



# Vehicle Standard (Australian Design Rule 80/03 — Emission Control for Heavy Vehicles) 2006

as amended

made under subsection 7 (1) of the

*Motor Vehicle Standards Act 1989*

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**Volume 1** contains Clauses 0.1–6  
Volume 2 contains Appendix A  
Volume 3 contains Appendix B  
Volume 4 contains Appendix C  
Volume 5 contains Appendix D and the Notes

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### **0.1 NAME OF STANDARD** [see Note 1]

0.1.1 This Standard is the *Vehicle Standard (Australian Design Rule 80/03 – Emission Control for Heavy Vehicles) 2006*.

0.1.2 This Standard may also be cited as ADR 80/03.

### **0.2 COMMENCEMENT** [see Note 1]

0.2.1 This Standard commences on the day after it is registered.

## **1 SCOPE**

1.1 This vehicle standard prescribes the exhaust emissions requirements for engines used in heavy vehicles in order to reduce air pollution.

## **2 APPLICABILITY AND IMPLEMENTATION**

2.1 This vehicle standard applies to vehicles of the M and N categories, with a GVM greater than 3.5 tonnes, as provided in clause 2.2.

2.2 This vehicle standard applies:

2.2.1 from 1 January 2010 in relation to new model vehicles produced on or after 1 January 2010; and

2.2.2 from 1 January 2011 in relation to vehicles produced on or after 1 January 2011, other than new model vehicles referred to in clause 2.2.1.

- 2.3 For the purposes of clause 2.2.1, a new model vehicle is a vehicle of a model first produced with a date of manufacture on or after 1 January 2010.
- 2.4 To the extent of any inconsistency, the applicability dates specified in clause 2.2 apply in lieu of any dates specified in Appendix A, Appendix B or Appendix C.

### **3 DEFINITIONS**

- 3.1 For the purposes of clause 2.3, “date of manufacture” means the date the vehicle is available in Australia in a condition which will enable an identification plate to be lawfully affixed to the vehicle.
- 3.2 For the purposes of clauses 6.2.5, 6.3.4 and 6.4.3, “reagent” has the meaning defined in section 2 (Definitions) of Annex I to Appendix B.
- 3.3 For the purposes of clauses 6.2.4, 6.3.5 and 6.4.2, “defeat device” has the meaning defined in section 2 (Definitions and Abbreviations) of Annex I to Appendix A and “defeat strategy” has the meaning defined in section 2 (Definitions) of Annex I to Appendix B, as amended by Appendix C.

### **4 REQUIREMENTS**

#### **Requirements for Diesel, Liquefied Petroleum Gas and Natural Gas Engines**

- 4.1 Subject to clauses 4.1.1, 4.1.2 and 4.1.3, engines which operate on diesel, liquefied petroleum gas or natural gas, and which comply with the technical requirements of Appendix A, Appendix B and Appendix C, will be accepted as complying with this vehicle standard.
- 4.1.1 Engines which operate on diesel shall comply with the relevant limit values in row B2 of Table 1 to section 6.2.1 of Appendix A and with the relevant limit values in row B2 of Table 2 to section 6.2.1 of Appendix A.
- 4.1.2 Engines which operate on liquefied petroleum gas or natural gas shall comply with the relevant limit values in row B2 of Table 2 to section 6.2.1 of Appendix A.
- 4.1.3 Engines which operate on diesel, liquefied petroleum gas or natural gas, shall be equipped with an on board diagnostics (OBD) system which complies with the Stage 2 requirements as described in sections 6.5 of Annex I and 3.3 of Annex IV of Appendix B, as amended by Appendix C.

#### **Requirements for Petrol Engines**

- 4.2 Subject to clause 4.2.1, vehicles which operate on petrol and which comply with technical requirements of United Nations – Economic Commission for Europe Regulation No. 83 Uniform Provisions Concerning the Approval of Vehicles with Regard to the Emissions of Pollutants According to Engine Fuel Requirements, Revision 3, incorporating the 05 series of Amendments, and all amendments up to and including supplement 5, will be accepted as complying with this vehicle standard.

