

**Review of Sydney Water
Corporation's sewage
treatment Environment
Protection Licences
Report responding to key
issues raised in submissions**

Report responding to key issues raised in submissions received by EPA in relation to the 2015 review of Sydney Water Corporation's sewage treatment system environment protection licences

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Introduction

The focus of the 2015 Sydney Water Corporation licence review was to seek community feedback and invite written submissions from all interested stakeholders on Sydney Water's licences.

The EPA received 48 submissions in relation to the licence review from a range of stakeholders, including local residents, community and environmental groups, councils/council groups and government agencies. The submissions received covered a wide range of issues including specific concerns about certain licences, general issues applicable to a number of licences and EPA's regulation of Sydney Water's operations. Some issues raised were outside the licensing framework or were considered to be whole-of-government issues.

The EPA has reviewed and considered all the submissions received during the licence review consultation period.

Category - Environmental, Amenity and Health concerns

Key Issue	Raised by	EPA Response
Odour impacts from sewage treatment plants and sewage reticulation systems on public amenity and health	<ul style="list-style-type: none"> • submissions from six individuals • submissions from three environment and/or community groups • submission from one council and/or council group • submissions from two government agencies. 	<p>Sewage treatment activities have the potential to generate odour. Section 129 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) requires that the licensee of a scheduled activity must not cause or permit the emissions of any offensive odour from the premises. There is no specific licence condition(s) on Sydney Water's Environment Protection Licences (EPLs) in relation to odour as the EPA requires Sydney Water to comply with s129 of POEO Act.</p> <p>Sydney Water employ a range of odour controls at both its sewage treatment plants (STPs) and within the sewage reticulation systems. The EPA investigates all odour complaints it receives in relation to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve odour issues. The EPA takes regulatory action if warranted.</p>
Odour impacts from biosolids handling and transportation on public amenity and health	<ul style="list-style-type: none"> • submissions from six individuals • submissions from three environment and/or community groups. 	<p>Sewage treatment activities, including the management of biosolids, have the potential to generate odour. Section 129 of the POEO Act requires that the licensee of a scheduled activity must not cause or permit the emissions of any offensive odour from the premises. There is no specific licence condition(s) on Sydney Water's Environment Protection Licences in relation to odour as the EPA requires Sydney Water to comply with s129 of POEO Act.</p> <p>Sydney Water employ a range of odour controls and mitigation measures in its management of biosolids, including both at its sewage treatment plants and during the transportation of biosolids.</p> <p>The EPA investigates all odour complaints it receives in relation to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve odour issues. The EPA takes regulatory action if warranted.</p>
Noise impacts from sewage treatment plants and sewage reticulation systems on public amenity and health	<ul style="list-style-type: none"> • submissions from three individuals. 	<p>Sewage treatment is generally considered a low noise generating activity. The EPA investigates all noise complaints it receives in relations to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve noise issues. The EPA takes regulatory action if warranted.</p>

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<p>Impacts of untreated or partially treated sewage discharges from sewage treatment plants during power outages or wet weather on water quality, aquatic ecosystems and public health</p>	<ul style="list-style-type: none"> • submissions from seven individuals • submissions from three environment and/or community groups • submission from one council and/or council group. 	<p>Sydney Water's Environment Protection Licences specify the required treatment processes for sewage before it is discharged to the environment. The level of treatment possible (and required by the Environment Protection Licences) depends on the design of the sewage treatment plant and the flow rate of sewage entering the sewage treatment plant. In dry weather, full treatment is required of the sewage. In wet weather, during high flows to sewage treatment plant (due to rainfall entering the sewerage systems), most plants are unable to fully treat all inflows resulting in some treatment processes being bypassed and the release of partially treated discharges from the sewage treatment plant.</p> <p>During rainfall, the pollutant concentrations in effluent are lower as it is diluted with stormwater. Further, elevated stormwater flows in waterways at this time result in further dilution of these partially treated or partially disinfected sewage discharges. Only in extremely unusual emergency circumstances would a treatment plant not be able to provide any level of treatment prior to discharge to the environment.</p> <p>Sydney Water is required to report to the EPA discharges that have not complied with the Environment Protection Licences treatment requirements. The EPA investigates all reports it receives regarding sewage treatment plant discharges to determine the impact of the discharge and that the clean-up undertaken by Sydney Water is timely and effective.</p> <p>The EPA also assesses whether the discharge/incident is compliant with the Environment Protection Licences and the POEO Act and takes regulatory action if warranted.</p>
<p>Impacts of untreated sewage discharges from sewage reticulation system on water quality, aquatic ecosystems, biodiversity and public health (including sewage overflows, leaks, discharges from pumping stations)</p>	<ul style="list-style-type: none"> • submissions from four individuals • submissions from four environment and/or community groups • submissions from three council(s) and/or council groups. 	<p>Sewage overflows from the reticulation system can occur in both dry and wet weather. Most dry weather overflows occur due to tree root blockages anywhere on small diameter pipes, whilst wet weather overflows are mostly caused by ingress of stormwater into the reticulation system. The reticulation system has designed discharge points in the system to prevent sewage back-up into residences during wet weather flows and blockages in the system.</p> <p>Sydney Water's Environment Protection Licences specify what sewage discharges are permitted and under what circumstances. For example, dry weather overflows from sewage pumping stations that reach waterways are not permitted. In order to reduce and minimise the environmental and public health impacts of sewer overflows, the EPA has placed limits and/or targets on the number of dry and wet weather overflows that may enter the environment for each sewerage system. These limits are used to regulate</p>

