

Regulatory Impact Statement

Proposed Protection of the Environment Operations
(Underground Petroleum Storage Systems) Regulation 2019



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The NSW Environment Protection Authority is proposing to remake the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014.

The Regulation's aim is to minimise the risk of soil and groundwater contamination from leaking underground storage tanks.

Leaks from underground petroleum storage systems are a significant source of groundwater contamination and clean-up can be costly, technically difficult and time consuming.

The proposed remake of the Regulation provides for continuation of the requirements for operators of these systems to monitor for, detect and stop leaks early. It also requires operators to report on and fix leaks quickly and implement best practice management systems at their sites.

This Regulatory Impact Statement (RIS) contains an assessment of the costs and benefits of the proposed remake of the Regulation.

1. Introduction

1.1 Purpose of this document

When a principal Regulation is to be remade, the responsible agency must prepare a Regulatory Impact Statement (RIS). The RIS examines the economic and social costs and benefits of regulatory proposals and their alternatives. The *Subordinate Legislation Act 1989* requires that the community be provided with an opportunity to comment on the proposed Regulation and RIS before it becomes law.

The proposed Regulation would replace the current Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014, which was gazetted on 29 August 2014 and commenced on 1 September 2014. The *Subordinate Legislation Act 1989* (SL) requires the Regulation to be reviewed every five years to ensure it remains relevant and effective. The current Regulation is due for automatic repeal on 1 September 2019.

This Regulatory Impact Statement (RIS) for the proposed Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019 has been prepared in accordance with the SL Act. As required, it also addresses the 'better regulation principles' in Appendix 1.

1.2 Purpose of the proposed Regulation

The proposed Regulation is designed to minimise the risk and environmental impacts of fuel leaks from underground petroleum storage systems (UPSS). A UPSS consists of one or more tanks that are completely or partially buried in the ground and which contain, or are intended to contain, petroleum. The UPSS includes any piping which connects the tanks to the dispensers. Many UPSS sites are service stations, but there are other sites where UPSS are used including transport facilities, hospitals, farms and golf courses. They can be found wherever petroleum is stored underground.

The proposed Regulation continues the provisions of the current Regulation and requires operators, when installing a new or modified UPSS, to use equipment which meets industry best practice. This equipment must be designed and installed by qualified people. The person responsible for the UPSS must also implement a range of management, loss monitoring and leak detection systems to guard against and detect leaks.

The requirements in the proposed Regulation are modelled on Australian Standard 4897-2008: *The design, installation and operation of underground petroleum storage systems* which reflects best industry practice. The proposed Regulation applies to all underground petroleum storage systems in NSW and benefits the community by helping to prevent contamination of land and water from fuel leaking from these systems.

Until 1 September 2019, the Environment Protection Authority (EPA) is the sole appropriate regulatory authority for activities covered by the Regulation. After this date, the relevant local council will become the appropriate regulatory authority under the *Protection of the Environment Operations Act 1997* for most sites with a UPSS.

The EPA will remain the appropriate regulatory authority for UPSS sites that hold an environment protection licence, UPSS which are operated by a public authority, and for UPSS located in the unincorporated areas of NSW, where there are no local councils. In addition, the EPA will be the appropriate regulatory authority for UPSS subject to a notice, direction or requirement that is in force on 1 September 2019 until compliance with any such notice, direction or requirement has been met.

1.3 What is changing?

There are only a few, minor changes proposed to the Regulation which are to:

- align the best practice pollution prevention equipment for UPSS required in the Regulation with Australian Standard 4897 – 2008
- require notice to be given to local councils where a UPSS operator intends to decommission a system
- require UPSS operators to provide a short annual report to their regulator to briefly outline how the storage system has performed in that financial year.
- make minor changes to the definitions of **duly qualified person** and **person responsible** to recognise shifts in industry terminology and best practice in these areas
- simplify the definitions of **petroleum** and **secondary leak detection system**, and apply the Regulation to all EPA licensed sites
- change the name of the **Environment Protection Plan** prepared by UPSS operators to document their system to the **Fuel System Operation Plan** to better describe the contents of the plan and align it with language used in the petroleum industry.

Additionally, the proposed Regulation amends clause 91 of the Protection of the Environment Operations (General) Regulation 2009 in regards to the regulatory authority for UPSS.

Details of proposed changes are set out in Appendix 2.

1.4 Who does the proposed Regulation apply to?

The proposed Regulation will apply to persons who manage or control a UPSS, referred to in the proposed Regulation as the **person responsible** for the storage system. The responsibility at some UPSS sites may involve more than one party, and where the UPSS is no longer in use but has not been decommissioned, responsibility may fall back on the owner of the land on which the UPSS is located if a person who previously had management and control of the system cannot be found.

The proposed Regulation applies to all sites with active UPSS. The EPA estimates there are more than 2,000 active retail service station sites with UPSS in NSW. An estimated 400 sites have underground systems associated with bulk fuel depots at commercial, industrial and government-operated premises ranging from large-scale industrial complexes to local council depots. There are also estimated to be about 600 sites with small tanks used by enterprises such as farms, workshops, hire premises, golf courses and marinas.

Premises that are licensed under the POEO Act will be more comprehensively included in the Regulation so that a common set of standards applies to all facilities regardless of whether or not they are licensed by the EPA.

Under the current Regulation, the EPA has powers to exempt persons responsible for a UPSS from complying with certain requirements. The proposed Regulation will retain the EPA's power to issue exemptions and expand this power to local councils who may also issue exemptions in their local areas, acknowledging the shared regulatory role of the EPA and councils for UPSS sites. Sites with UPSS used for the storage of fuel for generators, heating and waste oil have been exempted from parts of the Regulation until 31 August 2019.

