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Underground Petroleum Storage Systems (UPSS) Regulation Update

In anticipation of the forecourt feature on underground petroleum storage systems scheduled for March-April 2009 issue, Australian Convenience Store News takes stock of the relevant state and territory regulations.

The eight state and territory jurisdictions in Australia are at different stages of what is slowly evolving into a common path towards consistent regulation of underground petroleum storage systems (UPSS). The various regulations and requirements are presented here in alphabetical order, starting with the Australian Capital Territory (ACT).

Australian Capital Territory

Service stations in the ACT are required to follow the territory's Environment Protection Authority (EPA) Environmental Guidelines for Service Stations Sites and Hydrocarbon Storage, published in February 2002. Although based on the Australian Institute of Petroleum's (AIP's) code of practice CP04, it incorporates additional requirements. (Note: CP04 has been replaced by Australian Standard AS 4897-2008: The design, installation and operation of underground petroleum storage systems.) The ACT guidelines document is available at www.tams.act.gov.au in the section on 'Environment Protection for Business and Industry' in the 'Work' area of the website.

The guidelines focus on the design and installation of UPSS and there are no specific requirements for a leak detection system. However, the provisions of the ACT Environment Protection Act 1997 make it an offence to "... place a pollutant in a position where it may cause environmental harm. Controls are therefore required to ensure that hydrocarbon spillage or leakage into surrounding soil and groundwater is unlikely".

New South Wales

A new regulation — Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008 (Regulation) — commenced on 1 June 2008 in New South Wales (NSW).

It requires owners and operators to regularly check for leaks in the fuel tanks and pipes used to store and handle petroleum products. They also now need to meet minimum standards in their day-to-day environmental management of these storage systems.

The Regulation aims to:

- introduce preventative measures to reduce harm to the environment and human health;
- save money and minimise time-consuming remediation by preventing leaks or identifying and dealing with them early;
- ensure industry best practice is followed; and

- ensure appropriate validation and decommissioning of systems and sites.

Under the Regulation, it is against the law to continually allow or ignore contamination resulting from a leaking or faulty UPSS. The person responsible for a UPSS (usually the owner/operator) will be required to have in place:

- certain best practice pollution control equipment;
- systems for detecting, monitoring and fixing leaks;
- groundwater monitoring wells at sensitive locations and a program to test them;
- an Environment Protection Plan for the UPSS; and
- systems for record keeping and reporting of leaks.

For more detailed information, see <http://www.environment.nsw.gov.au/clm/upss.htm>; call the NSW Department of Environment and Climate Change Environment (DECC) Line on 131 555 (toll free in NSW); or email upssreg@environment.nsw.gov.au

Australian Convenience Store News asked the department's Director of Specialised Regulation Craig Lamberton how the implementation is progressing. "It is not just about regulation," he said. "It is about achieving the objective of preventing contamination. We need the Regulation to achieve this, but in the phase-in period we are focussing on education and support.

"We have produced guidance documents and we have made arrangements with the Service Station Association to sponsor a support person. This will be someone who understands the industry and can communicate with all participants who might need assistance."

The Regulation incorporates some flexibility, including a provision for exemptions. For example, a small independent site located a certain distance from a predetermined sensitive area (such as a groundwater source, national park, etc) may be given more time to implement certain requirements. To obtain an exemption, the person responsible for a UPSS must apply in writing to NSW DECC. That being said, the aim is for the entire industry to be compliant over a reasonable period of time.

Northern Territory

Service station owners and operators in the Northern Territory (NT) should also take note of the NSW regulation. According to Media Director James Pratt, the NT Government is currently developing Guidance Notes on the monitoring needs for UPSS, as part of a general volume of information coupled to the development of a Contaminated Site Assessment Environment Protection Objective provided for under section 22 of the Northern Territory Waste Management and Pollution Control Act.

"Whilst the Guidance Note cannot be provided at this stage, we would point out that we are guided to a certain extent by previous work carried out by the NSW Department of Environment and Climate Change," he said. "Industry is also guided by Australian Standard AS 4897-2008."

Queensland

Throughout Australia, state or territory regulatory agencies generally look after the administration of service stations. Not so in Queensland. There, the state government has devolved the administration of service stations to local government through two primary pieces of legislation.

1. Premises are licensed for the storage of flammable and combustible liquids under the Dangerous Goods Safety Management Act 2001, which aims to manage risks associated with fire safety issues.

2. Premises must obtain a registration for ERA 8(1)(c) Chemical Storage under the Environmental Protection Regulation 2008. This legislation seeks to minimise contamination of air, soil and water. Local governments set conditions on fuel storage activities which include provisions to manage stormwater contamination, vapour recovery and leak prevention and detection.

The largest local authority in Queensland is Brisbane City Council (BCC) whose requirements are similar to those enshrined in the NSW regulation and in the Victorian guideline, all of which are consistent with the principles in AS 4897-2008.

BCC aims to inspect each service station every two years. The audit includes a site visit where structural requirements and management systems are assessed for both fire safety and environmental risks. As in NSW and Victoria, SIR (statistical inventory reconciliation) is acceptable as a minimum level of leak detection for existing sites. New sites and significant refits to existing premises must incorporate the usual requirements of double wall tanks, interstitial monitoring, electronic leak detection systems, line leak detection (for pressure piping systems) and automatic tank gauging (ATG). Requirements for retrofitting groundwater monitoring wells for existing sites are currently under consideration.

Other councils tend to follow BCC's example in these matters, however, smaller councils in more remote areas of Queensland have less resources available, and implementation of the legislation in these areas may be inconsistent.