		<p>Sydney Water's performance in this area, as well as identify areas that require further overflow abatement works or repairs. Wet weather overflow abatement works have been included as pollution reduction programs on several licences where limits or targets are not being met.</p> <p>The EPA investigates all reports it receives regarding sewage discharges/incidents from the reticulation system to determine the impact of the discharge and that the clean-up undertaken by Sydney Water is timely and effective. The EPA also assesses whether the discharge/incident is compliant with the Environment Protection Licences and the POEO Act and takes regulatory action if warranted.</p>
Impacts of treated sewage discharges from sewage treatment plants on water quality, aquatic ecosystems and public health	<ul style="list-style-type: none"> • submissions from four individuals • submissions from four environment and/or community groups • submissions from three council(s) and/or council groups • submission from one government agency. 	<p>Sydney Water's Environment Protection Licences include requirements to monitor the quality of treated sewage being discharged from the sewage treatment plant to the environment to ensure compliance with licence limits. The Environment Protection Licences also require Sydney Water to undertake a range of monitoring programs through its Sewage Treatment System Impact Monitoring Program (STSIMP) which is designed to monitor the direct impacts of its sewerage activities on ecosystem health and recreational water quality and to monitor ambient environmental conditions at sites of key Sydney Water discharges to the environment.</p> <p>Sydney Water is required to submit Sewage Treatment System Impact Monitoring Program reports annually to the EPA and these documents are publicly available from Sydney Water's website.</p>
Impacts of heavy metals in discharges from Sydney Water's sewage reticulation systems on water quality, aquatic ecosystems and public health	<ul style="list-style-type: none"> • submission from one individual • submissions from five environment and/or community groups • submission from one council and/or council group. 	<p>Impacts of heavy metals in sewage treatment plant discharges are required to be monitored through Sydney Water's Environment Protection Licences. Monthly toxicity testing and monitoring of heavy metals of effluent discharges and the Ocean Sediment Program assesses the potential short and long term impacts of discharges from the deep ocean outfall plants (North Head, Malabar and Bondi) on the marine environment at and beyond the discharge location.</p> <p>The Sewage Treatment System Impact Monitoring Program reports contain results and analysis of compliance and ambient monitoring, including effluent quality and toxicity, pollutant loads, aquatic ecosystem health and long term water quality.</p>
Impact of sewage discharges from the deep ocean outfalls on aquatic ecosystems	<ul style="list-style-type: none"> • submission from one individual 	

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	<ul style="list-style-type: none"> • submissions from two environment and/or community groups • submissions from two council(s) and/or council groups. 	
Short and long term impacts of sewage discharges on water quality and aquatic ecosystems	<ul style="list-style-type: none"> • submission from one environment and/or community group • submission from one council and/or council group. 	
Impacts of pollutant loads from sewage discharges beyond the immediate discharge location	<ul style="list-style-type: none"> • submission from one environment and/or community group • submissions from two council(s) and/or council groups. 	

Category: Other concerns or issues about Sydney Water's sewerage systems

Key Issue	Raised by	EPA Response
Impacts of climate change on Sydney Water's sewerage infrastructure and its operations/management	<ul style="list-style-type: none"> • submission from one environment and/or community group • submissions from two council(s) and/or council groups. 	Sydney Water routinely assesses the impacts that climate change will have on its sewage treatment systems and operations. The impacts of a changing climate on external factors (such as flooding and bushfires) also form part of Sydney Water's considerations in planning and operation of its assets. The EPA will be working with Sydney Water and other government agencies to understand the implications of climate change impacts for Sydney Water's sewerage systems.
Concerns about the ability of Sydney Water's existing sewerage infrastructure to adequately service Sydney's future population growth	<ul style="list-style-type: none"> • submission from one individual • submission from one environment and/or community group • submissions from three council(s) and/or council groups. 	The provision of water and sewerage infrastructure to accommodate Sydney's growing population is a key issue that is currently on the NSW Government's agenda. Ongoing discussions regarding water and sewerage servicing for the Sydney Metropolitan area are part of the broader Metropolitan planning process which involves a number of key state and local government agencies, including Sydney Water, Department of Planning and Environment, Councils, IPART, EPA, as well as the private development and sewage sector. Stakeholder and community consultation is an integral part of the Metropolitan planning process and provides an opportunity to raise issues relating to water and sewerage services.
Controls on trade waste discharges are tightened to reduce the quantity of pollutants (including heavy metals) into Sydney Water's sewerage system	<ul style="list-style-type: none"> • submissions from four environment and/or community groups • submissions from two council(s) and/or council groups. 	Trade waste service agreements are between Sydney Water and private parties and are not within the EPA's jurisdiction. The Environment Protection Licences impose load and concentration limits on a range of pollutants for effluent discharge from Sydney Water's sewage treatment plants. Sydney Water must ensure that accepting trade waste into its sewerage system will not lead to a breach of these limits.
Ensure no coal seam gas waters are permitted to be discharged into Sydney Water's sewerage system	<ul style="list-style-type: none"> • submission from one individual. 	Any agreements to accept coal seam gas waters are between Sydney Water and private parties and are not within the EPA's jurisdiction. The Environment Protection Licences impose load and concentration limits on a range of pollutants for effluent discharge. Sydney Water must ensure that accepting coal seam gas waters into the sewerage system will not lead to a breach of these limits.
Acknowledgement of improvements in water quality at beaches due to Sydney Water works	<ul style="list-style-type: none"> • submission from one individual 	EPA notes this comment.