1.5 Consultation

To assist in the preparation of the proposed Regulation, a workshop was held with petroleum industry stakeholders on 27 March 2019, and 10 workshops with local councils were held across NSW in 2018 to discuss contaminated land management including UPSS management. Over 300 local council officers attended the workshops in 2018.

The workshops were designed to discuss stakeholders' experiences in managing the requirements of the Regulation. Industry stakeholders comprised major fuel retailers/suppliers, industry associations,

consultants, smaller retailers and operators. The outcomes of the workshops and submissions received assisted with the drafting of the proposed Regulation.

The proposed Regulation and this RIS are available for public comment for four weeks. The EPA welcomes submissions from the public and will consider any matters raised in finalising the proposed Regulation.

Please complete submissions **online** by using the form at <https://engage.environment.nsw.gov.au/draft-upss-regulation-2019>. Alternatively, submissions can be sent:

- **by mail to** UPSS Regulation Review, Contaminated Land Management Section, NSW Environment Protection Authority, PO Box A290, Sydney South, NSW 1232
- **by email to** UPSSREG@epa.nsw.gov.au.

Submissions will be accepted until **Friday 14 June 2019**

2. Underground Petroleum Storage Systems

2.1 Storing fuel underground – the risks

Petroleum products stored in underground tanks include petrol, diesel, kerosene, heating oil, aviation fuel and waste engine lubricating oil. Historically, underground tanks and pipes were single-walled and made of steel. Steel is more vulnerable to corrosion and wear and tear than newer materials such as fibreglass and other composites.

The release of petroleum through leaks and spills from underground storage systems can contaminate the soil, groundwater, surface water and air. Approximately 62% of sites notified to the EPA (under the *Contaminated Land Management Act 1997*) since 2005 are service stations or other petroleum industries. Clean up of contamination in soil and groundwater are costly for the community and individuals and may also restrict the future use of the land.

Groundwater is estimated to supply 11% of water used in NSW for domestic and agricultural purposes¹. UPSS are a potentially significant source of contamination of NSW's groundwater resources.

Undetected leaks contaminate soils and result in groundwater contamination that can move considerable distances and affect adjacent sites. There is a direct economic loss to the UPSS owner or operator through the loss of product and often an indirect impact on and cost to adjacent land owners.

Components of petroleum that may harm human health and the environment include:

- benzene – a known human carcinogen
- benzo[a]anthracene and dibenzo[a,h]anthracene – probable human carcinogens
- fuel mixtures and used oil – probable human carcinogens
- toluene and ethyl benzene – toxic to humans (affecting the liver)
- benzene, toluene, ethyl benzene and xylenes – chronic and acutely toxic to the aquatic environment; some compounds such as benzo[a]pyrene can bioaccumulate
- petroleum hydrocarbons – toxic to plants, the toxicity depending on the plant species, soil type, and the actual group of compounds comprising the hydrocarbons.

Exposure to petroleum hydrocarbons from leaking UPSS can occur in the following ways:

- off-site movement through groundwater and surface water, affecting the health of humans and other species
- inhalation of volatile petroleum vapours that are toxic and carcinogenic
- through the build-up of potentially explosive levels of volatile hydrocarbon vapours in utility trenches, sewers and storm water pipes, building basements and car parks.

¹ NSW Department of Primary Industries, Office of Water 2013, *Risk assessment guidelines for groundwater dependent ecosystems. Volume 4 – the ecological value of groundwater sources on the coastal plains of NSW and the risk from groundwater extraction.*

2.2 EPA experience with the operation of the Regulation

Before the UPSS Regulation was introduced in 2008, regulation and management of UPSS did not adequately address the problem of petroleum products leaking from underground storage systems. Management practices at UPSS sites across NSW were inconsistent, particularly with respect to pollution prevention measures.

In 2004 and 2005, the EPA issued *Guidelines for Assessing Service Station Sites*, and an information pamphlet *Underground Storage Tanks – What You Need to Know About Leaks and Spills*. These documents arose from an acknowledgment that better management of underground storage tanks would benefit both industry and the environment. Despite the guidance provided by these documents, regulators continued to encounter contaminated soil and groundwater that were polluted by petroleum leaking from UPSS.

The 2008 Regulation was introduced to require minimum standards for the storage and management of UPSS, based on those used in the Australian Institute of Petroleum (AIP) Code of Practice (CP4-2002). This was later adopted, with amendments, as Australian Standard 4897-2008: *The design, installation and operation of underground petroleum storage systems*.

An extensive series of guidelines and technical notes have since been developed on the management of UPSS. This material advises industry on best practice and legislative requirements for leak prevention and detection as well as operational management at UPSS sites. The available guidance materials are:

- *Guidelines for implementing the Underground Petroleum Storage System Regulation 2008* (NSW Department of Environment and Climate Change 2009), visit www.epa.nsw.gov.au/resources/clm/09653upssglines.pdf.
- *Planning and development process for sites with underground petroleum storage systems* (NSW Department of Environment, Climate Change and Water 2009), visit www.epa.nsw.gov.au/resources/clm/09558upssplanningdevt.pdf.
- *UPSS technical note: Site sensitivity assessment* (Department of Environment, Climate Change and Water 2010a), visit www.epa.nsw.gov.au/resources/clm/1034technotessa.pdf.
- *UPSS technical note: Site validation reporting* (Department of Environment, Climate Change and Water 2010b), visit www.epa.nsw.gov.au/resources/clm/1035technotesvr.pdf.
- *UPSS technical note: Decommissioning, abandonment and removal of UPSS* (Department of Environment, Climate Change and Water 2010c), visit www.epa.nsw.gov.au/resources/clm/1036technotedecom.pdf
- *Technical note: Investigation of service station sites* (EPA 2014a), visit www.epa.nsw.gov.au/resources/clm/140315servstatsites.pdf
- *Practice note: Landfarming* (EPA 2014b), visit www.epa.nsw.gov.au/resources/clm/140323landfarmbpn.pdf.

