor making, with separate products for different countries, meaning lower production and sales volumes for recouping costs

Without controls on emission standards for new engines, old engines or those built for markets outside the EU or United States could be "dumped" on the UK market. This would place manufacturers building machinery with compliant engines at a competitive

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<sup>4</sup> There are a number of important caveats to the damage cost figures that are summarised in Annex A. These need to be taken into account in the interpretation of the benefits. DEFRA's interim damage costs are inflated to 2005 prices and uprated by 2% a year to reflect increasing value of the damage over time.

disadvantage. Should they respond by marketing machinery built to lower standards, they would incur additional costs of manufacturing machinery to two sets of standards (US/EU and UK/developing nations). Consequently the benefits of international harmonisation of emission standards results in lowering development and approval costs for engines, allowing manufacturers to spread development costs, would not be realised.

- Environmental

While there would be no direct cost of not implementing the Directive the UK would not benefit from the emissions reductions that would result from this measure.

- Social

There are no social costs involved in the UK not implementing this Directive.

### **5.3.2 Option 2**

- Economic

During 2004, the latest year for which DVLA figures are available, there were 197,000 tractors registered in the UK. As this fleet is gradually replaced with new tractors meeting the new standards, there will be significant costs to agriculture. However, the impact will vary considerably between farming sectors where reliance on tractors differs widely. For the average farm, the extra costs of compliance with both NRMM and tractors directives will represent 0.2% of total costs. The cereals sector will be most affected with a cost increase of 0.3%. These estimates apply up to 2015 and incorporate Stages IIIA and IIIB, but exclude Stage IV. Pigs, poultry and horticulture sectors are much less reliant on NRMM and tractors and negligible cost increases are expected.

The agriculture industry may also face increased fuel costs (included in the above estimates) once Stage IIIB enters into force. Whilst Directive 2005/13/EC does not specify improved fuel quality, technology for Stage IIIB is predicted to require sulphur free fuel to operate reliably. The Commission have indicated that they will introduce a directive to mandate such fuel quality for non-road mobile machinery and tractors at a later date subject to the requirement for the fuel being confirmed. However, this will not apply until 2009 or later.

Under regulations being prepared, the oil industry is required to introduce sulphur free fuel for road use from 2006 with all road fuel having to comply from 2009. However, it seems unlikely that petroleum companies would switch any gas oil (used for industrial and space heating, NRMM and tractor fuel, also known as 'red' diesel) to sulphur free, before the EU makes it compulsory or there is a significant demand from users, due to the increased costs of production. Since heating is estimated to represent two thirds of demand, and the molecules within gas oil are harder to desulphurise than those in road diesel, the oil industry is likely to continue to meet heating demand by supplying high sulphur gas oil. The sulphur content of gas oil is due to be reduced from a maximum of 2000ppm to 1000ppm in 2008, though that is not related to the tractor proposals. Given the increased difficulty in desulphurising gas oil and the fact that the UK is a net importer of diesel, demand for sulphur free tractor fuel is most likely to be met by importing sulphur free diesel. It is extremely unlikely that all gas oil supply (including heating oil) would be switched to sulphur free since this would be much more costly than supplying 1000ppm sulphur gas oil for heating and sulphur free diesel for tractors.

The additional cost of using sulphur free gas oil is difficult to predict and will be determined by a variety of variable factors. The difference in current trading prices of road fuel and gas oil imply a cost increase of around 1.4p/l, but where ultra-low sulphur gas oil is supplied at present, it costs around 3p/l more than standard gas oil. If demand for sulphur free is low (e.g. only from users of new machinery), this might mean higher distribution costs in supplying an extra grade of fuel in relatively low volumes, making increases closer to the 3p/l level. However, if demand is high (e.g. the Commission mandates sulphur free tractor fuel or when penetration of Stage IIIB or IV tractors into the fleet is high), the cost increase is likely to be closer to the 1.4p/l level. The range of total annual additional fuel costs are presented in chart 3, using 1.4 - 3p/l unit cost increases. These increase until 2022 as tractors meeting the new standards form a larger part of the fleet over time.

