



Australian Government

Department of the Environment and Heritage



*Fuel Quality Standards Act 2000*

## **CLEAN FUELS BULLETIN**

**July 2005**

### ***Fuel Quality Standards Act 2000***

#### Petrol and Diesel Determinations

The Fuel Standard (Petrol) Determination 2001 and Fuel Standard (Diesel) Determination 2001 regulate the quality of petrol and diesel in Australia. The parameter values that are regulated in the Determinations can be viewed by clicking on the links below:

Petrol Determination - <http://www.scaleplus.law.gov.au/html/instrumentsh/0/33/0/2003070101.htm>

Diesel Determination - <http://www.scaleplus.law.gov.au/html/instrumentsh/0/33/0/2002010201.htm>

### ***Review of the Fuel Quality Standards Act 2000***

Section 72 of the *Fuel Quality Standards Act 2000* (the Act) provides for a legislative review to be undertaken as soon as possible after the second anniversary of the commencement of Part 2 of the Act. Section 72 of the Act gives guidance on the performance of the review. Provisions in Part 2 that enable enforcement of the standards commenced on 1 January 2002. The Determinations for petrol and automotive diesel fuel quality standards took effect on this date.

A review panel was established to conduct the review of the Act. The late Dr Brian Robinson AM was appointed the independent Chair of the Panel and was succeeded by Dr Roy Green AO. Mr Peter Burnett of the Department of the Environment and Heritage (DEH), Mr Stephen Payne of the Department of Industry, Tourism and Resources (DITR), and Mr Steve Webber of the Australian Government Solicitor were also appointed as members of the review panel.

This review is now complete and provided an early opportunity to evaluate the operation of the Act and to propose corrective actions. Consideration was given to the effectiveness and efficiency of sections of the legislation in achieving the function for which they were drafted, in the light of experience with administering the statute since commencement.

The review concluded that the overall policy objectives of the Act are being met and should not be altered, although the following issues should be addressed:

- Nationally consistent fuel standards and their application to unincorporated suppliers have not been achieved and there is need for complementary state and territory legislation.
- To reinforce the monitoring and enforcement function of the Act, consideration should be given to an ongoing review of resources for fuel sampling and testing, coupled with cost-effective approaches such as the inclusion of penalty notices.
- To ensure fuel supply in an emergency, a procedure and an emergency provision for off-specification fuel should be developed.
- To ensure that the administrative effort required is in keeping with the objects of the Act, the approvals systems need to be streamlined; and procedures such as the delegation of duties to DEH, notification obligations for Regulated Persons, and the provision of geographical and seasonal variation to standards need to be refined.
- Industry and community communication and education needs to be improved to address stakeholder concerns and ensure continued compliance.

Staff of Clean Fuels and Vehicles will be talking with all jurisdictions on matters concerning the review, particularly with regard to complementary legislation, over the next few weeks.

If you would like a hard copy of the review, please contact Fiona Beynon on 02 6274 1345 or alternatively, a copy can be downloaded from <http://deh.gov.au/atmosphere/cleaner-fuels/publications/fqs-review.html>

### ***Biofuels Taskforce***

The Biofuels Taskforce has been established by the Prime Minister to examine the latest scientific evidence on the impacts of ethanol and other biofuels use on human health, environmental outcomes and automotive operations.

On this basis, and taking into account the most recent economic analyses of fuel supply in Australia, the Taskforce will assess the costs and benefits of biofuels production. It will report to the Government by 31 July 2005.

The membership of the Taskforce and its full terms of reference are available at:

[http://www.pm.gov.au/news/media\\_releases/media\\_Release1407.html](http://www.pm.gov.au/news/media_releases/media_Release1407.html)

The Taskforce invited submissions from interested individuals and organizations by close of business Friday, 24 June 2005.

Following a review of those submissions, the Taskforce may meet with stakeholders to discuss key issues raised in their submissions. Submissions will be publicly available through the Taskforce website, unless marked 'in confidence'.