The guidelines supplement the following industry best practice:

- AS 1940-2004: The storage and handling of flammable and combustible liquids
- AS 4897-2008: The design, installation and operation of underground petroleum storage systems
- AS 4976-2008: The removal and disposal of underground petroleum storage tanks.

A joint audit program between local councils and the EPA has been in place since 2011 to inspect and assess practices at UPSS sites across NSW. At the end of 2018, more than 750 sites had been inspected in both metropolitan and country areas of NSW. The inspections provided an opportunity to advise owners and operators of their responsibilities and suggest improvements to meet the requirements of the Regulation.

Of the sites inspected, 58% were retail operations associated with industry major chains. This group had the highest level of compliance. Lower levels of compliance were found at sites associated with independent chains (19% of the total operators) with the lowest levels of compliance found to be by sole traders and small tank operators such as at golf courses, marinas and depots.

2.3 Effectiveness of current Regulation

Since its introduction in 2008, newly installed UPSS infrastructure uses best practice equipment, management and monitoring systems. However, there are still sites in NSW that have not been upgraded to modern regulatory standards as the Regulation does not apply retrospectively. Financial constraints have impeded the ability of some operators to comply, particularly in regional and rural areas. The EPA has endeavoured to ensure that operators have been kept informed about requirements in the Regulation through direct contact, extensive trade advertising, liaison with industry associations and by granting exemptions (approximately 230 – the last of which expired on 31 May 2017) to aid transition to the regulatory requirements if needed.

The Regulation has been an effective tool in setting the benchmark for industry to protect the environment and human health through improved equipment and better operational management. While there may still be some operators whose sites do not fully comply with the Regulation, ongoing education programs and regulatory action have significantly increased compliance and understanding.

The EPA will continue to provide assistance and education to:

- local government
- individual UPSS owners and operators
- major fuel chains and service station retail chains
- industry associations
- contractors and consultants who provide equipment and services to the service stations.

The objective being to ensure progressive improvements to site and underground infrastructure management.

2.4 Objectives of proposed Regulation

Like human illnesses, prevention is better than cure. Preventing leaks and early detection and clean-up can minimise environmental and financial impacts to the person responsible for the site, and surrounding communities.

Consistent with the 2014 Regulation, the proposed Regulation maintains the requirement for UPSS operators to prevent leaks by requiring best practice equipment coupled with sophisticated monitoring and management systems to detect any leaks as early as possible.

The proposed Regulation's objectives are to:

- clarify and align regulatory requirements with industry best practice
- improve documentation of site management procedures
- improve enforceability of requirements
- encourage the adoption of new technologies for groundwater and loss monitoring systems
- require an annual report to be provided to the appropriate regulatory authority.

3. Alternative options

Different approaches to improve the management and performance of UPSS have been considered. These options are detailed below.

3.1 Option 1: The base case – do nothing

The 'do nothing' option would allow the Regulation to lapse on 1 September 2019. This would restore the situation that existed before the Regulation was introduced in 2008. There would be no legislative requirement for the person responsible for UPSS to implement best practice equipment or preventative management measures on the site. Some diligent operators would voluntarily install best practice equipment and monitor their systems for leaks. Some other operators would take the opportunity to save costs by not installing best practice equipment or monitoring their systems for leaks. An uneven 'playing field' would likely develop.

Most sites would be regulated in a reactive way, only triggering a response if a pollution incident occurred at the site. Enforcement would be the responsibility of the appropriate regulatory authority under the POEO Act, being local council or the EPA. Sites that caused significant contamination of land would be regulated by the EPA under the *Contaminated Land Management Act 1997*.

This option would mean leaking UPSS would continue to pose risks to land and groundwater resources, ecological systems and human health until the leak was detected on nearby properties or in waterways. Unless UPSS operators took actions to ensure that their systems were well-maintained and, where necessary, replaced, the natural ageing of tanks and pipework would pose an ongoing threat to the environment and human health.

Under this option, leaking UPSS would likely result in increased costs to both industry and the community. Industry would be faced with substantial costs from the loss of petroleum, repair or replacement of equipment, and exposure to third party claims for remediation of contaminated land and groundwater.

Ongoing costs to the community could include potential health problems, degraded quality of groundwater and surface water resources, potential restrictions on land use, environmental degradation and devaluation of neighbouring properties where contamination had migrated off-site.

3.2 Option 2: Replace the Regulation with guidelines

This option would involve encouraging operators to follow industry best practice guidelines and standards when operating UPSS instead of using the Regulation to enforce these requirements (see section 2.2 for details of these guidelines).

There are only minor costs to the EPA associated with retaining the current guidance material on UPSS. The EPA would update its existing guidelines to ensure consistency with other jurisdictions and keep them up-to-date with best practice. Demonstrating adherence to guidance could be used as a mitigating factor if a site experienced system failure and caused a pollution event.