	<b>Total additional fuel cost per annum (£million 2005 prices)<sup>5</sup></b>
2010	£0m
2015	£9m - £12m
2020	£18m - £24m

Chart 3: Total additional fuel cost per annum by agrarian sector (DfT)

Additional storage costs will be incurred provided cheaper high sulphur gas oil continues to be available for heating. Gas oil for non-road use qualifies for the rebated excise duty level, regardless of sulphur content, provided it is supplied with the prescribed fiscal markers. Businesses in the supply chain might bear additional costs for installing new storage tanks to separate sulphur free tractor fuel and high sulphur heating gas oil or (in the case of duty suspended installations) for installing facilities to inject the prescribed fiscal marker into road quality diesel as it is transferred to road tankers. Farmers may also face a decision on whether to acquire separate storage tanks for sulphur free fuel for tractors and NRMM, whilst retaining existing tanks to use higher sulphur gas oil for heating. No data is available on the use of gas oil for heating purposes within agriculture, but NFU advise that they believe its use to be minimal outside of the horticulture sector. Tractor use in the horticulture sector is low and is predominantly of smaller tractors to which Stage IIIB, and therefore the requirement for sulphur free fuel, does not apply. If a farmer switched entirely to sulphur free fuel, new tanks would not be needed. His existing tanks could store that fuel, after being emptied and cleaned. If a farmer uses both fuels (and we do not believe this to be common) and did not wish to use expensive sulphur free fuel for heating, then an extra tank to store sulphur free gas oil would be needed. The costs of new tanks to store non-road mobile machinery fuel in the agricultural and other sectors have already been accounted for in the NRMM Regulatory Impact Assessment. A new tank's cost varies from £1058 (5000 litres) to £1665 (10,000 litres). Separate tanks should not be needed to store fuel just to power tractors.

The marking of fuel to indicate that the lower rate of duty has been paid takes place under duty suspension at refineries and import terminals; in addition, where HMRC are satisfied that there is a legitimate business need, and that appropriate controls are in place, distribution terminals may be approved as remote marking premises, allowing duty paid road fuel to be marked and the rebate to be reclaimed as an offset against duty due. Duty suspended installations and remote marking premises might therefore need additional storage tanks to stock two grades of rebated gas oil. However there may be circumstances in which HMRC

<sup>5</sup> These additional fuel costs include a 2% fuel economy penalty which may results from the additional technology

would be prepared to permit the markers to be added when fuel is loaded into tankers. This could reduce the need for additional tankage for sulphur free gas oil, but there would still be a cost in upgrading loading facilities. Upgrading loading facilities at major distribution terminals would cost the petrochemical industry around £10m.

Marking of gas oil after the duty point by anyone other than the person who paid the duty is not permitted. Permitting downstream distributors to mark fuel would make enforcement of the duty regime far more difficult, with many more firms for HMRC to monitor, and the risk of fraud would rise sharply. If distributors with own storage intended to stock both sulphur free gas oil and high sulphur gas oil, they would therefore have to purchase additional storage tanks, which range widely in cost from £10,000 to £200,000, depending on their size. It should be noted that the effect of these costs in the distribution chain are included in the range of unit cost increases used for sulphur free gas oil.

**5.3.2.1 Tractor unit costs increases**

UK manufacturers of diesel engines and machinery for tractors might face increased costs in producing emissions compliant machines. These costs may be passed on to end-users. However, at this stage it is difficult to quantify what these costs might be. As mentioned in section 5.2.2, such costs could be offset by economies of scale from long production runs, as manufacturers develop new models to meet a single standard for three markets, rather than separate ones. Agriculture will be the main user group affected.

There is much uncertainty in estimating the costs of future emissions limits, especially where these would require technology which is yet to be mass produced, such as particulate traps and de-NOx after treatment systems. Available figures on likely costs of these after treatment systems vary greatly, but costs of particulate and de-NOx after treatment systems are expected to be of a similar magnitude. A very rough estimate of £920 per system has been used for 75-130kW engines, as most new tractors fall in this power band. There might be some cost reduction for smaller engines and increases for larger engines. This estimate assumes reasonable optimism in cost reductions from mass production. The following figures are only as a rough estimate and are very sensitive to input assumptions. The average cost of a new tractor is currently £35,000. Increased costs per tractor are estimated to be £440 at Stage IIIA, £1400 at Stage IIIB and £2360 at Stage IV. Annualised costs over the useful lifetime of a tractor are roughly £55 (0.2%) for Stage IIIA, £174 (0.5%) for Stage IIIB and £295 (0.84%) for Stage IV. The estimated total annual cost increases to UK tractor purchasers are given in Chart 4.