### ***Management of Motor Sport Fuels that do not comply with the Fuel Standards (Petrol) Determination 2001***

Since December 2002, the use of non-compliant motor racing fuels has been permitted through ministerial approvals under section 13 of the *Fuel Quality Standards Act*.

As reported in the December 2004 issue of CFB, the Government is currently reviewing options to streamline existing management arrangements for motor racing fuels. Any legislative changes will be undertaken as part of the package of legislative amendments following the review of the Act.

As an interim measure, the Minister for the Environment and Heritage has recently approved an 18 months' extension to current approvals permitting the supply of leaded petrol through the Leaded Fuel Passbook arrangement for use in motor sports and by specialist vehicles. The approvals have been granted to 20 Motor Sport Organisations and 20 Race Engine Builders and Tuners respectively.

The Minister has also granted approvals directly to the suppliers of a range of imported and locally manufactured specialist racing fuels.

All motor sport fuel approvals will expire on 31 December 2006, by which time new management arrangements are expected to be in place.

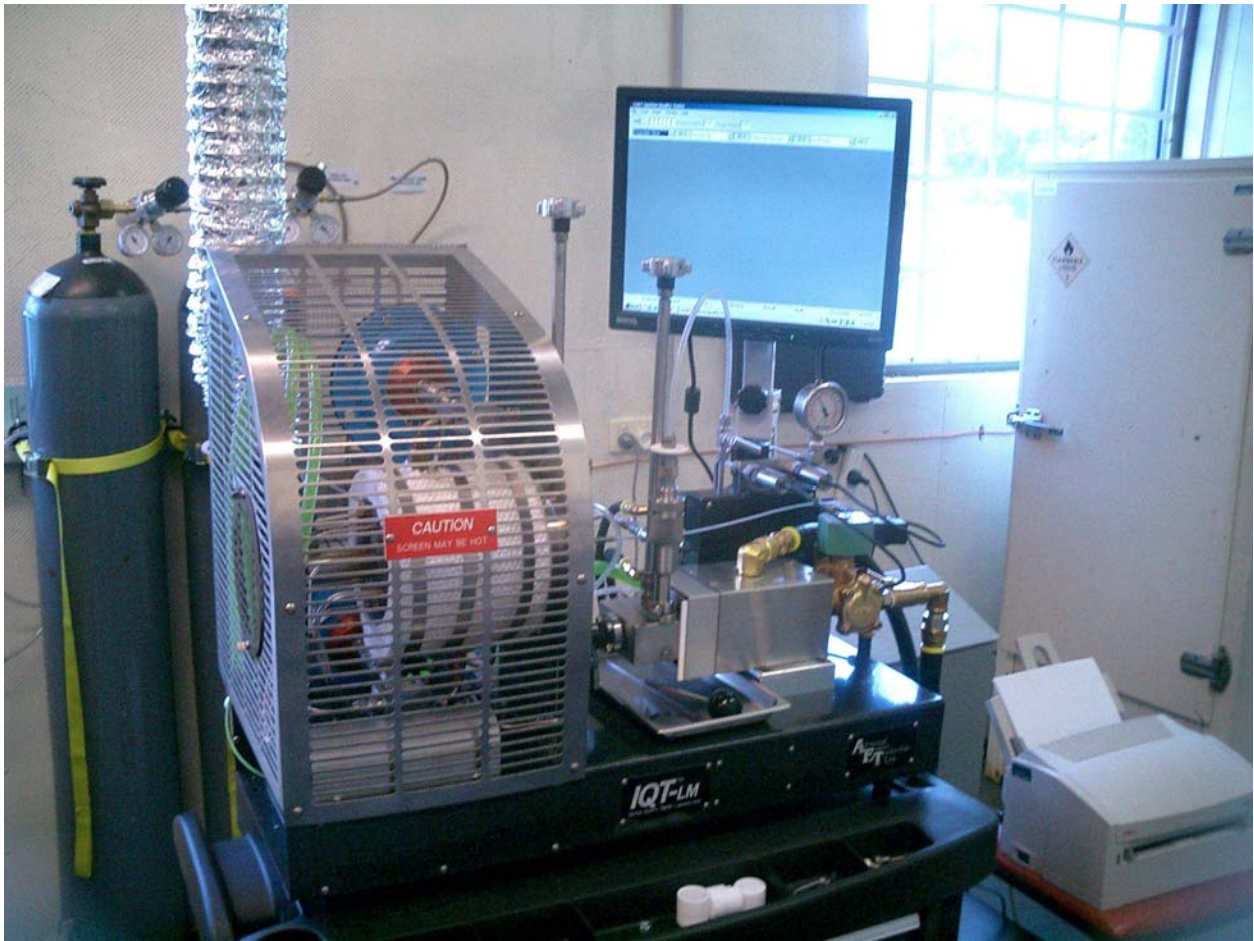
### ***Setting a Fuel Quality Standard for Fuel Grade Ethanol***