This option is consistent with the current position in Victoria where the *Guidelines on the design, installation and management requirements for underground petroleum storage systems* (EPA Victoria 2013) are designed to assist operators to comply with their statutory duties under a range of Victorian legislation. The application of the guidelines by UPSS operators is not mandatory in Victoria.

This option would result in a similar outcome to option 1 as there would be little incentive for industry to comply with the guidelines. While some diligent UPSS owners and operators may voluntarily undertake the necessary initial investment to comply with the standards in the guidelines and the ongoing cost of maintenance and monitoring, others may not. Guidelines alone would not ensure that suitable pollution prevention measures would be adopted consistently across the industry and could place those who do comply voluntarily at a competitive cost disadvantage to those who choose not to comply.

Guidelines are unlikely to provide a consistent degree of protection to NSW communities in terms of human health and the environment. Similar to the base case (option 1), the costs to the community would therefore be higher if guidelines are imposed instead of a more rigorous regulatory approach.

3.3 Option 3: Financial assurance and insurance

3.3.1 Financial assurance

This option requires owners and operators of UPSS to demonstrate that they have the financial resources to pay for the costs of on- and off-site remediation that can result from a loss of system integrity and a resulting pollution incident. Financial responsibility could be demonstrated, for example, by way of a bank guarantee or a bond.

A financial assurance requirement is not considered a viable option for reducing the range of environmental and health impacts associated with leaking UPSS as the focus of such instruments is to ensure there are sufficient funds for clean-up once a pollution incident has occurred. This will not prevent pollution, reduce risks to the community or create opportunities for establishing minimum standards for the design, installation, operation, maintenance and monitoring of UPSS to minimise the chance of leaks. It would also require a legislative amendment to enable the regulatory authority to require a financial assurance. Currently the EPA can only require a financial assurance as a condition of an environment protection licence under the *Protection of the Environment Operations Act 1997* or a Management Order under the *Contaminated Land Management Act 1997*.

Administration of financial assurances would also create a financial impost for the regulatory authority for which there is currently no cost recovery.

3.1.2 Insurance

An alternative to a general financial assurance scheme would be to require all UPSS occupiers to hold an insurance policy to specifically cover the costs of clean-up in the event of on- or off-site contamination. However, a legislative amendment would be needed to enable the regulatory authority to require a UPSS operator to hold insurance.

An advantage of an insurance scheme is that it imposes an economic incentive for the person responsible for the UPSS to use improved technologies, and management and leak detection systems, as these become the basis for determining premiums charged by insurance companies. Insurance schemes would spread the cost more broadly across the industry and would theoretically cost less to put in place on lower-risk UPSS sites that employ advanced systems. If, on the other hand, insurance could be obtained without minimum standards for leak prevention and detection, this option suffers the same disadvantages as a financial assurance scheme, in not focusing on preventing leaks.

Given that under both schemes there is less incentive for industry to prevent leaks in the absence of regulation, the onus for monitoring all UPSS sites would fall on the government and hence be an additional cost to the community.

As a result, neither financial assurance nor insurance are considered suitable alternatives to regulation in reducing leaks in UPSS.

3.4 Option 4: Environment protection licence under the POEO Act

The POEO Act allows the EPA to license activities which have the potential to cause significant environmental harm. These activities are listed in Schedule 1 of the Act. In seeking to prevent leaks and minimise harm from leaking UPSS, the EPA could amend Schedule 1 of the Act to include service stations and petroleum storage and distribution sites such as bus depots, council depots, golf courses and marinas. Such premises would then require an environment protection licence issued by the EPA which could contain similar pollution prevention conditions to the Regulation.

This approach has several disadvantages. It would result in greater costs for UPSS operators than being subject to a Regulation since they would be required to pay initial and ongoing licence administration fees. Environment protection licences are tailored to address site-specific issues. However, regulation of

UPSS does not require such detail since issues associated with their operation are uniform across UPSS sites. Therefore, regulating UPSS through environment protection licencing would place greater demands on EPA resources for very little benefit in comparison with the administration of a Regulation.

A licence under the POEO Act would have similar outcomes to option 5 (direct regulation) and therefore the costs and benefits would be similar. However, since industry would pay a licence fee which would be determined to recover government costs in administering a licence scheme, it is likely that the 'licence fee' would be passed on by industry to the community. This would result in customers of service station sites bearing higher fuel costs. Under this option, like direct regulation, industry would bear the costs of ensuring compliance with licence conditions.

Using environment protection licences to address the problems associated with leaking UPSS is not considered the most cost-effective option for industry and the community. Further, ensuring compliance with the requirements of the UPSS regulation are not significant and are within the regulatory capability of councils.

3.5 Option 5: Remaking the Regulation

Reducing the risk of leaks from UPSS and minimising the risk of contamination from UPSS via common requirements imposed by a regulation under the POEO Act is the simplest option. The proposed Regulation is based on the existing Regulation, with minor amendments to:

- improve the clarity of definitions in the Regulation
- require advance notification to local council of decommissioning of systems
- require a short annual report from UPSS operators to the regulatory authority
- align the requirement for best practice equipment with Australian Standard AS 4897-2008.

The proposed Regulation aims to encourage operators to use best practice equipment, practices and technologies for leak detection and monitoring systems.

This option, in contrast to the alternative options previously discussed, ensures the continuation of enforceable minimum standards for the installation, management, maintenance and leak detection of UPSS systems. It provides a regulatory focus on prevention rather than on clean-up across the industry. It has fewer administrative costs for industry and the community than the other options, while achieving the desired outcome of reducing the risk of leakage and associated environmental and health impacts.