- 4.2.1 Vehicles shall comply with the limit values in row “B(2005)” of the table to paragraph 5.3.1.4 of the Regulation.

## **5 EXEMPTIONS AND ALTERNATIVE PROCEDURES**

- 5.1 Any provisions related to the administrative processes for obtaining type approval under a European Commission or Council (EC) Directive, or for obtaining an approval from the United States Environment Protection Authority or from the Japanese Ministry of Land, Infrastructure and Transport, do not apply to this vehicle standard.
- 5.2 Except as provided in 5.2.1, EC, US EPA and Japanese approval certificates alone are not accepted as demonstration of compliance with this vehicle standard.
- 5.2.1 US EPA approval certificates applying to the 2012 Model Year or later may be accepted as demonstration of compliance with the OBD and inducement requirements in clause 6.2.5.1.
- 5.3 The preamble clauses (1) to (20) and Articles 1 to 12 in Appendix A, the preamble clauses (1) to (14) and Articles 1 to 5 in Appendix B, and the preamble clauses (1) to (9) and Articles 1 to 5 in Appendix C, do not apply to this vehicle standard, except for Article 3 and Article 4 of Appendix A.
- 5.4 The reference to “Council Directive 70/220/EEC of 20 March 1970 on the approximation of the laws of the Member States on measures to be taken against air pollution by emissions from motor vehicles” in Part 1 (Scope) of Annex I to Appendix A, and the reference to “Council Directive 70/220/EEC” in Part 1 (Scope) of Annex I to Appendix B, are both amended to read “ADR 79/02, ADR 79/03 or ADR 79/04”.

## **6 ALTERNATIVE STANDARDS**

### **EC Directive (Diesel, Liquefied Petroleum Gas and Natural Gas Engines)**

- 6.1 Subject to clauses 6.1.1, 6.1.2 and 6.1.3, for engines which operate on diesel, liquefied petroleum gas or natural gas, the technical requirements of Directive 2005/55/EC of the European Parliament and Council of 28 September 2005, together with the technical requirements of Commission Directive 2005/78/EC of 14 November 2005 and Commission Directive 2006/51/EC of 6 June 2006, are deemed to be equivalent to the technical requirements of this vehicle standard.
- 6.1.1 Engines which operate on diesel shall comply with the relevant limit values in row B2 of Table 1 and in row B2 of Table 2 to section 6.2.1 of Directive 2005/55/EC.
- 6.1.2 Engines which operate on liquefied petroleum gas or natural gas shall comply with the relevant limit values in row B2 of Table 2 to section 6.2.1 of Directive 2005/55/EC.

6.1.3 Engines which operate on diesel, liquefied petroleum gas or natural gas shall be equipped with an OBD system which complies with the Stage 2 requirements as described in sections 6.5 of Annex I and 3.3 of Annex IV of Directive 2005/78/EC, as amended by Directive 2006/51/EC.

**US EPA CFR (Diesel, Liquefied Petroleum Gas and Natural Gas Engines)**

6.2 Subject to clauses 6.2.1 to 6.2.5 inclusive, for engines which operate on diesel, liquefied petroleum gas or natural gas, the technical requirements of the United States Code of Federal Regulations (CFR), Part 86 – Control of air pollution from new and in-use motor vehicles and new and in-use motor vehicle engines certification and test procedures - Subpart A 40 CFR 86.007-11 Emission standards and supplemental requirements for 2007 and later model year diesel heavy-duty engines and vehicles, are deemed to be equivalent to the technical requirements of this vehicle standard.

6.2.1 Except as provided in 6.2.1.1 and 6.2.1.2, engines shall meet the emission limits specified in 86.007-11 (a)(1), paragraphs (i)(A), (ii)(A), (iii)(A) and (iv)(A) and 86.007-11 (a)(3)SET(i).

6.2.1.1 Engines need not comply with the oxides of nitrogen and particulate limits specified in 86.007-11 (a)(1), paragraphs (i)(A) and (iv)(A), respectively, provided the emissions of oxides of nitrogen and particulates from the engine do not exceed the limits specified for the transient test under either Option 1 or Option 2 in Table 1 when tested in accordance with the transient test cycle specified in Subpart N 86.1333-2007.