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	<ul style="list-style-type: none"> • submission from one environment and/or community group. 	
Funding by Sydney Water of remediation works to mitigate impact of sewage discharges	<ul style="list-style-type: none"> • submissions from three individuals. 	The Environment Protection Licences require Sydney Water to undertake timely and appropriate clean up actions following sewage discharges to the environment to minimise any environmental impact. Funding of remediation works by local council or community groups in relation to specific sewage discharges would need to be negotiated with Sydney Water on a case by case basis.
Development of a State and Local Government program/scheme to monitor and ensure compliance of residential stormwater and sewer connections	<ul style="list-style-type: none"> • submissions from two individuals • submissions from two environment and/or community groups • submission from one council and/or council group. 	The EPA recognises that stormwater ingress into Sydney Water's sewerage systems contributes to sewage discharges to the environment and intends to work with Sydney Water to address this issue. Stormwater inflow from private residential sewers into Sydney Water's sewerage system is one aspect that contributes to this problem. EPA currently has a pollution reduction program (PRP) on the Malabar Environment Protection Licence to develop a proposed approach to managing stormwater ingress into its system within the Wolli Creek catchment. The outcomes of this pilot program will be used to inform the management of this issue in the future.

Category: Issues with existing regulation of Sydney Water

Key Issue	Raised by	EPA Response
Inadequate complaint management by the EPA	<ul style="list-style-type: none"> • submission from one individual • submission from one environment and/or community group. 	The EPA is committed to responding to each complaint that it receives. The EPA typically follows up with the complainant and Sydney Water in relation to the complaint with an aim to resolve the issue, where possible. This generally involves EPA working with Sydney Water to implement measures to mitigate or resolve the issue of concern. The EPA is happy to receive reports from the community but also encourages the community to directly contact Sydney Water in the first instance as it may expedite resolution of the issue.
Inadequate complaint management by Sydney Water	<ul style="list-style-type: none"> • submission from one individual • submissions from two environment and/or community groups. 	Sydney Water's leaks and faults telephone line service on 13 20 90 can be contacted if there is a problem with Sydney Water's water, wastewater, recycled water or stormwater systems (including reporting of sewage discharges to the environment). Sydney Water has a customer contract and customer complaints policy which sets out its complaint management process, including what to do if your complaint is not satisfactorily resolved. These documents are located on Sydney Water's website at: Customer Contract and Customer complaints .
Ineffective odour control, management and monitoring at sewage treatment plants and sewage reticulation systems	<ul style="list-style-type: none"> • submissions from two individuals • submissions from four environment and/or community groups. 	Sydney Water employs a range of odour controls throughout its sewage reticulation systems and sewage treatment plants, as well as odour monitoring equipment on some point source emissions (e.g. odour control units) and background odour monitoring equipment installed at selected sewage treatment plants. The EPA investigates all odour complaints it receives in relation to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve odour issues. The EPA takes regulatory action if warranted.
Inadequacy of existing sewage treatment standard at sewage treatment plant and upgrade required to improve treatment of effluent before discharge	<ul style="list-style-type: none"> • submissions from nine individuals • submissions from three environment and/or community groups • submissions from three council(s) and/or council groups. 	Sydney Water's sewage treatment plants are planned and constructed as part of the broader Metropolitan planning process. Factors such as plant operation, location, discharge environment, expected population growth, wastewater treatment technologies (amongst others) are elements that are critically assessed through the planning process. Environment Protection Licences impose requirements for effluent discharge quality from the sewage treatment plants. The Environment Protection Licences do not specify the design of the plant to meet the discharge quality.

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<p>The need for improved awareness, consultation and engagement with community and relevant agencies in relation to Sydney Water's sewerage system licences (including with this Licence Review)</p>	<ul style="list-style-type: none"> • submission from one individual • submissions from three environment and/or community groups • submission from one council and/or council group • submissions from two government agencies. 	<p>The EPA considers the community to be a key stakeholder and will endeavour to consult with the community in relation to key proposals associated with Sydney Water licensing. As part of this approach, the EPA sought broad community input into the recent five year statutory review of Sydney Water Environment Protection Licences. This involved advertisements in the main and local newspapers, targeted mail-outs and information on the EPA website. The EPA will consider comments received in relation to the 2015 Sydney Water Licence Review to improve the public consultation process for future Licence Reviews.</p>
<p>The need for improved public access to or reporting of information regarding Sydney Water's sewerage system licences</p>	<ul style="list-style-type: none"> • submission from one individual • submission from one environment and/or community group • submission from one council and/or council group • submissions from two government agencies. 	<p>There is a range of information regarding Sydney Water's Environment Protection Licences that is publicly available on EPA's public register at Environment Protection licences, applications, notices, audits or pollution studies and reduction programs. This includes the Environment Protection Licences and associated licence notices, pollution reduction programs, information regarding annual return licence non-compliances and regulatory actions taken by the EPA against a licensee (including penalty notices and successful prosecutions). Pollution monitoring reports, Sewage Treatment System Impact Monitoring Program reports and Pollution Incident Response Management Plans are publicly available on Sydney Water's website.</p>
<p>Lack of transparency around the derivation and setting of licence pollutant load and concentration limits, monitoring methodology etc</p>	<ul style="list-style-type: none"> • submissions from two environment and/or community groups • submission from one council and/or council group. 	<p>The EPA is currently considering a review of licence pollutant load and concentration limits. One outcome of this review will be a document, outlining the method for deriving these limits, which can be made publicly available.</p>
<p>Insufficient catchment monitoring and reporting of sewage discharges during all weather conditions from sewage treatment plants and reticulation systems (including sewage overflows, leaks, discharges)</p>	<ul style="list-style-type: none"> • submission from one individual • submissions from three environment and/or community groups 	<p>Sydney Water's Environment Protection Licences include requirements to monitor the quality of treated sewage being discharged from the sewage treatment plant to the environment to ensure compliance with licence limits. The Environment Protection Licences also require Sydney Water to undertake a range of monitoring programs through its Sewage Treatment System Impact Monitoring Program (STSIMP) which is designed to monitor the direct impacts of its operations on ecosystem health and</p>

