



Fuel quality

Operation of the *Fuel Quality Standards Act 2000*

This annual report is prepared in accordance with section 71 of the *Fuel Quality Standards Act 2000*. It covers the operation of the Act from 1 July 2006 to 30 June 2007.

Purpose of the Act

The purpose of the Act is to regulate the quality of fuel in Australia in order to:

- reduce the level of pollutants and emissions arising from the use of fuel that may cause environmental and health problems
- facilitate the adoption of better engine technology and emission control technology and allow for more effective operation of engines
- ensure that appropriate information about fuel is provided when the fuel is supplied.

The Fuel Quality Standards Regulations 2001 cover the regulation of fuel and fuel additives, the operations of the Fuel Standards Consultative Committee, the publication of notices relating to entries in the Register of Prohibited Fuel Additives, enforcement, and record keeping and reporting obligations.

Fuel quality standards

Fuel Standard Determinations set specific fuel quality standards for petrol, automotive diesel, biodiesel and autogas (liquefied petroleum gas). The determinations specify standards for a range of parameters which address both environmental and operability performance.

The standards for petrol and diesel have been progressively tightened since they were first introduced in 2002 with the regulated levels of sulfur in petrol to be reduced further in 2008 and diesel in 2009. There were no changes to any of the standards during the year.

In response to a request by the Australian Institute of Petroleum for a degree of flexibility in setting olefin specifications, the olefin standard in the *Fuel Standard (Petrol) Determination 2001* was reviewed this year. The minister considered all the issues and, in consultation with the Fuel Standards Consultative Committee, decided that there was insufficient justification to relax the standard, particularly in light of the need for Australia to keep pace with international best practice.



Future fuel standards—research and consultation

Diesohol

The department is in the process of finalising consideration of management options for diesohol. Diesohol is defined in the Fuel Quality Standards Regulations 2001 as a blend primarily comprising diesel and an alcohol. Also known as e-diesel, m-diesel and oxy-diesel, the fuel is used in specially modified compression ignition engines. Diesohol is not currently subject to any formal or accepted industry quality standards, either in Australia or internationally.

Ethanol

The department released a paper for public comment in July 2005 stating the Australian Government's position on a fuel standard for ethanol blended with petrol at 5 per cent (E5) or 10 per cent (E10). The government is in favour of setting a standard for ethanol blend fuel to ensure that the environmental and vehicle operability objectives of the Act are met, and to assist in building consumer confidence by ensuring high quality ethanol blend fuel is available. There was no public opposition to the introduction of a standard. A draft standard was circulated to stakeholders for final comment in May 2007. It is proposed the standard will be harmonised with the American standard (ASTM D4806).

Testing the operation of Australian vehicles on ethanol blend fuels

In March 2007 the Australian Government released the results of expert testing of vehicles using ethanol blend fuels. The testing was carried out in response to the Biofuels Taskforce report to the Prime Minister in 2005. The testing, conducted by Orbital Australia, aimed to validate information available to Australian consumers about the suitability of ethanol blend fuel for cars.

Using the most recent motor vehicle census (March 2006) and information from the Federal Chamber of Automotive Industries (FCAI), the Orbital study estimated that about 7.6 million (60 per cent) of petrol vehicles in Australia are suitable for use with E10. The FCAI confirmed that all new Australian cars are suitable for E10 fuel and that the vast majority of new imported car models sold in Australia today are also compatible with E5 or E10 ethanol blend fuels. Information about the suitability of many vehicles for use with ethanol blend fuel is available from the FCAI, along with manufacturer contact details at www.fcai.com.au/ethanol.

On the basis of the Orbital study, the government continues to recommend that consumers check the FCAI list for information on ethanol use in their vehicle.





Motorists should also consult vehicle manufacturers for specific information about their vehicle's suitability if they have questions. The government is encouraging manufacturers and the FCAI to work with fuel suppliers and retailers to provide information to consumers wherever these fuels are sold.