6.2.1.2 Engines need not comply with the weighted average emission limits specified in 86.007-11 (a)(3)SET(i), provided the emissions of oxides of nitrogen and particulates from the engine do not exceed the limits specified for the steady state test under either Option 1 or Option 2 in Table 1 when tested to the supplemental emissions test specified in Subpart N 86.1360-2007.

**Table 1 – Emission Limit Options for US Transient and Steady State Tests**

		Emission Limits (g/kWh)	
		Oxides of Nitrogen	Particulates
<b>Transient Test</b>	Option 1	2.0	0.03
	Option 2	3.0	0.01
<b>Steady State Test</b>	Option 1	2.0	0.02
	Option 2	3.0	0.01

6.2.2 Engines shall be tested in accordance with the applicable test procedures as specified in Subpart N 40 CFR 86.1300 series – Emission Regulations for new Otto-cycle and diesel heavy duty engines; gaseous and particulate exhaust test procedures.

6.2.3 Engines which operate on diesel, liquefied petroleum gas or natural gas shall satisfy the relevant useful life provisions, not to exceed test requirements, and

rules regarding use of auxiliary emission control devices applicable to 2007, 2008 and 2009 model year diesel heavy-duty engines and vehicles under CFR Part 86.

- 6.2.4 Engines shall not be equipped with a defeat device or utilise a defeat strategy.
- 6.2.5 Except as provided in 6.2.5.1, engines which operate on diesel, liquefied petroleum gas or natural gas, and which require the use of a consumable reagent in order to achieve the emission limits specified under the standards adopted in clause 6.2, shall be equipped with an OBD system meeting the requirements specified in clause 6.1.3.
- 6.2.5.1 Engines need not comply with the OBD requirements specified in clause 6.1.3 if the engine is equipped with an OBD system with an inducement strategy approved by the US EPA for the 2012 Model Year or later.

#### **Japanese MLIT Regulations (Diesel Engines)**

- 6.3 Subject to clauses 6.3.1 to 6.3.4 inclusive, for engines which operate on diesel, the technical requirements of Japanese Ministry of Land, Infrastructure and Transport Announcement No. 619 of 15 July 2002 (as last amended by Announcement No 872 of 16 August 2005), Chapter 2, Section 1, Article 41 (Emission Control Device), paragraph (5) [JE05-Mode Mean Value Regulations at Time of Completion Inspection, etc. for Diesel Motor Vehicles (with GVM exceeding 3.5 tons)], are deemed to be equivalent to the technical requirements of this vehicle standard.
- 6.3.1 Engines shall also comply with the emission values specified under paragraph (6) [JE05-Mode Upper Limit Value Regulations at Time of Initial Inspection, etc. for Diesel Motor Vehicles (with GVM exceeding 3.5 tons)] when tested in accordance with the Technical Standards Relating to the Safety Regulations for Road Vehicles, Attachment 36, Japanese Technical Standard for 13-Mode Exhaust Emission Measurement for Diesel-Powered Motor Vehicles.
- 6.3.2 Engines shall satisfy relevant useful life provisions, not to exceed test requirements, and rules regarding use of emission control devices applicable to engines meeting the requirements of clause 6.3.
- 6.3.3 Engines shall not be equipped with a defeat device or utilise a defeat strategy.
- 6.3.4 Engines which require the use of a consumable reagent in order to achieve the emission limits specified under the standards adopted in clause 6.3, shall be equipped with an OBD system meeting the requirements specified in clause 6.1.3 or the requirements specified in Appendix D or the requirements specified in the Technical Guideline for Urea Selective Catalytic Reduction System, Kokujikan No 105 of September 14, 2004, as last amended by Kokujikan No 91 of August 26, 2008.

#### **Japanese MLIT Regulations (Natural Gas Engines)**

- 6.4 Subject to clauses 6.4.1, 6.4.2 and 6.4.3, for engines which operate on natural gas, the technical requirements of Japanese Ministry of Land, Infrastructure and Transport Announcement No. 619 of 15 July 2002 (as last amended by

Announcement No 872 of 16 August 2005), Chapter 2, Section 1, Article 41 (Emission Control Device), paragraph (9) [JE05-Mode Mean Value Regulations at Time of Completion Inspection, etc. for Motor Vehicles Fueled by Other Fuel (with GVM exceeding 3.5 tons)], are deemed to be equivalent to the technical requirements of this vehicle standard.