<p>from pumping stations, sewage treatment plant bypasses)</p>	<ul style="list-style-type: none"> • submissions from two council(s) and/or council groups. 	<p>recreational water quality and to monitor ambient environmental conditions at sites of key Sydney Water discharges to the environment. Sydney Water is required to submit Sewage Treatment System Impact Monitoring Program reports annually to the EPA and these documents are publicly available from Sydney Water's website. The EPA will discuss further with Sydney Water some of the specific comments received in the submissions relating to monitoring and reporting of sewage discharges.</p>
<p>Concerns about the adequacy of toxicity testing and compliance of pollutant concentration limits being used in the licence to measure impacts or changes to the marine environment in vicinity of deep ocean outfalls</p>	<ul style="list-style-type: none"> • submissions from three individuals • submissions from two environment and/or community groups • submission from one council and/or council group. 	<p>Sydney Water's Environment Protection Licences specify requirements to undertake monitoring of a range of pollutants as well as toxicity testing of effluent discharges from sewage treatment plants. The EPA considers the toxicity testing of effluent discharges as an adequate measure of acute impact. If the effluent is shown to have a toxic effect, further investigation would be undertaken. Other monitoring programs (such as the Ocean Sediment Program) assess the impacts of discharges from the ocean outfalls on marine ecosystem health. The Ocean Sediment Program has been in place for over 10 years with monitoring data from this program showing no measurable impact on marine ecological communities.</p>
<p>Inadequate public notification of sewage discharges/incidents in waterways which may pose a public health risk to users</p>	<ul style="list-style-type: none"> • submission from one individual • submission from one environment and/or community group • submissions from three council(s) and/or council groups • submission from one government agency. 	<p>The EPA is currently working with Sydney Water to improve public notification of sewage discharges which may pose a public health risk.</p>

Category: Issues with existing licences

Key Issue	Raised by	EPA Response
Licences are difficult to understand	<ul style="list-style-type: none"> • submission from one individual. 	The EPA acknowledges that the Sydney Water Environment Protection Licences are complex; the EPA is progressively working to improve the comprehension and accessibility of the Environment Protection Licences.
Inconsistencies across Sydney Water's sewage treatment system licences regarding treatment standards and processes at sewage treatment plants, pollutant loads and concentration limits, sewage overflow (for dry and wet weather) limits and targets (suggests that some communities and environments have less value than others)	<ul style="list-style-type: none"> • submissions from two individuals • submissions from three environment and/or community groups • submissions from four council(s) and/or council groups • submission from one government agency. 	There is a high degree of consistency in the licence conditions across the 23 Sydney Water sewage treatment system Environment Protection Licences; however the conditions with specific limits or targets vary with sewage treatment systems due to the unique circumstances of that sewage treatment system including (but not limited to) the size of the sewerage system, locality, receiving environment and sewage treatment plant design.
Licence pollutant load limits are higher than actual load discharges and have remained unchanged overtime, providing no incentive for Sydney Water to improve its performance over time	<ul style="list-style-type: none"> • submissions from four individuals • submissions from four environment and/or community groups • submissions from three council(s) and/or council groups. 	The EPA is looking to review the licence pollutant load limits across the Sydney Water Environment Protection Licences in the near future.
Licence pollutant concentration limits are too high and do not adequately reflect the treatment being used at sewage treatment plants, providing no incentive for Sydney Water to improve its performance over time	<ul style="list-style-type: none"> • submission from one individual • submissions from five environment and/or community groups 	The EPA is looking to review the licence pollutant concentration limits across the Sydney Water Environment Protection Licences in the near future.

	<ul style="list-style-type: none"> • submission from one council and/or council group. 	
The design capacity of the sewage treatment plant's disinfection process should not be exceeded	<ul style="list-style-type: none"> • submission from one council and/or council group. 	<p>Sydney Water's Environment Protection Licences specify the required treatment processes for sewage before it is discharged to the environment. The level of treatment possible (and required by the Environment Protection Licences) depends on the design of the sewage treatment plant and the flow rate of sewage entering the sewage treatment plant. In dry weather, full treatment is required of the sewage. In wet weather, during high flows to sewage treatment plant (due to rainfall entering the sewerage systems), most plants are unable to fully treat all inflows resulting in some treatment processes being bypassed and the release of partially treated discharges from the sewage treatment plant. During rainfall, the pollutant concentrations in effluent are lower as it is diluted with stormwater.</p> <p>Further, elevated stormwater flows in waterways at this time, result in further dilution of these partially treated or partially disinfected sewage discharges. Only in extremely unusual emergency circumstances would a treatment plant not be able to provide any level of treatment prior to discharge to the environment. Sydney Water is required to report to the EPA discharges that have not complied with the Environment Protection Licences treatment requirements.</p> <p>The EPA investigates all reports it receives regarding sewage treatment plant discharges to determine the impact of the discharge and that the clean-up undertaken by Sydney Water is timely and effective.</p> <p>The EPA also assesses whether the discharge/incident is compliant with the Environment Protection Licences and the POEO Act and takes regulatory action if warranted.</p>
Licences permit exceedances of pollutant concentration limits during wet weather flows	<ul style="list-style-type: none"> • submission from one environment and/or community group • submission from one council and/or council group. 	<p>Sydney Water's Environment Protection Licences specify the required treatment processes for sewage before it is discharged to the environment.</p> <p>The level of treatment possible (and required by the Environment Protection Licences) depends on the design of the sewage treatment plant and the flow rate of sewage entering the sewage treatment plant. In wet weather, during high flows to sewage treatment plant (due to rainfall entering the sewerage systems), most plants are unable to fully treat all inflows resulting in some treatment processes being bypassed and the release of partially treated discharges from the sewage treatment plant.</p>