South Australia

Australian Convenience Store News' 2005 article on UPSS regulation anticipated a code of practice similar to the Victorian guidelines for South Australia (SA). However, this code of practice has been on the 'back burner' while that state's new site contamination legislation was being developed.

The Environment Protection (Site Contamination) Amendment Act, 2007, assigns responsibility for site contamination, establishes a statutory audit system for SA and gives the Environment Protection Authority (EPA) powers to deal with site contamination. See http://www.epa.sa.gov.au/sc_epa.html#legislation

Parts of the legislation came into operation in 2007; the parts that deal with the accreditation of auditors commenced on 20 November 2008; and the balance is expected to commence in June 2009. Publications, including guidelines for auditors, are being developed to assist in understanding responsibilities under the legislation. Appropriate targeted consultation will be conducted on these documents as they are developed. Six new site contamination guidelines were placed on the EPA website in January 2009.

The site contamination legislation applies to all sites, including service stations. The EPA now has the power to serve assessment and remediation orders to persons who cause site contamination and it is now retrospective — applying to contamination that occurred before the Environment Protection Act commenced in May 1995.

Whereas the site contamination regulation is reactive, the planned code of practice for service stations will be proactive. Australian Convenience Store News expects further development of this code in 2009. In the meantime, the February 2005 guideline applies. See http://www.epa.sa.gov.au/pdfs/guide_uss.pdf

Under that guideline, the leak detection and prevention requirements are similar to those incorporated in the Victorian guidelines and include: adequate operation and maintenance, including inventory reconciliation; understanding the limitations of stock reconciliation; systematically investigating discrepancies in volumes (equivalent to USEPA requirement); checking pump calibration and testing equipment integrity; and taking prompt action if a leak is suspected or detected.

Tasmania

In May 2008, the Environmental Policy Section in the Environment Division of the Tasmanian Department of Environment, Parks, Heritage and the Arts published an issues and options paper entitled A Proposed Regulatory Model for Managing the Environmental Impacts of Underground Petroleum Storage Systems. The paper included the division's preferred option and sought comment by mid June 2008. The preferred option is similar to the relevant regulation in New South Wales.

There were 14 submissions: two from the petroleum industry, four from consultants, one from an industry body, three from councils and four from government agencies. These submissions are being considered and draft regulations and a regulatory impact statement (RIS) will be released for public comment mid year. One of the submissions suggested that guidance notes be released for comment with the draft regulations and RIS, and an effort will be made to do this.

Environmental Officer Kylie Bull advised that the main difference between the Tasmanian and NSW regulations relates to groundwater monitoring. "Proximity to drinking water will be the main criteria here so fewer sites will be affected," she said.

Ms Bull's key message is: "This is a problem that needs to be addressed and it is in everyone's interest to do so. There will be phased implementation and an education program, and the Tasmanian Environment Division wants your feedback and support."

For copies of the relevant documents and contact details, go to <http://www.environment.tas.gov.au/index.aspx?base=2663>

Victoria

The Victorian EPA was the first to document explicit guidelines and requirements for UPSS in 2003. Some readers will recall that the guidelines set out three stages of implementation:

1. From February 2003, if you install new UPSS, you need an appropriate management system; double-walled tanks; double-walled piping; tank pit observation bores; a system of leak detection – either Statistical Inventory Reconciliation Analysis (SIRA) or automatic tank gauging with line leak detection; and groundwater monitoring bores if it is a 'sensitive' site.
2. From February 2004, if you have existing UPSS on site, you need an appropriate management system and a system of leak detection (as above); and you should have assessed the 'sensitivity' of your site – in effect proximity and use of groundwater.
3. From February 2005, all sensitive sites require groundwater monitoring bores.

Many of the technical elements of these requirements were drawn from (the then) AIP CP04. The details are set out in EPA Publication 888, Guidelines for the Design, Installation and Management Requirements for Underground Petroleum Storage Systems. See <http://www.epa.vic.gov.au/land/upss.asp> The guidelines have been updated to match AS 4897-2008, and the revised document will be released by the end of the first quarter of 2009.

Although not mandatory, the Victorian EPA guidelines specify the minimum requirements for practicable prevention of pollution, and fuel retailers are required to take all practicable measures to prevent leaks.

As part of the implementation process, the EPA undertook field audits of service stations in 2007. The internal report on the audit was completed in 2008, and the findings are still the subject of internal discussions. The second quarter of 2009 seems to be the most likely timing for the EPA to take some course of action based on these findings.

Western Australia

In Western Australia (WA), the operation of service stations is regulated by the Department of Mines and Petroleum under the Dangerous Goods Safety Act 2004 and the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007. Service stations only come under the scrutiny of the Department of Environment and Conservation when there is an incident – a fuel discharge that is reportable under the Environmental Protection Act 1986 or the Contaminated Sites Act 2003. Service station operators are licensed under the Dangerous Goods Safety Act 2004, and are required to comply with the Australian Standard AS4897-2008 for installing and monitoring UPSS.

"In WA, new and replacement underground tank storage systems must be to the highest equipment level specification in the standard," said Lawry Lim, Principal Dangerous Goods Officer, Dangerous Goods Safety Branch, Resources Safety Division, WA Department of Mines and Petroleum. "The regulations currently include a section (62(7)) on inspection and testing, but this only

requires checking for leaks every five years until the tank is 20 years old, then every two years. However, this will soon change when the leak detection requirements of AS 4897 (Section 4.5) are adopted into the regulations."

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