Following comments received regarding the Department of the Environment and Heritage commissioned International Fuel Quality Center (IFQC) technical paper on the quality and characteristics of fuel grade ethanol around the world, the Department is pleased to release a [Government position paper](#) for public comment.

Comments received will be treated as public information unless marked as confidential. It is intended that the feedback will be posted in a web forum on the Department website.



## *Diesel fuel quality to be improved with new testing equipment – Australian first*



Australia has taken delivery of its first apparatus to test for the Cetane number of diesel fuels. It will assist in the effort to clean up fuels as part of the Australian Government's national fuel compliance and enforcement program under the *Fuel Quality Standards Act 2000*.

The Canadian made apparatus, known as the Ignition Quality Tester (IQT), is the first of its kind in Australia and heralds a new level of analytical technology for Australia.

The IQT is a compact, combustion based analytical instrument for precision measurement of cetane rating and ignition quality characteristics of diesel and biodiesel fuels and blends. The instrument has a number of advantages over traditional CFR engine test methods.

Testing with the IQT, the Department of the Environment and Heritage will be able to provide a more definite level of assurance that diesel fuels in Australia comply with cetane standards.

Until now, testing of Cetane Index was the only viable way to check the cetane levels in a diesel fuel. Fuels with cetane additives could not be properly tested for cetane as the cetane index test could not provide accurate outcomes. The IQT can test any compression ignition fuel including conventional diesel, biodiesel and blends, mixtures of diesel and alcohol and petroleum diesels with added cetane improver.

In consultation with industry, the Department of the Environment and Heritage will assess cetane number as a replacement or complementary parameter for cetane index in diesel. The Department will also seek advice on an appropriate minimum cetane number(s) should this parameter be adopted for all compression ignition fuels.

Intertek Testing Services (Australia) Pty Ltd brought the IQT to Australia with the assistance of the Department of the Environment and Heritage and it is located at Intertek's Port Melbourne laboratory.

## ***Olefins***

A discussion paper relating to the future management of olefins in petrol is available for public comment. The paper examines the current management trends for olefins and considers options for future management. Olefins are currently set by the *Fuel Standards (Petrol) Determination 2001* at 18% v/v for all grades of petrol.

The Department is seeking comment from interested stakeholders on an appropriate approach to managing the olefin content in petrol. Comment will be used to inform further policy development on this issue, and possible revision of the olefins parameter (in terms of level and/or timing of introduction).

If you are interested in receiving a hard copy of the discussion paper please contact Fiona Beynon on 02 6274 1345. Alternatively, a copy can be down loaded from <http://deh.gov.au/atmosphere/cleaner-fuels/olefins.html>

## ***CNG quality to be managed by existing Australian Standards***

After extensive consultation, the Fuel Standards Consultative Committee recommended that the existing *Australian Standard AS 4564:2003 specification for general purpose natural gas* is sufficient for the quality control of CNG vehicle fuel. Stakeholders support this approach.