<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>£0.6m</b>	<b>£1.2m</b>	<b>£1.9m</b>	<b>£2.5m</b>	<b>£3.1m</b>	<b>£6.2m</b>	<b>£9.3m</b>	<b>£12m</b>
<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>£17m</b>	<b>£21m</b>	<b>£26m</b>	<b>£30m</b>	<b>£33m</b>	<b>£37m</b>	<b>£41m</b>	<b>£45m</b>
<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>			
<b>£46m</b>	<b>£48m</b>	<b>£49m</b>	<b>£49m</b>	<b>£49m</b>			

**Chart 4: Total annual cost increase relative to Stage II [DfT estimate]**

- Environmental

The adoption of particulate trap technology, likely to be required to meet the Stage IIIB limits may result in poorer fuel economy of engines and therefore higher CO<sub>2</sub> emissions, but this is only likely to be in the order of 2%. This corresponds to a total annual increase in carbon emissions of 0.01-0.02 Mtonnes, although as with estimates of total tractor fuel consumption there is a great deal of uncertainty over this estimate. This equates to a social cost of around £1m a year in 2015 rising to £2m a year in 2020.

- Social

There is no additional social cost associated with this Directive.

**5.4 Cost Effectiveness**

The following cost effectiveness figures are calculated using annualised additional technology costs, redesign costs and additional fuel costs. These costs are divided by the lifetime emissions savings from a compliant fleet of machinery.

	<b>NOx (£/tonne)</b>	<b>PM (£/tonne)</b>
Stage IIIA – 2011	£700	£29,100
Stage IIIB – 2014 excluding fuel related costs	£700	£8400
Stage IIIB - 2014 including fuel related costs	£700	£28,300
Stage IV – 2026 excluding fuel related costs	£1000	£11,100
Stage IV - 2026 including fuel related costs	£1000	£28,300

**Chart 5: Estimated cost effectiveness for tractors at each Stage [DfT estimate]**

As indicated earlier, we have monetary estimates of damage costs per tonne for NO<sub>x</sub> and PM<sub>10</sub> (as set out in section 4) and we can compare these with the estimates of costs of abating a tonne of pollutant. This is not intended to replace a detailed benefits assessment but is useful as a guide to the relative costs and benefits of the emissions standards set out in section 5. On this basis, the estimates for cost per tonne for NO<sub>x</sub> are within the range of the damage costs per tonne, and the estimates of cost per tonne for PM are very close to the range. As the damage cost per tonne only cover certain health effects, and there are other important environmental effects, the proposal’s costs are probably justified by the benefits. Actual damage costs for NO<sub>x</sub> especially are likely to be higher than those in 5.2.2 if all the adverse effects could be quantified making the justification for tighter standards stronger. Furthermore, the UK is subject to legally binding total NO<sub>x</sub> emission ceiling (currently under review).

Broadly speaking, the tractors’ directive compares favourably with other schemes for reducing emissions, as the chart 6 below shows.

<b>MEASURE</b>	<b>NOx</b>	<b>PM</b>
<b>TRACTORS’ DIRECTIVE (INCLUDING FUEL RELATED COSTS)</b>		



Stage IIIA	£700	£29,100
Stage IIIB	£700	£28,300
Stage IV	£1000	£28,300
<b>TRANSPORT MEASURES - AIR QUALITY</b>		
Tighter road vehicle emissions standards (Euro V/VI) scenario B - 20-50% reduction in NOx from all diesel vehicles, diesel particulate traps on all diesel cars.	£5900 or less	£29,747 or less
Tighter road vehicle emissions standards (Euro V/VI) scenario G - 69% reduction in NOx from all diesel cars, LGVs, 50% reduction in NOx from HDVs, diesel particulate filters on all diesel vehicles.	£7281 for LGVs (but could be higher)	£29,747

MEASURE	NOx	PM
<b>ELECTRICITY SUPPLY INDUSTRY MEASURES - AIR QUALITY</b>		
Domestic combustion: 100% switch from coal to natural gas.	£2870	£6340 - £26,344
Selective catalytic reduction (SCR) for NOx reductions on iron & steel plant, public power stations, petroleum refining	£2447 - £9056 (depending on the sector)	
Domestic combustion: 100% switch from coal to solid smokeless fuels		£10,384
Industry - low cost filters for small processes		£12,000 - £25,000