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		<p>During wet weather bypasses, the Environment Protection Licences permit exceedances of three day geometric mean and 100 percentile concentration limits for certain pollutants in acknowledgement that sewage treatment plants may operate differently in wet weather which can affect effluent quality.</p> <p>The EPA will look to review this condition at the same time that the Environment Protection Licence pollutant concentration and load limits are reviewed.</p>
<p>Inadequacy of the existing wet weather overflow frequency limits to measure impacts. Other measurements should be included (such as volume, concentration, timing and sensitivity of environment)</p>	<ul style="list-style-type: none"> • submissions from two individuals • submissions from two environment and/or community groups • submissions from three council(s) and/or council groups • submissions from two government agencies. 	<p>Sydney Water, in close consultation with the EPA, is in the process of developing a proposal for an alternative framework for regulating and managing the impacts of wet weather overflows from its sewerage systems. It is proposed to move away from the current wet weather overflow frequency based licensing framework to a risk-based framework which would consider the overall impact of wet weather overflows rather than just frequency.</p> <p>Upon receipt of a formal licence variation application from Sydney Water to change the wet weather overflow licensing framework, the EPA will place it on public exhibition and invite submissions from interested stakeholders.</p>
<p>Existing wet weather overflow limits and targets do not reflect actual overflows (with more than the licence overflow limit) being observed within the catchment</p>	<ul style="list-style-type: none"> • submission from one individual • submissions from three environment and/or community groups • submissions from two council(s) and/or council groups • submission from one government agency. 	<p>The annual number (or frequency) of wet weather overflows for each sewage treatment system is predicted using a hydraulic sewer model. This number is used to determine compliance with the wet weather overflow limits and targets on the Environment Protection Licences, not the actual number of overflows observed in the environment. The reason for this is that the actual number of wet weather overflows in any given year is highly dependent on the rainfall patterns, with intense rain events coinciding with overflows.</p> <p>The hydraulic sewer model takes into account rainfall patterns over a ten year time frame to 'normalise' the performance so that the performance is comparable from year to year and system deterioration can be detected and managed.</p>
<p>There are several conditions on the licence relating to dry weather overflows, some of which appear to conflict with each other</p>	<ul style="list-style-type: none"> • submission from one council and/or council group. 	<p>The dry weather overflow conditions on the Environment Protection Licences are complex. The EPA is working to improve the comprehension and accessibility of the licences including the dry weather overflow conditions.</p>
<p>Inadequacy of the current dry weather leakage monitoring program within the licences</p>	<ul style="list-style-type: none"> • submission from one individual 	<p>The EPA is currently reviewing the dry weather leakage monitoring program.</p>

	<ul style="list-style-type: none">• submissions from two council(s) and/or council groups• submission from one government agency.	
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Suggested amendments to existing regulation of Sydney Water

Key Issue	Raised by	EPA Response
<p>Independent monitoring to be undertaken by the EPA or an auditor in relation to Sydney Water Corporation's sewage treatment activities, including:</p> <ul style="list-style-type: none"> • odour and air quality • water quality • impacts on aquatic ecosystems (including in and around the deep ocean outfalls) 	<ul style="list-style-type: none"> • submissions from two individuals • submission from one environment and/or community groups • submission from one council(s) and/or council groups. 	<p>The EPA is supportive of the use of independent monitoring/auditing where appropriate and will consider its application to Sydney Water Corporation's activities.</p>
<p>Requirement to have back-up power supply at sewage treatment plants to ensure sewage receives appropriate treatment before discharge</p>	<ul style="list-style-type: none"> • submissions from six individuals. 	<p>The EPA understands that Sydney Water has assessed the power supply requirements of Sydney Water's major wastewater assets. The majority of sewage pumping stations and treatment plants have dual feeder power supplies, meaning in the case that one feeder fails, power can be quickly restored.</p> <p>In some areas, Sydney Water can deploy mobile power generators to power pump stations and elements of treatment plants. In higher risk areas, some assets have fixed diesel power generators. The degree of back-up power supply is determined by a risk based approach and the power supply requirements of key processes. The combination of back-up power supply options reduces the risk of environmental impact during power supply failures but that risk will not be eliminated.</p> <p>Sydney Water is working to improve communication channels with power suppliers so that risks (such as planned maintenance) can be better managed.</p>
<p>Long term and whole of government planning and commitment to strategic investment is required for future renewal, augmentation, adaptation and innovation of Sydney Water's sewerage infrastructure (including upgrade of sewage treatment standard and alternative discharge options)</p>	<ul style="list-style-type: none"> • submissions from four individuals • submissions from four environment and/or community groups • submissions from two council(s) and/or council groups. 	<p>This is outside of the EPA's licensing framework. The provision of water and sewerage infrastructure to accommodate Sydney's growing population is a key issue that is currently on the NSW Government's agenda. Discussions regarding water and sewerage servicing for the Sydney Metropolitan area is part of the broader Metropolitan planning process which involves a number of key state and local government agencies, including Sydney Water, Department of Planning and Environment, Councils, IPART, EPA, as well as the private development and sewerage services sector.</p>