The proposed Regulation is the preferred option for these reasons.

4. The proposed Regulation

The proposed Regulation makes minor changes to the existing Regulation. It prescribes pollution prevention requirements for the persons responsible for UPSS in NSW. The main features of the proposed Regulation are:

- A duly qualified person meeting standards consistent with industry best practice must design, install and maintain new and modified UPSS (see Part 2).
- All UPSS must have a loss monitoring and leak detection system, which may be either groundwater monitoring wells or endorsed alternatives (see Part 3).
- Persons responsible for UPSS must report leaks to the appropriate regulatory authority no later than 60 days after becoming aware of them and must repair or replace the leaking UPSS in accordance with required standards. A suitably qualified person must investigate, report on and remediate contamination from leaking UPSS and validate the remediation (see Part 4).
- All UPSS sites must have documents in place, including a fuel system operation plan which describes loss monitoring, leak detection, incident response and maintenance procedures, the current “as-built” drawings for the system and the locations of the storage system, monitoring wells, drainage and other infrastructure (see Part 4).
- Appropriate standards of record keeping must be prepared and implemented for all UPSS sites to ensure records of leaks, repairs and clean-up actions are documented for future site owners/operators.
- Local councils must be notified before a UPSS is to be decommissioned and provided with a report confirming that no unacceptable level of contamination remains after decommissioning.
- Persons responsible for a UPSS must provide a short annual report on performance of the UPSS to the appropriate regulatory authority. This will enable it to monitor the performance of UPSS operators and make informed decisions about compliance priorities to get better environmental outcomes and more efficient use of limited compliance resources (see Part 5).

The proposed regulation also amends the *Protection of the Environment Operations (General) Regulation 2009* to make local councils the appropriate regulatory authority for most UPSS across NSW, apart from those in the unincorporated areas of the state; those operated by government authorities; those subject to an environment protection licence; and those subject to a notice or requirement issued by the EPA (and not yet complied with) as at 1 September 2019.

5. Costs and benefits of the proposed Regulation

This section identifies which provisions are changing between the 2014 Regulation and the proposed 2019 Regulation. It describes the costs and benefits of the proposed changes (other than changes in terminology) and the impacts they may have on the NSW petroleum industry and local councils. The assessment is a qualitative analysis of the costs and benefits of the changed (other than terminology changes) or new provisions in the proposed Regulation. A full list and description of the changes can be found in Appendix 2.

5.1 Pollution protection equipment

The existing Regulation requires certain mandatory pollution protection to be installed on any new or significantly modified system. This is a sub-set of the equipment required by Australian Standard 4897 – 2008 *The design, installation and operation of underground petroleum storage systems (AS 4897)*. The proposed Regulation (clause 8) specifies that a new storage system must not be commissioned unless it includes the equipment that is prescribed by AS 4897. This aligns the Regulation with industry best practice and with approaches in other states and territories.

This change is unlikely to have any significant cost impacts as industry is mostly adhering to AS 4897 already.

5.2 Person responsible

The person responsible in the current Regulation is the person who has management and control of the system, or if a system has been decommissioned, the person who had the management and control of the system immediately before the system was decommissioned. This remains the case in the proposed Regulation, however, the definition (clause 4) now also covers the following situations:

- Where a storage system has not yet been commissioned, the person responsible is the person who has management and control of the system
- Where a storage system is no longer in use but has not been decommissioned, the person responsible is the person who had management and control of the storage system immediately before the storage system ceased to be used or, if that person cannot be found, the person who owns the land on which the storage system is located.

This ensures that someone can be held responsible for compliance with the Regulation. It is not known how many storage systems are not in use but not yet decommissioned, where the person who had the management and control of the system is no longer around to be held responsible and, therefore, how many land owners might need to assume responsibility for unused storage systems or the cost of decommissioning such systems. This clause will ensure the responsibility for such systems does not fall to local councils or the NSW Government to manage.

5.3 Notify ahead of decommissioning

Clause 15 of the current Regulation requires a report to be provided to the local authority (council) 60 days **after** a system is decommissioned. This requirement remains, however, the proposed Regulation (clause 23) also requires that the local authority be notified of the intention to decommission a system no later than 30 days **before** the system is decommissioned. This will enable councils to understand the impacts/implications of the proposal and have input into any decommissioning requirements.

This may be a small cost to UPSS operators but as decommissioning occurs only infrequently, it is not possible to quantify the cost with any certainty across the industry sector.

5.4 Application of the Regulation

The current Regulation applies to all types of petroleum storage systems with the exception of some systems licensed by the EPA under the POEO Act, as well as liquified petroleum gas, above ground systems, or pits/sumps and stormwater or wastewater collection systems. For consistency, the proposed Regulation (clause 5) will now apply to all underground petroleum storage systems that are required to hold an environment protection licence. All other exceptions from the 2014 Regulation are continued. It is considered that all UPSS systems should have the same leak prevention and detection equipment and procedures. This is unlikely to have any significant cost impacts as most systems licensed by the EPA would have conditions requiring similar equipment and procedures.

5.5 Annual report

The proposed Regulation contains a new provision (clause 29) requiring all UPSS operators to lodge an annual report to the appropriate regulatory authority. This annual report will include information relating to:

- any modification or decommissioning of the system undertaken in the past financial year
- a summary of the results of any equipment integrity test
- a short description of the leak detection system installed on the site, the fuel system operation plan and the loss monitoring system
- the results of any leak detection or loss monitoring procedures and any actions taken if a leak was detected.