Chart 6: costs per tonne in reducing NOx and PM [DfT and DEFRA estimates]

## **6. Small firms' impact test**

As Directive 2005/13/EC reflects mandatory European Commission levels on emission standards, there is no scope for an opt-out. Enterprises most likely to be affected by the regulations are manufacturers of tractors and their engines, but they are large firms. There are uncertainties in assessing the impact on small farmers. Tractor manufacturers have yet to decide whether to pass on the cost of product development to their customers. But these costs might be off-set by economies of scale in making products that meet similar standards for three different markets. Small farmers should not be disproportionately affected, as they are likely to buy fewer tractors, use them longer and consume less fuel. It seems likely that very small farms would hire machines rather than purchase them, so would be unlikely to incur any direct costs of significance from these regulations.

## **7. Competition assessment**

This Directive affects the UK diesel tractor engine market. Stage IIIB and IV will create a market for off-road diesel after treatment systems. It should not have a major impact on competition despite these markets being dominated by a small number of large manufacturers. The cost impact is expected to be similar across all firms and the proposal is unlikely to affect market structure. The proposal will not create higher costs for new manufacturers than for existing manufacturers. However set up costs in diesel engine manufacturing are high which tends to discourage new entrants to the market. The tractor engine market is not characterised by rapid technological change. Generally, changes tend to be in response to legislation.

Although the Directive will not restrict the range of products offered by engine manufacturers it could adversely affect the range of machinery produced by equipment manufacturers if redesign cost for niche products are too high. However, flexibility arrangements in the Directive are designed to address this issue so restriction in product range should not be a problem.

**8. Enforcement and sanctions**

The Agricultural or Forestry Tractors (Emission of Gaseous & Particulate Pollutants) Regulations 2002 are already enforced in the UK by the Vehicle Certification Agency. Enforcement is by means of the type approval regime. Before new models of tractors can enter service, they must be type approved, to demonstrate compliance with regulatory requirements. This will include checking that they are approved to the relevant pollutant emission limits. There are no requirements for enforcement visits to farms. This proposal does not change the sanctions for non-compliance.

**9. Summary and Recommendation**

<b>Option</b>	<b>Total cost per annum Economic, environmental, social</b>	<b>Total benefit per annum Economic, environmental, social</b>
1. Do nothing - do not enact the Directive in UK law.	Infraction costs, daily fine level unknown	None
2. Transpose Directive by UK Regulation	Annualised annual average costs from 2006 to 2026 are £10.8m. But actual costs will start at £0.6m in 2006, rising annually, reaching a total of £48.8m in 2026. Thereafter, costs will remain constant.	21.9ktonnes reduction in annual NOx emissions 1.29ktonnes annual reduction in PM emissions. [see chart 1]

It is recommended that the Directive is transposed into UK regulation. This will benefit engine and equipment manufacturers by ensuring continued alignment of Non-Road emissions legislation with US requirements. In addition it will deliver useful emissions benefits assisting UK in meeting air quality targets and reducing the adverse effects of air pollution on public health. The costs of implementing the directive compare favourably with the monetised health benefits implied by the estimated emissions savings.

**10. Ministerial Declaration**

I have read the Regulatory Impact Assessment and I am satisfied that the benefits justify the costs

Signature.....Date.....

Dr Stephen Ladyman  
Minister of State  
Department for Transport

**11. Contact Details**

Comments or enquiries regarding this RIA should be directed to;

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## NOTES ON USE OF ENVIRONMENTAL DAMAGE COSTS

The values presented in Section 5.22 of the RIA show the environmental costs per tonne of emissions. A central low and central high value is provided. The range refers to a restricted central range, based only on different analysis (of impacts and valuation) for two key health endpoints (acute and chronic mortality). All values are consistent with the analysis within DEFRA report, entitled 'An Evaluation of the Air Quality Strategy' –January 2005.