<p>Better engagement between relevant agencies in terms of Sydney Water's sewerage system licensing</p>	<ul style="list-style-type: none"> • submission from one council and/or council group • submissions from four government agencies. 	<p>The EPA considers it important to actively engage with relevant government agencies on Sydney Water sewage treatment activities where applicable and will endeavour to consult with these agencies in relation to key proposals associated with Sydney Water licensing.</p>
<p>Public access to or reporting of information regarding Sydney Water's sewerage system licences (including annual return documents, operation and maintenance records, monitoring results from dry weather leakage and dry/wet weather overflow programs (performance against Sewer Catchment Asset Management Plant targets), derivation and setting of licence pollutant load and concentration limits, monitoring methodology etc.)</p>	<ul style="list-style-type: none"> • submissions from two individuals • submissions from three environment and/or community groups • submissions from five council(s) and/or council groups • submissions from two government agencies. 	<p>There is a range of information regarding Sydney Water's Environment Protection Licences that is publicly available both on EPA's website (including the Environment Protection Licences and associated notices, regulatory actions and information regarding annual return non-compliances) and Sydney Water's website (including pollution monitoring data reports, Sewage Treatment System Impact Monitoring Program reports and Pollution Incident Response Management Plans). Sydney Water can be contacted if further information is required.</p>
<p>Public notification of sewage pollution in waterways including erection of signage at sewage overflow locations/incident discharge locations</p>	<ul style="list-style-type: none"> • submissions from two individuals • submission from one environment and/or community group • submissions from two council(s) and/or council groups • submissions from two government agencies. 	<p>The EPA is currently working with Sydney Water to improve public notification of sewage discharges which may pose a public health risk.</p>
<p>Annual returns to include list of trade waste agreements</p>	<ul style="list-style-type: none"> • submission from one council and/or council group. 	<p>Trade waste service agreements are between Sydney Water and private parties and are not within the EPA's jurisdiction. The EPA does not intend to include the trade waste agreements as part of the Environment Protection Licences or list them within the Annual Returns.</p>

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Ensure adequate resourcing and skill set within the EPA	<ul style="list-style-type: none">• submission from one environment and/or community group.	The EPA notes and agrees with this comment.
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Suggested amendments to existing licences

Key Issue	Raised by	EPA Response
Inclusion of licence condition to limit/minimise odours from sewage treatment plants and reticulation system	<ul style="list-style-type: none"> submissions from three environment and/or community groups and submission from one government agency. 	<p>Sewage treatment activities have the potential to generate odour. Section 129 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act) requires that the licensee of a scheduled activity must not cause or permit the emissions of any offensive odour from the premises. There is no specific licence condition(s) on Sydney Water's Environment Protection Licences in relation to odour as the EPA requires Sydney Water to comply with s129 of POEO Act.</p> <p>The EPA investigates all odour complaints it receives in relation to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve odour issues. The EPA takes regulatory action if warranted.</p>
Inclusion of licence condition to limit/minimise odours from biosolids handling and transportation	<ul style="list-style-type: none"> submissions from two environment and/or community groups. 	<p>Sewage treatment activities, including the management of biosolids, have the potential to generate odour. Section 129 of the POEO Act requires that the licensee of a scheduled activity must not cause or permit the emissions of any offensive odour from the premises. There is no specific licence condition(s) on Sydney Water's Environment Protection Licences in relation to odour as the EPA requires Sydney Water to comply with s129 of POEO Act.</p> <p>The EPA investigates all odour complaints it receives in relation to Sydney Water's operations and works with Sydney Water to implement measures to mitigate or resolve odour issues. The EPA takes regulatory action if warranted.</p>
Ensure all flows from sewage treatment plants under all weather conditions must be fully treated before discharged to the environment	<ul style="list-style-type: none"> submission from one council and/or council group. 	<p>Sydney Water's Environment Protection Licences specify the required treatment processes for sewage before it is discharged to the environment. The level of treatment possible (and required by the Environment Protection Licences) depends on the design of the sewage treatment plant and the flow rate of sewage entering the sewage treatment plant.</p> <p>In dry weather, full treatment is required of the sewage. In wet weather, during high flows to sewage treatment plant (due to rainfall entering the sewerage systems), most plants are unable to fully treat all inflows resulting in some treatment processes being bypassed and the release of partially treated discharges from the sewage treatment plant.</p> <p>During rainfall, the pollutant concentrations in effluent are lower as it is diluted with stormwater. Further, elevated stormwater flows in waterways at this time result in further dilution of these partially treated or partially disinfected sewage discharges. Only in</p>

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		<p>extremely unusual emergency circumstances would a treatment plant not be able to provide any level of treatment prior to discharge to the environment. Sydney Water is required to report to the EPA discharges that have not complied with the Environment Protection Licences treatment requirements.</p> <p>The EPA investigates all reports it receives regarding sewage treatment plant discharges to determine the impact of the discharge and that the clean-up undertaken by Sydney Water is timely and effective.</p> <p>The EPA also assesses whether the discharge/incident is compliant with the Environment Protection Licences and the POEO Act and takes regulatory action if warranted.</p>
<p>Tighten the licence limits for sewage treatment plant bypasses that are permitted to be discharged to waterways</p>	<ul style="list-style-type: none"> • submission from 1 environment and/or community group • submissions from two council(s) and/or council groups. 	<p>Sydney Water's Environment Protection Licences specify the required treatment processes for sewage before it is discharged to the environment. The level of treatment possible (and required by the Environment Protection Licences) depends on the design of the sewage treatment plant and the flow rate of sewage entering the sewage treatment plant. In dry weather, full treatment is required of the sewage. In wet weather, during high flows to sewage treatment plant (due to rainfall entering the sewerage systems), most plants are unable to fully treat all inflows resulting in some treatment processes being bypassed and the release of partially treated discharges from the sewage treatment plant.</p> <p>The events where sewage discharges are partially treated or partially disinfected generally correspond with periods of elevated stormwater flows in waterways where pollutant concentrations (such as faecal coliforms) are elevated and where the receiving waterways have higher levels of dilution.</p> <p>Only in extremely unusual emergency circumstances would a treatment plant not be able to provide any level of treatment prior to discharge to the environment. Sydney Water is required to report to the EPA discharges that have not complied with the Environment Protection Licences treatment requirements.</p> <p>The EPA investigates all reports it receives regarding sewage treatment plant discharges to determine the impact of the discharge and that the clean-up undertaken by Sydney Water is timely and effective.</p> <p>The EPA also assesses whether the discharge/incident is compliant with the Environment Protection Licences and the POEO Act and takes regulatory action if warranted.</p>