The reporting requirement is over a financial year and the report must be lodged with the appropriate regulatory authority on or before 31 August.

This requirement will enable councils and the EPA to effectively monitor the performance of UPSS operators and make informed decisions about compliance priorities to get better environmental outcomes and make efficient use of their compliance resources. This will also provide an annual check-up for UPSS operators to ensure they remain compliant with the key reporting requirements of the UPSS Regulation. Failure to submit an annual report will be an offence under the Regulation.

The EPA will specify the form to be used. It is unlikely to take more than 30-60 minutes to complete the form by the person responsible.

5.6 Transition of responsibility for administering the Regulation

Clause 91 of the Protection of the Environment Operations (General) Regulation 2009 (General Regulation) declares that the EPA is the appropriate regulatory authority for any matter arising under the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2014. The proposed Regulation amends clause 91 to declare that the EPA is to be the appropriate regulatory authority for any matter arising under any relevant existing notice, direction or requirement relating to any matter arising under the proposed Regulation until that notice or direction has been complied with.

Section 6 of the *Protection of the Environment Operations Act 1997* defines the appropriate regulatory authority. Local councils are the appropriate regulatory authority for non-scheduled activities with some exceptions. This includes activities carried on by a State or public authority. The effect of the proposed Regulation and the amendment to clause 91 of the General Regulation is that:

- local councils will be the regulatory authority for most UPSS in the state
- the EPA will be the regulatory authority for UPSS managed by State and public authorities, and those where there is no local council (the unincorporated areas including Western NSW and Lord Howe Island) as well as UPSS subject to an existing notice, direction or requirement (i.e. a notice issued prior to 1 September 2019 and still in force at that date), and for UPSS subject to an environment protection licence.

It has always been the intent to hand regulatory responsibility for UPSS back to local councils. The EPA took on the responsibility in 2008 to assist in bringing the industry into compliance with the requirements of the UPSS Regulation. It was originally intended to hand regulatory responsibility back to local government after five years. However, this was delayed due to concerns about lack of capacity in local councils and the proposed council mergers.

It is difficult to quantify the cost to local councils for resuming regulatory responsibility for UPSS. The number of UPSS in each local council area will vary greatly across the State. Compliance resources also vary significantly between councils. The EPA is providing councils with training, both face-to-face (in the second half of 2019) and with the provision of online training tools. It will also be able to provide councils with support during the transition.

The annual compliance report will provide councils with an insight into how UPSS are performing across their local government areas.

6. Analysis and conclusion

6.1 Assessment of the proposed Regulation

The costs and benefits of the proposed Regulation have only had a quantitative analysis due to the difficulty of quantifying the impacts. Some additional costs for industry and councils will result from remaking the Regulation but are expected to be minimal and to be outweighed by the benefits.

Costs to industry

The current Regulation sets minimum standards for storage and management of UPSS and the use of best practice equipment to prevent leaks and management and monitoring systems by early detection of leaks if they occur.

The proposed amendments to the Regulation seek to:

- improve the clarity of definitions in the Regulation
- require advance notification to local council of the decommissioning of systems
- require a short annual report from UPSS operators to be provided to the regulatory authority
- align the requirement best practice equipment with Australian Standard AS 4897-2008.

As UPSS sites are already required to install certain mandatory best practice pollution protection, no significant equipment costs are expected to be incurred by industry.

Some additional systems licensed by the EPA that were previously exempted from the Regulation will now be covered. These systems are considered to have the same leak prevention and detection equipment and procedures in place as currently regulated systems and so are not expected to face any significant additional compliance costs.

All other additional costs are administrative in nature, relating to record keeping and reporting, and are unlikely to be significant:

- UPSS operators will be required to provide advance notification to local authorities of their intention to decommission a system. This will represent a small and infrequently incurred cost.
- All UPSS operators will be required to lodge an annual report to the regulatory authority detailing compliance with the Regulation in the previous year. Operators will incur a small cost equal to approximately one hour of time of the person responsible for the UPSS.

Costs to councils

The proposed amendments will make local councils the regulatory authority for most UPSS in the state with an associated cost of assuming this regulatory responsibility. It is difficult to quantify this cost as the number of UPSS in each local council area and compliance resources vary significantly between councils.

As councils are already the appropriate regulatory authority for activities relating to air quality, noise, surface water pollution and food hygiene at sites with a UPSS, it is envisaged that councils will be able to incorporate UPSS into their usual site compliance practices.

As currently provided for under section 608 of the *Local Government Act 1993*, councils may charge and recover an approved fee for services. This provision could be applied when making any necessary inspections of a UPSS. This fee will assist with offsetting any additional cost/s.

Benefits

Improved record keeping and reporting will enable regulatory authorities to monitor the performance of UPSS operators and make informed decisions about compliance priorities to get better environmental outcomes and more efficient use of limited compliance resources.

Broader benefits flowing from the proposed amendments are that they ensure the continuation of enforceable minimum standards for the installation, management, maintenance and leak detection of UPSS systems. They provide a regulatory, industry-wide focus on prevention rather than on cleaning-up after a pollution event.

Resulting benefits include:

- avoided economic losses for industry from lost product
- protection of land values through prevention of contamination
- protection of the environment and maintenance of the health, wellbeing and safety of the community.

The proposed amendments are therefore expected to provide a net benefit to the NSW community.