### Important Caveats

The following notes should be attached to any use of the values:

1. Numbers only include costs that occur in the UK - all trans-boundary pollution and impacts are excluded.
2. Values for NO<sub>x</sub> and SO<sub>2</sub> include secondary particulate (PM<sub>10</sub>) formation (nitrates and sulphates).
3. Values for VOC include ozone formation and effects.
4. Values for NO<sub>x</sub> do NOT include ozone formation and effects.
5. The analysis assumes no threshold of effects.
6. Future life years lost have been discounted using agreed 1.5% discount rate
7. Central low assumes £3100 for death brought forward and £31500 per life year lost, with future life years discounted (1.5%).
8. Central high assumes £110000 for death brought forward and £65000 per life year lost, with future life years discounted (1.5%)
9. All chronic mortality impacts use original PM<sub>2.5</sub> functions for PM<sub>10</sub> pollution data.
10. External costs of air pollution vary according to a variety of environmental factors, including overall levels of pollution, geographic location of emission sources, height of emission source, local and regional population density, meteorology and so on. These numbers take these issues into account to a certain degree only.
11. The numbers exclude several categories of impact. They are therefore a sub-total of overall costs. The key areas excluded are:
  - Effects of NO<sub>x</sub> on ozone formation (note: ozone effects from NO<sub>x</sub> could be positive as well as negative, due to issues with local NO + ozone reactions, and regional precursor levels).
  - Effects on ecosystems (acidification, eutrophication, etc).
  - Effects on cultural or historic buildings from air pollution.

- Chronic mortality health effects from PM<sub>10</sub> on children.
- Chronic morbidity health effects from PM<sub>10</sub>.
- Morbidity and mortality health effects from chronic (long-term) exposure to ozone.
- Change in visibility (visual range).
- Effects of ozone on materials, particularly rubber.
- Non-ozone effects on agriculture.

## ANNEX 2

### IMPLEMENTATION AND DELIVERY PLAN

#### How will success be measured?

1. Our objective is to meet the European Commission's latest emission standards for tractors as set out by Directive 2005/13/EC. The desired outcome is to significantly emissions of oxides of nitrogen and particulates from new diesel tractor engines, while contribution to single market standards. Success will be reflected by the extent to which:
  - Engine manufacturers are able to meet tightened emission standards in three stages from 2006 to 2013:
  - The Vehicle Certification Agency is capable of enforcing the new standards at the type approval stage, prior to new models of tractors being placed on the market.

#### Key milestones with dates for implementation

2. Implementation will be carried out through transposition of Directives 2005/13/EC into the Agricultural or Forestry Tractors (Emission of Gaseous and Particulate Pollutants) (Amendment) Regulations 2006. A draft Statutory Instrument has been prepared and should come into force by October 2006. Engines entering service will need to meet specific emissions standards (Stage IIIA, IIIB or IV), by certain dates, depending on when it was produced and its power output. These dates are shown in the following table:

<b>POWER IN KW</b>	<b>PRODUCTION DATE</b>	<b>DATE OF INITIAL ENTRY INTO SERVICE</b>	<b>ENGINE GROUP &amp; EMISSIONS STAGE</b>
130 ≤P ≤560	On or before 30/12/05	31/12/07 to 30/12/12	H (Stage IIIA)
	31/12/05 to 30/12/10	31/12/05 to 30/12/12	H (Stage IIIA)
	On or before 30/12/10	31/12/12 to 30/12/15	L (Stage IIIB)
	31/12/10 to 30/12/13	31/12/10 to 30/12/15	L (Stage IIIB)
	On or before 30/12/13	31/12/15 onwards	Q (Stage IV)

	31/12/13 onwards	31/12/13 onwards	Q (Stage IV)
75 ≤P <130	On or before 30/12/06	31/12/08 to 30/12/13	I (Stage IIIA)
	31/12/06 to 30/12/11	31/12/06 to 30/12/13	I (Stage IIIA)
	On or before 30/12/11	31/12/13 to 29/09/16	M (Stage IIIB)
	31/12/11 to 29/09/14	31/12/11 to 29/09/16	M (Stage IIIB)
	On or before 29/09/14	30/09/16 onwards	R (Stage IV)
	30/09/14 onwards	30/09/14 onwards	R (Stage IV)
56 ≤P <75	On or before 30/12/07	31/12/09 to 30/12/13	J (Stage IIIA)
	31/12/07 to 30/12/11	31/12/07 to 30/12/13	J (Stage IIIA)
	On or before 30/12/11	31/12/13 to 29/09/16	N (Stage IIIB)
	31/12/11 to 29/09/14	31/12/11 to 29/09/16	N (Stage IIIB)
	On or before 29/09/14	30/09/16 onwards	R (Stage IV)
	30/09/14 onwards	30/09/14 onwards	R (Stage IV)