<p>Licence pollutant load limits and pollutant concentration limits progressively reduced over time to zero</p>	<ul style="list-style-type: none"> • submissions from two individuals • submissions from four environment and/or community groups • submissions from two council(s) and/or council groups. 	<p>The EPA is looking to review the licence pollutant load limits across the Sydney Water Environment Protection Licences in the near future. EPA considers that a goal of zero discharge is unrealistic.</p>
<p>Wet weather overflow limits progressively reduced over time to zero</p>	<ul style="list-style-type: none"> • submissions from two environment and/or community groups • submissions from three council(s) and/or council groups. 	<p>Under the existing licensing framework, there are pollution reduction programs on Sydney Water Environment Protection Licences to progressively address and reduce wet weather overflows on those sewerage systems which have not met or have been non-compliant with wet weather overflow limits or targets. EPA considers that a goal of zero wet weather overflows is unrealistic.</p> <p>Sydney Water, in close consultation with the EPA, is in the process of developing a proposal for an alternative framework for regulating and managing the impacts of wet weather overflows from its sewerage systems.</p> <p>It is proposed to move away from the current wet weather overflow frequency based licensing framework to a risk-based framework which would consider the overall impact of wet weather overflows rather than just frequency.</p> <p>Upon receipt of a formal licence variation application from Sydney Water to change the wet weather overflow licensing framework, the EPA will place it on public exhibition and invite submissions from interested stakeholders.</p>
<p>Inclusion of wet weather overflow limits for all systems that are based on other measurements beyond frequency (including volume, concentration, timing and sensitivity of environment)</p>	<ul style="list-style-type: none"> • submissions from one individual • submissions from two environment and/or community groups • submissions from one council and/or council group • submission from one government agency. 	<p>Sydney Water, in close consultation with the EPA, is in the process of developing a proposal for an alternative framework for regulating and managing the impacts of wet weather overflows from its sewerage systems.</p> <p>It is proposed to move away from the current wet weather overflow frequency based licensing framework to a risk-based framework which would consider the overall impact of wet weather overflows rather than just frequency. Upon receipt of a formal licence variation application from Sydney Water to change the wet weather overflow licensing framework, the EPA will place it on public exhibition and invite submissions from interested stakeholders.</p>

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<p>Inclusion of dry weather overflow limits for all systems and inclusion of targets for new additional Sewer Catchment Asset Management Plans (SCAMPs)</p>	<ul style="list-style-type: none"> • submissions from two council(s) and/or council groups. 	<p>Sydney Water Environment Protection Licences contain sewage treatment system limits for the total number of dry weather overflows reaching waterways and dry weather overflow targets for each sewer sub-catchment (or Sewer Catchment Asset Management Plan) within the larger sewerage system. The sub-catchments contain approximately 50-100 kilometres of sewer mains and are roughly representative of local sewer drainage catchments and stormwater drainage catchments. Sydney Water periodically adds additional Sewer Catchment Asset Management Plans to Environment Protection Licences when wastewater systems expands. Dry weather overflow limits are included on Environment Protection Licences that have greater than two Sewer Catchment Asset Management Plans within the sewage treatment system. All Environment Protection Licences include reporting requirements associated with dry weather overflows, including performance of each of these systems and Sewer Catchment Asset Management Plans.</p>
<p>Inclusion of Sewer Catchment Asset Management Plan (SCAMP) maps in licences</p>	<ul style="list-style-type: none"> • submissions from two council(s) and/or council groups. 	<p>The EPA does not intend to include the Sewer Catchment Asset Management Plan maps within the Environment Protection Licences. Sydney Water holds the maps of Sewer Catchment Asset Management Plans electronically, individual sewer sub-catchment maps are currently available on request.</p>
<p>Inclusion of program to reduce annual quantum of heavy metals discharged from Sydney Water's sewage treatment plants</p>	<ul style="list-style-type: none"> • submissions four environment and/or community groups • submission from one council and/or council group. 	<p>The EPA is looking to review the licence pollutant load limits across the Sydney Water Environment Protection Licences in the near future. Heavy metal loads would be considered as part of this review.</p>
<p>Additional licence concentration limits and monitoring requirements for new pollutants and bacterial indicators (e.g. inclusion of enterococci)</p>	<ul style="list-style-type: none"> • submissions from two individuals • submission from one environment and/or community group • submission from one council and/or council group • submissions from two government agencies. 	<p>The EPA will investigate whether additional pollutants should be added to the licences, with the initial focus on bacterial indicators.</p>