6.2 Conclusion

Leaks from UPSS are a significant source of soil and groundwater contamination. Remediation can be extremely costly, technically difficult and time consuming and the removal of all contamination may not technically be feasible.

The objective of the proposed Regulation is to reduce the potential environmental and human health risks from UPSS. The proposed Regulation ensures the:

- prevention and early detection of leaks
- reporting and investigation of leaks
- implementation of best practice equipment and management systems at all UPSS sites.

The proposed Regulation would require the person responsible for a UPSS site to undertake regular testing and monitoring of their systems for leaks and improve their environmental management practices.

While there are upfront and ongoing costs to industry (which are unlikely to be significant), particularly for smaller independent operators, the proposed Regulation will provide the community with confidence that all new UPSS's are installed and maintained to best practice standards. The proposed Regulation is intended to prevent fuel losses from UPSS and to protect the environment, which in turn will contribute to maintaining the health, wellbeing and safety of the community. The proposed Regulation will also contribute to the protection of land values and provide consent authorities with information to make informed planning decisions.

Appendices

Appendix 1: Better regulation principles

Under the *NSW Government Guide to better regulation* (NSW Treasury 2016), for new and amending regulations, a Regulatory Impact Statement (RIS) is required to address the better regulation principles set out in the guide. This is in addition to meeting the requirement of the *Subordinate Legislation Act 1989*. These principles have been applied throughout this RIS. Compliance with better regulation principles in this RIS is set out in the following table.

Table 3: Compliance with better regulation principles

Better regulation principle	UPSS issue	Compliance under the RIS
Principle 1: The need for government action should be established. Government action should only occur where it is in the public interest, that is, where the benefits outweigh the costs.	Government action is needed as industry attempts at self-regulation have not been successful in ensuring that UPSS are installed, maintained and monitored according to a minimum standard (Australian Standard AS 4827–2008). Past management practices at UPSS sites across NSW were inconsistent, particularly with respect to pollution prevention measures. Regulating UPSS contributes to maintaining the health, wellbeing and safety of the community and benefits industry by avoided economic losses from loss product. These benefits outweigh the costs to industry.	Sections 1,3
Principle 2: The objective of Government action should be clear.	The objective of Government action is to reduce the risk of contamination of land and water from leaking UPSS by requiring the persons responsible for their management to adopt a range of management, leak detection, operating and reporting procedures. By preventing contamination through improvements to site infrastructure, proficient management of equipment and early detection of leaks in UPSS, associated clean-up costs are also reduced. Environmental and human health impacts are also avoided.	Section 2

Better regulation principle	UPSS issue	Compliance under the RIS
<p>Principle 3: The impact of government action should be properly understood by considering the costs and benefits (using all available data) of a range of options, including non-regulatory options.</p>	<p>A range of other options, including non-regulatory options (guidelines, financial assurance and insurance) have been considered, including the costs and benefits.</p>	<p>Sections 3, 5</p>
<p>Principle 4: Government action should be effective and proportional.</p>	<p>The proposed Regulation applies to all persons responsible for UPSS across NSW. It does not favour or target any particular industry or group. The Regulation was established as the most effective way to achieve the objectives.</p>	<p>Sections 3, 4</p>
<p>Principle 5: Consultation with business, and the community, should inform regulatory development.</p>	<p>The EPA has ongoing formal and informal discussions with industry and local councils about UPSS regulation.</p> <p>The EPA held a workshop with petroleum industry stakeholders on 27 March 2019 to discuss issues associated with UPSS regulation. Ten workshops for councils were held in 2018.</p> <p>The RIS and the proposed Regulation will be released for public comment for four weeks.</p>	<p>Section 1</p>
<p>Principle 6: The simplification, repeal, reform or consolidation of existing regulation should be considered.</p>	<p>Allowing the Regulation to lapse was considered under option 1 (see section 3.1). This action would not adequately safeguard human health and the environment from leaking UPSS.</p>	<p>Section 3 Alternative options</p>
<p>Principle 7: Regulation should be periodically reviewed, and if necessary, reformed, to ensure its continued efficiency and effectiveness.</p>	<p>The proposed Regulation simplifies and streamlines some provisions to make them easier to understand and comply with.</p> <p>The Regulation is subject to a continuous process of review.</p>	<p>Section 4</p>

Appendix 2: Proposed amendments

Table: Proposed amendments to Regulation

Regulation 2014	Proposed Regulation	Reason
The definition of duly qualified person is a person who has competence and experience in relation to the activity being undertaken, as recognised generally in the appropriate industry.	Definition is slightly changed so that the competence and experience of a person is 'recognised by the peak body' in the relevant industry.	This change allows for industry skills accreditation to be recognised under the Regulation and allows progress towards a better competency framework in the UPSS 'industry'.
An Environment Protection Plan is required to document the design, construction and operation of the system.	Environment protection plan has been changed to Fuel System Operation Plan .	Environment protection plan only describes some functions of the plan. There are other parts which relate to site plans, site security, and contact details. Fuel System Operation Plan better describes the contents of the plan and is more likely to be understood and used in the industry. The contents required in the plan remain the same, this is a definitional change only.
Loss monitoring procedure is defined in Clause 19 (2) (a).	Definition is changed to loss monitoring systems and is referred to in clause 18 (2) (a) as included in the fuel system operation plan for the system.	This terminology aligns better with industry practice and as it includes infrastructure, it is a system, not a procedure.
Certain mandatory pollution protection equipment is required to be installed on any new or significantly modified system.	The pollution protection equipment now required for these systems is the equipment prescribed by Australian Standard 4897 – 2008 <i>The design, installation and operation of underground petroleum storage systems</i> . This is now contained in a new clause 8.	The previous mandatory pollution protection equipment was a sub-set of the equipment required by AS4897. It is proposed to align the guidelines with industry best practice for design, installation and operation of systems for consistency rather than 'cherry-pick' only certain aspects. This also aligns more closely with approaches in other states and territories.