The government capped the level of ethanol that can be added to petrol at 10 per cent (E10) in July 2003. That cap will remain, as will the requirement to label ethanol blends above 1 per cent. The Orbital tests have established that it would not be appropriate to allow 5 per cent ethanol (E5) to be sold unlabelled.

Health impacts of using ethanol blend fuels

A \$3.9 million study by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Orbital Australia is under way and scheduled to be completed in early 2008. The results will be used in conjunction with other studies, such as the vehicle compatibility study, to inform future ethanol policy decisions. Previous emissions studies have focused on cold climates and do not apply to Australian conditions. Stakeholders were consulted on the methodology for the study and the project steering committee assessed the comments provided for incorporation into the study.

Setting standards for biodiesel blends

The setting of standards for biodiesel blends forms part of the government's response to the 2005 Biofuels Taskforce report. Standards already exist under the Act for 100 per cent biodiesel (B100) and for petroleum diesel, but not for blends of the two. Blends have proliferated on the Australian market and presently include such variations as B5, B20 and B49. This year the department continued consultation to develop a government position on setting standards for biodiesel blends. The department released a discussion paper in December 2006 on standardising diesel–biodiesel blends and, in light of comments from stakeholders, is developing a whole-of-government position paper.

Biodiesel demonstration trial

In response to the report of the Biofuels Taskforce the Prime Minister announced that a biodiesel demonstration trial (of 5 per cent biodiesel blended with 95 per cent diesel) would be undertaken in Kakadu National Park.

Due to extreme flooding, the demonstration trial was unable to go ahead and was relocated to Booderee National Park. This site has easier access and more tourists visit in peak season. The two-year demonstration trial in Booderee is expected to commence in July 2007.

Statutory review of the *Fuel Quality Standards Act 2000*—implementing recommendations

The statutory review of the *Fuel Quality Standards Act 2000* was completed in April 2005. In 2006–07 proposals were developed to implement the review’s recommendations and to address a number of issues that had arisen, independent of the review, through the day-to-day operation of the Act. A draft Bill is scheduled to be introduced into parliament during the spring sittings which begin in August 2007.

Fuel Standards Consultative Committee

Section 24 of the Act establishes a Fuel Standards Consultative Committee as a formal consultation mechanism. The committee is required to include one representative from each state and territory, and the Australian Government. It must also include at least one person representing fuel producers, one representing a non-government body with an interest in the protection of the environment and one representing the interests of consumers. The minister may also appoint other members to the committee, which in 2006–07 included representatives from the motor vehicle manufacturing industry, independent fuel importers and suppliers, the alternative and renewable fuels industry, and the trucking industry.

Table 1 lists members of the committee during 2006–07.

Under section 24A the minister must consult the committee before:

- granting an approval
- making a fuel quality standard
- making a fuel quality information standard
- deciding whether to enter a fuel additive on, or remove a fuel additive from, the Register of Prohibited Fuel Additives
- preparing guidelines for more stringent fuel standards.

Under section 13 of the Act, the committee also provides advice on applications to vary fuel standards including recommendations to the conditions to be applied. In 2006–07 the committee considered and made recommendations on 52 new applications under section 13 (see Table 2).

Monitoring and compliance

Ongoing monitoring tests fuel industry compliance with the fuel quality standards. Fuel samples are taken in all states and territories of all grades of fuel covered by the standards. The monitoring programme aims to take representative samples in each of the fuel markets around Australia as well as responding to complaints made by consumers about fuel.





The Australian Government runs a fuel sampling programme to monitor the quality of fuels sold in Australia. Fuels are sampled throughout the fuel supply chain, including at service station forecourts. Photos: John Guilfoyle

Fuel sampling is undertaken at distribution terminals, depots, service stations and other outlets. Samples are tested for compliance with the standards at an independent laboratory accredited by the National Association of Testing Authorities, Australia. Testing methods are accredited to international standards.