<p>Additional water sampling and monitoring locations included on licences (beyond immediate sewage treatment plant discharge location), including catchment monitoring of sewage discharges during all weather conditions (e.g. sewage overflows, leaks, pumping station discharges)</p>	<ul style="list-style-type: none"> • submissions from one individual • submissions from one environment and/or community group • submissions from two council(s) and/or council groups. 	<p>Sydney Water's Environment Protection Licences include requirements to monitor the quality of treated sewage being discharged from the sewage treatment plant to the environment to ensure compliance with licence limits. The Environment Protection Licences also require Sydney Water to undertake a range of monitoring programs through its Sewage Treatment System Impact Monitoring Program (STSIMP) which is designed to monitor the direct impacts of its sewerage activities on ecosystem health and recreational water quality and to monitor ambient environmental conditions at sites of key Sydney Water discharges to the environment.</p> <p>Sydney Water is required to submit Sewage Treatment System Impact Monitoring Program reports annually to the EPA and these documents are publicly available from Sydney Water's website. The EPA will discuss further with Sydney Water some of the specific comments received in the submissions relating to monitoring and reporting of sewage discharges.</p>
<p>Inclusion of programs or conditions within licences to reduce/eliminate stormwater ingress into sewage reticulation systems</p>	<ul style="list-style-type: none"> • submissions from two individuals • submissions from two environment and/or community groups • submissions from three council(s) and/or council groups. 	<p>The EPA recognises that stormwater ingress into Sydney Water's sewerage system contributes to sewage discharges to the environment and intends to work with Sydney Water to address this issue. Stormwater inflow from private residential sewers into Sydney Water's sewerage system is one aspect that contributes to this problem. EPA currently has a pollution reduction program (PRP) on the Malabar Environment Protection Licence to develop a proposed approach to managing stormwater ingress into its system within the Wolli Creek catchment. The outcomes of this pilot program will be used to inform the management of this issue in the future.</p>
<p>Community goals for receiving environments should be reflected in licences</p>	<ul style="list-style-type: none"> • submission from one individual • submissions from two environment and/or community groups • submissions from two council(s) and/or council groups. 	<p>The EPA's review of licence pollutant concentration and load limits will consider community goals for receiving environments.</p>
<p>Licences need to drive continuous improvement of operation and performance of sewage treatment systems (e.g. inclusion of</p>	<ul style="list-style-type: none"> • submission from one individual 	<p>One of the objectives of the Sydney Water's Environment Protection Licences is to require no deterioration and continuing improvement in the environmental performance of its sewage treatment systems. It is acknowledged that aside from the strategic programs around wet weather overflows, there are few time-based targets in the</p>

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<p>incentives/stretch or time-based targets)</p>	<ul style="list-style-type: none"> • submissions from two environment and/or community groups • submission from one council and/or council group. 	<p>licences. However, EPA will consider this approach when reviewing licence conditions regarding continuous improvement.</p>
<p>The consequences of non-compliances/breach of licence conditions need to be outlined within the licences</p>	<ul style="list-style-type: none"> • submission from one environment and/or community group • submission from one1 council and/or council group. 	<p>The EPA considers that outlining the non-compliance consequences is not required in the Environment Protection Licences. The EPA makes regulatory decisions in relation to licence non-compliances and breaches of environmental legislation guided by the EPA's Compliance Policy and Prosecution Guidelines which are available on the EPA website.</p>
<p>Inclusion of a licence requirement for Sydney Water to notify relevant agencies (e.g. NSW Health, Council, NSW Food Authority) of sewage discharges/incidents that pose a potential risk to public health concerns</p>	<ul style="list-style-type: none"> • submissions from two council(s) and/or council groups • submissions from four government agencies. 	<p>Under Part 5.7 of the POEO Act, Sydney Water is required to immediately notify all relevant authorities (including EPA, Council, Fire and Rescue NSW, NSW Health and WorkCover) of incidents (including those that are sewage-related) causing or threatening material harm to the environment (including public health). Condition R2 of Sydney Water Environment Protection Licences reiterate the Part 5.7 notification requirements.</p> <p>Sydney Water also has notification protocols with other relevant agencies to notify of sewage-related incidents that may pose potential risk to public health (e.g. NSW Food Authority, Beachwatch and NSW Health). Sydney Water's pollution incident response management plans (PIRMPs) and other procedures specify the relevant agencies it notifies in relation to such incidents.</p>
<p>Inclusion of licence condition that requires Sydney Water to take direct and proactive action to manage the impacts of sewage treatment plant bypasses, overflow events and sewage incidents</p>	<ul style="list-style-type: none"> • submissions from two environment and/or community groups • submissions from two council(s) and/or council groups • submission from one government agency. 	<p>Condition O3 of Sydney Water's Environment Protection Licences requires Sydney Water to take all practicable measures to minimise the impacts of any overflow or bypass on the environment or public health. The EPA will look to broaden this condition to include other sewage-related discharges.</p>

<p>Inclusion of treated effluent reuse and recycling targets with the licences with reasonable timeframes</p>	<ul style="list-style-type: none"> • submission from one individual • submissions from two environment and/or community groups • submissions from three council(s) and/or council groups. 	<p>The EPA supports the reuse and recycling of treated effluent; a number of Sydney Water's sewage treatment plants result in treated discharges being used for reuse and recycling either on or off-site. However, imposing requirements in relation to this issue is currently outside the scope of the licensing framework.</p>
<p>Ensure that the progress and performance of Pollution Reduction Programs are measured, reviewed and publicly reported with community consultation (including at development phase)</p>	<ul style="list-style-type: none"> • submissions from five environment and/or community groups • submissions from three council(s) and/or council groups • submission from one government agency. 	<p>The EPA notes the community is a key stakeholder and is committed to engaging with the community on key licensing issue including appropriate pollution reduction programs (PRPs).</p>