Regulation 2014	Proposed Regulation	Reason
<p>Definition of person responsible includes the person who has management and control of the system and, for decommissioned systems, the person who had management control immediately before decommissioning.</p>	<p>An expanded definition of person responsible now includes;</p> <ul style="list-style-type: none"> • The person who has management and control of the system if the system is installed but not commissioned • if the system is no longer in use but has not been decommissioned, either the person who had management and control of the system before it ceased to be used or, if that person cannot be located, the owner of the land on which the system is located. This is included in a new clause 4. 	<p>This expanded definition will ensure that all situations have a nominated person to take responsibility for the system. Sometimes, where a system is no longer in operation, and it has not been formally decommissioned, identification of the person responsible is difficult. This expanded definition is a 'backstop' to ensure that if no one is in management and control of the system, the land owner becomes responsible for its management.</p>
<p>The definition of petroleum means any fuel that consists predominantly of a mixture of hydrocarbons derived from crude oil, whether or not the fuel includes additives (such as ethanol) and includes used oil and synthetic fuels such as 100% ethanol or biodiesel.</p>	<p>The definition has been slightly amended to mean any fuel that consists predominantly of a mixture of hydrocarbons, whether or not the fuel includes additives (such as ethanol) and includes used oil.</p>	<p>The reference to "crude oil" has been removed so as to include fuels such as ethanol or biodiesel within the definition.</p>
<p>A definition of old storage systems is provided which refers to (a) development consent that has been obtained before 1 June 2008 or (b) for which installation had lawfully commenced before 1 June 2008, or (c) that had been commissioned before 1 June 2008.</p>	<p>This definition has been removed.</p>	<p>Any development consent under (a) would have lapsed since 2008 (normally five year lapsing in EP&A Act). Any installation of a UPSS which commenced prior to 1 June 2008 under (b) would have been completed or abandoned by now.</p>
<p>Definition of secondary leak detection system is groundwater monitoring wells or an alternative secondary leak detection system. This is set out in clause 16.</p>	<p>A leak detection system is now defined in the Definitions as a system that consists of either groundwater monitoring wells or an alternative leak detection system.</p>	<p>The term secondary could be confusing given the absence of any reference to a primary leak detection system in the Regulation. No other changes apply,</p>

Regulation 2014	Proposed Regulation	Reason
		this is only a definitional change.
Clause 4 - The Regulation applies to all systems except some licensed by the EPA, liquified petroleum gas, above ground systems, or pits/sumps and stormwater or wastewater collection systems.	Clause 5 -The Regulation will now apply to all EPA licensed premises. All other exceptions from the 2014 Regulation are continued in clause 5.	All systems should have the same leak prevention and detection equipment and procedures.
Clause 15 - Where a system is decommissioned, a report on the decommissioning and remediation of any contamination must be sent to the local council within 60 days.	This requirement remains (now in clause 24), but there is an additional requirement (clause 23) for the person responsible to notify the local council of their intention to decommission a system is required, at least 30 days in advance.	If councils are informed in advance of the decommissioning of a system, they are better able to understand the implications and have input into any decommissioning requirements.
Clauses 20 and 21 require the person responsible to take action 'as soon as practicable' after becoming aware of any loss or leak.	Clauses 20 and 21 now require the person responsible to take any necessary action no later than 60 days after becoming aware of any loss or leak.	The 60-day time limit clarifies the expectation of timely action for both the person responsible and the regulated party. It is also considered a reasonable amount of time in which to take the necessary action.
No equivalent provision	Clause 29 - A new provision has been inserted to require all UPSS operators to lodge an annual report providing details of any system modification or decommissioning, a summary of the results of equipment integrity tests, and a summary of any leak detection tests or actions taken in response to other loss detection. A short description of the leak detection and loss monitoring systems and the fuel system operation plan. The reporting requirement is over a financial year and must be lodged with the appropriate regulatory authority within 60 days of the end of each financial year.	This new provision will ensure that councils have a UPSS performance in their area. Councils will be able to make informed decisions about compliance priorities to get better environmental outcomes and make more efficient use of their limited compliance resources.

Regulatory Impact Statement

Regulation 2014	Proposed Regulation	Reason
<p>Clause 29 – this makes reference to <i>Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2008</i>.</p>	<p>Clause 31 – this now refers to <i>Guidelines for Implementing the Protection of the Environment Operations (Underground Petroleum Storage Systems) Regulation 2019</i>.</p>	<p>The 2008 Guidelines have yet to be updated but will be once the proposed Regulation 2019 is close to being finalised and these will be available when the Regulation is made.</p>
<p>No equivalent Schedule</p>	<p>Schedule 1 – This Schedule sets out the transitional arrangements for the EPA to remain the appropriate regulatory authority for any UPSS that it is currently regulated under a notice, direction or requirement that was in force prior to the commencement of the proposed regulation, until such time as the notice or requirement has been complied with or satisfied.</p>	<p>It is considered appropriate for the EPA to remain the regulatory authority for any UPSS that it is currently regulating for non-compliance under the 2014 Regulation and not hand over sites to council it knows to be non-compliant.</p>