Fuel quality inspectors directly employed by the department and by some state and territory agencies took a record number of samples during 2006–07. Inspectors took 2,321 petrol, diesel, biodiesel and autogas samples from approximately 750 sites around Australia. A total of 145 compliance incident reports were received. In comparison 1,069 samples were taken during 2005–06 from 530 sites, and 160 compliance incident reports were received.

Test results indicate a high level of compliance with the fuel standards. Where non-compliance with a standard is detected, further investigation is undertaken with a view to prosecution where an offence can reasonably be proven.



Table 1: Membership of the Fuel Standards Consultative Committee 2006–07

Member	Representing	Start date	Finish date
Lynden Ayliffe	Chair Australian Government Department of the Environment and Water Resources	18/07/2005	6/06/2007
Paul Kesby	Acting chair Australian Government Department of the Environment and Water Resources	7/6/2007	31/07/2007
Nigel Routh	NSW Government	28/01/2002	15/04/2010
Geoff Latimer	Victorian Government	11/10/2004	15/04/2010
Kelvyn Steer	Tasmanian Government	17/07/2003	2/09/2006
Bob Hyde	Tasmanian Government	27/11/2006	27/11/2009
Kelvyn Steer	SA Government	9/10/2006	9/10/2009
Steven Saunderson	NT Government	22/05/2004	15/04/2010
David Quinlan	ACT Government	22/05/2001	21/06/2006
David Power	ACT Government	9/10/2006	9/10/2009
Fred Tromp	WA Government	10/09/2002	1/12/2006
John Sutton	WA Government	16/04/2007	15/04/2010
Scott McDowall	Queensland Government	22/05/2004	15/04/2010
Stephen Payne	Australian Government Department of Industry, Tourism and Resources	22/05/2004	1/12/2006
Marie Taylor	Australian Government Department of Industry, Tourism and Resources	16/04/2007	15/04/2010
Jon Real	Australian Government Department of Transport and Regional Services	16/04/2007	15/04/2010
David Bowman	Environment non-government organisations	22/05/2004	15/04/2010
Paul Barrett	Fuel producers	18/07/2005	15/04/2010
James Hurnall	Consumer interests	3/02/2004	15/04/2010
Keith Seyer	Light vehicle manufacturing industry	18/09/2003	15/04/2010
Mike McCullagh	Independent petroleum distributors and retailers	3/02/2004	15/04/2010
Stephen Schuck	Alternative fuels	3/02/2003	3/02/2007
John Bortolussi	Truck manufacturing industry	3/02/2004	15/04/2010



Table 2: Approvals granted in 2006–07 for a variation of Fuel Standard Determinations

Company name	Date of approval	Date approval finishes	Variation
South Australian Hot Rod Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Barefoot Racers Club	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Formula Jet Sprint Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Dry Lakes Racers Australia	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Ski Racing Australia	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Powerboat Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Tractor Pullers Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Street Machine Association of South Australia	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Confederation of Australian Motor Sport	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
National Association of Speedway Racing	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Auto-sport Alliance	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Australian Street Rod Federation	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
BSA Motorcycle Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Queensland Racing Drivers Association	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L

Table 2: Approvals granted in 2006–07 for a variation (continued)

Company name	Date of approval	Date approval finishes	Variation
A1 Advanced Automotive	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Competition Engines	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Ford Muscle Parts	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Haddad Race Cars and Engines	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Hercules Competition Engines	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Horsepower Research and Development	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Hume Performance	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
LA Motor Repairs	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Nankervis Performance	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Neil Collins	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Pavtek Engines	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Terry Handley	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Craig's Fibreglass	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Zig's Marine	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L





Table 2: Approvals granted in 2006–07 for a variation (continued)