- 6.4.1 Engines which operate on natural gas shall satisfy relevant useful life provisions, not to exceed test requirements, and rules regarding use of emission control devices applicable to engines meeting the requirements of clause 6.4.
- 6.4.2 Engines shall not be equipped with a defeat device or utilise a defeat strategy.
- 6.4.3 Engines which require the use of a consumable reagent in order to achieve the emission limits specified under the standards adopted in clause 6.4, shall be equipped with an OBD system meeting the requirements specified in clause 6.1.3 or the requirements specified in Appendix D or the requirements specified in the Technical Guideline for Urea Selective Catalytic Reduction System, Kokujikan No 105 of September 14, 2004, as last amended by Kokujikan No 91 of August 26, 2008.

#### **US EPA CFR (Petrol, Liquefied Petroleum Gas and Natural Gas Engines)**

- 6.5 Subject to clauses 6.5.1 and 6.5.2, for engines which operate on petrol, liquefied petroleum gas or natural gas, the technical requirements of the United States Code of Federal Regulations (CFR), Part 86 - Control of air pollution from new and in-use motor vehicles and new and in-use motor vehicle engines certification and test procedures - Subpart A 40 CFR 86.008-10 Emission standards for 2008 and later model year Otto-cycle heavy-duty engines and vehicles, are deemed to be equivalent to the technical requirements of this vehicle standard.
  - 6.5.1 Engines shall meet the exhaust emission limits specified in 86.008-10 (a)(1) paragraphs (i)(A), (ii)(A), (iii) and (iv), and the applicable evaporative emission limits specified in 86.008-10 (b).
  - 6.5.2 Engines shall be tested in accordance with the applicable test procedures as specified in Subpart N 40 CFR 86.1300 series – Emission Regulations for new Otto-cycle and diesel heavy duty engines; gaseous and particulate exhaust test procedures.

#### **EC Regulations 595/2009 and 582/2011**

- 6.6 Subject to clauses 6.6.1, 6.6.2 and 6.6.3, the technical requirements of Regulation (EC) No 595/2009 of the European Parliament and of the Council of 18 June 2009 together with the technical requirements of Commission Regulation (EU) No 582/2011 of 25 May 2011 are deemed to be equivalent to the technical requirements of this standard.
  - 6.6.1 Engines shall comply with the relevant limit values in Annex I of Regulation 595/2009, as amended by Regulation 582/2011.

- 6.6.2 Engines shall satisfy relevant useful life provisions and rules regarding the use of emission control devices applicable to engines meeting the requirements of clause 6.6.
- 6.6.3 Engines shall be equipped with an OBD system that complies with the requirements applicable to engines meeting the requirements of clause 6.6.

**UN Regulation No 49**

- 6.7 Subject to clauses 6.7.1, 6.7.2 and 6.7.3 for engines which operate on diesel, liquefied petroleum gas or natural gas, the technical requirements of United Nations Regulation No 49, *Uniform provisions concerning the measures to be taken against the emission of gaseous and particulate pollutants from compression-ignition engines for use in vehicles, and the emission of gaseous pollutants from positive-ignition engines fuelled with natural gas or liquefied petroleum gas for use in vehicles*, incorporating the 05 Series of Amendments onwards are deemed to be equivalent to the technical requirements of this vehicle standard.
- 6.7.1 Engines operating on diesel shall comply with the relevant limit values in row B2 of Table 1 and row B2 of Table 2 to paragraph 5.2.1 of the said Regulation No 49.
- 6.7.2 Engines operating on liquefied petroleum gas or natural gas shall comply with the relevant limit values in row B2 of Table 2 to paragraph 5.2.1 of the said Regulation No 49.
- 6.7.3 Engines which operate on diesel, liquefied petroleum gas or natural gas shall be equipped with an OBD system which complies with the requirements of paragraph 5.4.2 of the said Regulation No 49.