<b>POWER IN KW</b>	<b>PRODUCTION DATE</b>	<b>DATE OF INITIAL ENTRY INTO SERVICE</b>	<b>ENGINE GROUP &amp; EMISSIONS STAGE</b>
37 ≤P <56	On or before 30/12/07	31/12/09 to 30/12/14	J (Stage IIIA)
	31/12/07 to 30/12/12	31/12/07 to 30/12/14	J (Stage IIIA)
	On or before 30/12/12	31/12/14 onwards	P (Stage IIIB)
	31/12/12 onwards	31/12/12 onwards	P (Stage IIIB)
19 ≤P <37	On or before 30/12/06	31/12/08 onwards	K (Stage IIIA)
	31/12/06 onwards	30/12/06 onwards	K (Stage IIIA)

#### Risk assessment and management

3. There are no risks foreseen in transposing Directive 2005/13/EC, as industry is aware of their content and is already up-to-speed in making the necessary engineering changes to products in order to comply.

#### Who will implement and deliver the initiative?

4. The Vehicle Certification Agency will implement the Directives as part of the mechanism for type-approving new heavy-duty vehicles.

**ANNEX 3**

#### POST IMPLEMENTATION REVIEW

1. Verification that the requirements of Directives 2005/13/EC are being met by tractors entering into service on the UK farms roads will be carried out by the Vehicle Certification Agency and other EU certification agencies by checks on a manufacturer's Conformity of Production (COP).

## TRANSPOSITION NOTE

These Regulations do what is necessary to implement the Directives, including making consequential changes to domestic legislation to ensure its coherence in the area to which they apply.

<b>Commission Directive 2005/13/EC amending Directives 2000/25/EC and 2003/37/EC.</b>			
<b>Article</b>	<b>Objectives</b>	<b>Implementation</b>	<b>Responsibility</b>
Article 1	In so far as relevant to the EC Type-Approval scheme for agricultural or forestry tractors, Article 1 makes amendments to Directive 2000/25/EC in relation to the requirement that type-approval be refused where engine emissions do not meet the standards in Directive 2000/25/EC. Directive 2000/25/EC is a separate directive for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.	Regulation 3 of the Tractor etc (EC Type-Approval) (Amendment) Regulations (“the 2006 Regulations”) amends the definition of “separate directive” in regulation 2(1) of the Tractor etc (EC Type-Approval) Regulations 2005 (“the 2005 Regulations”) so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2005/13/EC which, inter alia, amends 2000/25/EC which is a separate directive.) Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance with a separate directive (including 2000/25/EC) as amended by 2005/13/EC.	The Secretary of State
Article 2	Article 2 amends Annex I to Directive 2003/37/EC. Annex I specifies the contents for the	Regulation 3 of the 2006 Regulations amends the definition of “the Tractor Type Approval	The Secretary of State



	<p>information folder that Article 3(1) of 2003/37/EC requires is submitted by the manufacturer when seeking type-approval. Article 2 and Annex III amend Annex I in so far as Annex I relates to 'Engine'.</p>	<p>Directive" in regulation 2(1) of the 2005 Regulations so that a reference to 2003/37/EC, being the Tractor Type Approval Directive for the purposes of the 2005 Regulations, is to 2003/37/EC as amended by 2005/13/EC. Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance 2003/37/EC as amended by 2005/13/EC.</p>	
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**Commission Directive 2005/67/EC amending Directives 86/298/EEC, 87/402/EEC, 2003/37/EC.**

<b>Article</b>	<b>Objectives</b>	<b>Implementation</b>	<b>Responsibility</b>
Articles 1 to 3	<p>The Articles update Directives 86/298/EEC, 87/402/EEC and 2003/37/EC so that those Directives take account of the decision of the Council of the Organisation for Economic Co-operation and Development ("OECD") of 29<sup>th</sup> March 2005 establishing the new versions of OECD codes for the testing of agricultural and forestry tractors. Directives 86/298/EEC and 87/402/EEC are separate directives for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be</p>	<p>In relation to 86/298/EEC and 87/402/EEC, regulation 3 of the 2006 Regulations amends the definition of "separate directive" in regulation 2(1) of the 2005 Regulations so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2005/67/EC which, inter alia, amends 86/298/EEC and 87/402/EEC which are separate directives.) Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005</p>	The Secretary of State