The committee concluded that there was little benefit to justify the development (and implementation) of a fuel quality standard under the *Fuel Quality Standards Act 2000* or amending the Australian Standard. It was agreed that the quality of Compressed Natural Gas is already well controlled by an Australian Standard and by industry agreements.

The recommendation to manage CNG quality by the existing Australian Standard has now been supported by the Prime Minister, the Minister for the Environment and Heritage, the Minister for Transport and Regional Services and the Minister for Industry, Tourism and Resources.

For further information and any queries contact Fiona Beynon on 02 6274 1345

## ***Brisbane City Council Commences Diesel Emissions Testing***

Brisbane's Lord Mayor Campbell Newman launched Council's vehicle emissions testing facility on 3 June. Targeting heavy diesel vehicles, the facility is transportable and available for use by both internal and external fleets, making it the first of its kind in Queensland. The Department of the Environment and Heritage provided over \$1.5 million for the purchase of emissions testing equipment.



Lord Mayor Campbell Newman speaking at the opening of Brisbane City Council's heavy diesel vehicle emission testing facility (Photo courtesy of C. Heathcote)

Diesel vehicles, particularly when not well-maintained, make a disproportionately high contribution to air pollution and have the potential to cause adverse health effects and detract from urban amenity. As such, the reduction of diesel emissions is a priority for the Council as part of the Brisbane Air Quality Strategy. The vehicle emission testing facility demonstrates Council's ongoing commitment to reduce air pollution from diesel vehicles and follows other successful Council initiatives such as the provision of gas buses and the introduction of cleaner ultra-low sulfur diesel.

Emission testing will enhance vehicle maintenance, assist fleet managers to improve maintenance procedures through diagnostic information about the vehicle and will provide better fuel efficiency and improved longevity of vehicles. Emissions testing will also enable evaluation of the benefits of alternative fuels.

The facility will be able to provide the emission testing service referred to in the Federal Government's Energy White Paper *Securing Australia's Energy Future*. From 1 July 2006, to be eligible for excise credits, users must establish that their heavy vehicle is not a high polluter. Passing the Diesel NEPM in-service emission standard (the DT80) is one of five acceptable criteria for excise credit eligibility.

Under the Measures for a Better Environment Program, the Australian Government has allocated over \$20 million to support the development and implementation of emissions testing. In addition to Brisbane City Council, funds have been provided to support projects in New South Wales, South Australia, Western Australia and Victoria.

### ***Non-Road Emissions Study***

Urban air quality in Australia is partly managed through new vehicle emission requirements under the *Motor Vehicle Standards Act 1989* in conjunction with the *Fuel Quality Standards Act 2000*. There are internal combustion engines that are not subject to the Motor Vehicle Standards Act and which therefore are effectively exempt from emission requirements. Recent studies have indicated that the emissions from the non-road engine sector may form a significant contribution to urban air pollution and hence may be contributing to associated environmental and health problems.

The Department has commissioned Pacific Air and Environment Pty Ltd to produce a report that quantifies the role of non-road engine emissions in urban air quality and presents potential management options. For the purposes of this study, the definition of 'non-road engine' is assumed to be an internal combustion engine (spark or compression ignition) not primarily used to power a goods or passenger vehicle on a roadway. The definition includes locomotives in the urban area.

Clean Fuels and Vehicles officers will be discussing non-road emissions with their counterparts in the States and Territories over the next few weeks.

The report is due for completion by the end of August 2005. Once accepted, a copy will be made available on the DEH web site. For any queries, please contact Fiona Beynon on 02 6274 1345.