Company name	Date of approval	Date approval finishes	Variation
BP Refinery (Bulwer Island) Pty Ltd	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to permit the supply of diesel with a density of 810kg/m ³
Mini Racing Australia	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Northern Dynamics Pty Ltd	12/03/2007	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
IOR Energy Pty Ltd	20/12/2006	31/12/2007	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel with a sulfur content of up to 85 parts per million until 31 December 2007. A sulfur content of up to 125 parts per million in Eromanga Underground Mining Fuel will be taken to comply with the sulfur parameter specified in the determination until 30/6/2007
Ipswich City Dirt Kart Club	20/12/2006	31/12/2008	Leaded fuel for motor sports Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Drag Bike Riders Association Australia	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Pitstop Motorcycles	20/12/2006	31/12/2008	Leaded fuel for engine building Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L.
Allica's Motorcycles	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Gene Cook Race Engines	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Galaxy Services	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
The Shell Company of Australia Ltd	11/04/2007	31/10/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel (wintermix) with viscosity 1.4cSt at 40 degrees C, density 800 to 850kg/m ³ , and lubricity 620 mm maximum
Mobil Oil Australia Pty Ltd	11/04/2007	31/10/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel (wintermix) with viscosity 1.4cSt at 40 degrees C, density 800 to 850kg/m ³ , and lubricity 620 mm maximum
BP Australia Pty Ltd	11/04/2007	31/10/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel (wintermix) with viscosity 1.4cSt at 40 degrees C, density 800 to 850kg/m ³ , and lubricity 620 mm maximum

Table 2: Approvals granted in 2006–07 for a variation (continued)

Company name	Date of approval	Date approval finishes	Variation
Caltex Australia Petroleum Pty Ltd	11/04/2007	31/12/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel (wintermix) with viscosity 1.4 cSt at 40 deg C, density 850 kg/m ³ , and lubricity 620 mm maximum
Caltex Refineries (QLD) Pty Ltd	26/07/2006	30/06/2008	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel when cetane is measured by number instead of by index
Stuart Petroleum Ltd	20/12/2006	31/12/2011	Variation of the <i>Fuel Standard (Automotive Diesel) Determination 2001</i> to allow the supply of diesel with a density of not less than 790 kg/m ³
Just Fuel Petroleum Service Pty Ltd	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with an ethanol content of 20% and oxygen content greater than 3.5%
Martini Racing Products Pty Ltd	20/12/2006	21/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with an aromatic content of up to 78% volume by volume and an oxygen content of more than 3.5% mass by mass (for petrol containing ethanol)
Hi-Tec Pty Ltd	21/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with an aromatic content of up to 60% volume by volume oxygen content of more than 2.7% mass by mass (petrol not containing ethanol), or 3.5% mass by mass (petrol containing ethanol); olefins content of up to 37% by volume; MTBE ¹ content of up to 10% v/v
VP Racing Fuels Pty Ltd	12/03/2007	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with lead content of more than 0.005g/L, aromatic content of up to 42% v/v, oxygen content of more than 2.7% mass by mass (m/m) (petrol not containing ethanol), or 3.5% m/m (petrol containing ethanol); olefins content of more than 18%v/v, DIPE ² content of more than 1% v/v; and MTBE content of more than 1% v/v
Shell Global Solutions	12/3/2007	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with MTBE content of up to 15.1% v/v, aromatics up to 53.6%, TBA ³ up to 7%v/v, and DIPE up to 7%.
Netaway Pty Ltd	20/12/2006	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with MTBE content up to 3.6% v/v; ethanol content of up to 13% v/v; and oxygen content of more than 3.5% m/m (petrol containing ethanol)
Netaway Pty Ltd	7/6/2007	21/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more than 0.005g/L
Performance Engineering	7/6/2007	31/12/2008	Variation of the <i>Fuel Standard (Petrol) Determination 2001</i> to permit the supply of petrol with a lead content of more then 0.005g/L

1 MTBE = methyl tertiary-butyl ether

2 DIPE = di-isopropyl ether

3 TBA = tertiary butyl alcohol