	<p>complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.</p> <p>Article 1 also amends Directive 2003/37/EC in that it amends Annex II of 2003/37/EC to set out which requirements of Directive 76/115/EC (relating to seat belt anchorages) apply for the purposes of the type-approval scheme set out in 2003/37/EC to certain agricultural and forestry tractors.</p>	<p>Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance with a separate directive (including 86/298/EEC and 87/402/EEC) as amended by 2005/67/EC.</p> <p>In relation to 2003/37/EC, regulation 3 of the 2006 Regulations amends the definition of “the Tractor Type Approval Directive” in regulation 2(1) of the 2005 Regulations so that a reference to 2003/37/EC, being the Tractor Type Approval Directive for the purposes of the 2005 Regulations, is to 2003/37/EC as amended by 2005/67/EC. Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance 2003/37/EC as amended by 2005/67/EC.</p>	
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**Commission Directive 2006/26/EC amending Directives 74/151/EEC, 77/311/EEC, 78/933/EEC and 89/173/EEC.**

<b>Article</b>	<b>Objectives</b>	<b>Implementation</b>	<b>Responsibility</b>
Article 1	Article 1 updates the maximum permissible laden mass and maximum permissible mass per axle values that	Regulation 3 of the 2006 Regulations amends the definition of “separate directive” in regulation 2(1) of the 2005	The Secretary of State

	<p>are specified in Annex I, point 1.2 of Directive 74/151/EEC.</p> <p>Directive 74/151/EEC is a separate directive for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.</p>	<p>Regulations so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2006/26/EC which, inter alia, amends 74/151/EEC which is a separate directive.) Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance with a separate directive (including 74/151/EEC) as amended by 2006/26/EC.</p>	
Article 2	<p>Article 2 amends Directive 77/311/EEC to bring into line the test speed in relation to driver perceived noise levels set out in Annexes I and II of that Directive with other international regulations and standards.</p> <p>Directive 77/311/EEC is a separate directive for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.</p>	<p>Regulation 3 of the 2006 Regulations amends the definition of “separate directive” in regulation 2(1) of the 2005 Regulations so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2006/26/EC which, inter alia, amends 77/311/EEC which is a separate directive.) Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment</p>	The Secretary of State

		of type-approval in accordance with a separate directive (including 77/311/EEC) as amended by 2006/26/EC.	
Article 3	<p>Article 3 amends Directive 78/933/EEC in relation to certain requirements relating to illumination of the vehicles covered by the Directive.</p> <p>Directive 78/933/EEC is a separate directive for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.</p>	<p>Regulation 3 of the 2006 Regulations amends the definition of “separate directive” in regulation 2(1) of the 2005 Regulations so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2006/26/EC which, inter alia, amends 78/933/EEC which is a separate directive.)</p> <p>Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance with a separate directive (including 78/933/EEC) as amended by 2006/26/EC.</p>	The Secretary of State
Article 4	<p>Article 4 amends Directive 89/173/EEC in relation to certain requirements relating to glazing and coupling of the vehicles covered by the Directive.</p> <p>Directive 89/173/EEC is a separate directive for the purposes of the EC type-approval scheme set out in 2003/37/EC and consequently must be</p>	<p>Regulation 3 of the 2006 Regulations amends the definition of “separate directive” in regulation 2(1) of the 2005 Regulations so that it means a separate directive as amended by any Community instrument in force on the date of the making of the 2006 Regulations (including 2006/26/EC</p>	The Secretary of State

	<p>complied with in relation to the granting of type-approval to a vehicle that comes within the scheme set out in 2003/37/EC.</p>	<p>which, inter alia, amends 89/173/EEC which is a separate directive.) Regulation 4 of the 2006 Regulations inserts new paragraph (1A) into regulation 5 of the 2005 Regulations. This has the effect of ensuring the Secretary of State takes any decision on the granting or amendment of type-approval in accordance with a separate directive (including 89/173/EEC) as amended by 2006/26/EC.</p>	
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