### ***Biodiesel Fuel Quality Standard***

The Fuel Standard (Biodiesel) Amendment Determination 2004 was tabled in Parliament on 8 February 2005 and has now passed the disallowance period and taken effect. The amendments delay the introduction of cetane number and include additional test methods; introduce an additional limit and test method for copper strip corrosion for ultra low sulfur biodiesels; and correct the alcohol content limit. An updated summary table of the biodiesel standard is below:

<b>Parameter</b>	<b>Standard</b>	<b>Test Method</b>	<b>Date of effect</b>
Sulfur	50 mg/kg (max) 10 mg/kg (max)	ASTM D5453	18 Sep 2003 1 Feb 2006
Density	860 to 890 kg/m <sup>3</sup>	ASTM D1298 or EN ISO 3675	18 Sep 2003
Distillation T90	360C (max)	ASTM D1160	18 Sep 2003
Sulfated ash	0.020% mass (max)	ASTM D874	18 Sep 2003
Viscosity	3.5 to 5.0 mm <sup>2</sup> /s @ 40°C	ASTM D445	18 Sep 2003
Flashpoint	120.0°C (min)	ASTM D93	18 Sep 2003
Carbon residue (10% distillation residue) (100% distillation sample)	0.30 % mass (max) <b>OR</b> 0.050 % mass (max)	EN ISO 10370 ASTM D4530	18 Sep 2003
Water and sediment	0.050 % vol (max)	ASTM D2709	18 Sep 2003
Ester content	96.5 % (m/m) (min)	prEN 14103	18 Sep 2003
Phosphorus	10 mg/kg (max)	ASTM D4951	18 Sep 2003
Acid value	0.80 mg KOH/g (max)	ASTM D664	18 Sep 2003
Total contamination	24 mg/kg (max)	EN 12662 ASTM D5452	18 Sep 2004
Free glycerol	0.020 % mass (max)	ASTM D6584	18 Sep 2004
Total glycerol	0.250 % mass (max)	ASTM D6584	18 Sep 2004
Oxidation stability	6 hours @ 110°C (min)	prEN 14112 or ASTM D2274 (as relevant for	18 Sep 2004

		biodiesel)	
Metals	≤ 5mg/kg Group I (Na, K) ≤ 5mg/kg Group II (Ca, Mg)	prEN 14108, prEN 14109 (Group I) prEN 14538 (Group II)	18 Sep 2004
Methanol Content	<0.20%(m/m)	prEN 14110	18 Dec 2004
Copper strip corrosion (3 hrs @50°C)	if the biodiesel contains no more than 10 mg/kg of sulfur – Class 1 (max)  if the biodiesel contains more than 10 mg/kg of sulfur - No. 3 (max)	EN ISO 2160 ASTM D130  ASTM D130	18 Dec 2004
Cetane number	51.0 (min)	EN ISO 5165 ASTM D613 ASTM D6890 IP 498/03	18 Sep 2005

### ***Taxing times ahead – DEH waves goodbye to Tax Office fuels compliance staff and colleagues in the ACT Office of Fair Trading***

There will be changes to the national fuel-sampling program in 2005/06. Staff of the Australian Taxation Office (ATO) and the ACT Office of Fair Trading that have provided excellent fuel sampling services in NSW, Victoria and the ACT will be withdrawn from the program.

With the change, the DEH decided to build an internal capability to cover the sampling program in these jurisdictions. A team of inspectors has been recruited and is now operational.

WA, Tasmania, NT, SA and Queensland sampling programs will continue for at least the duration of the current Service Level Agreements. Some Agreements are due to expire at the end of 2005. DEH will commence re-negotiation of these Agreements shortly.

Thank you to the Inspectors and staff of the ACT Office of Fair Trading who have provided sampling for the program since sampling commenced in 2002. Ron Begg, Peter Hunter and Grant Fuller have all contributed large amounts of time and effort into developing and improving the sampling program.

Thank you to the NSW ATO fuel Inspectors and staff, Raymond Elphick, Jim Duley, Jim Leddy and Jaimie Delazzari, along with Bill McKinnon who have all contributed significantly to sampling and investigations over the past 12 months. These officers will continue to work administratively for the program whilst legal action commences against non-compliant sites.

Thank you also to ATO staff Doug Mackenzie, Glen Vella and Anthony McGinty who have provided quality sampling services in Victoria. Doug specifically has put in a huge amount of effort to ensure the success of the program.

## ***CONTACT DETAILS***

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Or the Community Information Unit 1800 803 772

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