



# Environment Protection Licence

Licence - 372

<b>Licence Details</b>	
Number:	372
Anniversary Date:	01-July

  

<b>Licensee</b>
SYDNEY WATER CORPORATION
PO BOX 399
PARRAMATTA NSW 2124

  

<b>Premises</b>
SOUTHERN SUBURBS SEWAGE TREATMENT SYSTEM INCLUDING THE MALABAR STP AT FISHERMANS ROAD MALABAR NSW 2036

  

<b>Scheduled Activity</b>
Sewage treatment

  

<b>Fee Based Activity</b>	<b>Scale</b>
Sewage treatment processing by large plants	> 30000 ML annual maximum volume of discharge

  

<b>Contact Us</b>
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## Information about this licence

### Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

### Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

### Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

### Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

### Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

### Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).



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The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

### Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

### Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

### This licence is issued to:

SYDNEY WATER CORPORATION
PO BOX 399
PARRAMATTA NSW 2124

subject to the conditions which follow.



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## 1 Administrative Conditions

### A1 What the licence authorises and regulates

- A1.1 This licence authorises the carrying out of the scheduled development work listed below at the premises listed in A2: Not applicable.
- A1.2 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Sewage treatment	Sewage treatment processing by large plants	> 30000 ML annual maximum volume of discharge

- A1.3 Not applicable.
- A1.4 The objectives of this licence are to:
- a) require practical measures to be taken to protect the environment and public health from sewage treatment plant effluent and sewer overflows;
  - b) require proper and efficient management of the sewage treatment system to minimise harm to the environment and public health;
  - c) require no deterioration and continuing improvement in the sewage treatment system environmental performance relative to existing conditions; and
  - d) minimise the frequency and volume of overflows and sewage treatment plant bypasses.
- A1.5 This licence is to be construed in a manner that will promote the objectives referred to in A1.4.

### A2 Premises or plant to which this licence applies

- A2.1 The licence applies to the following premises:

Premises Details
SOUTHERN SUBURBS SEWAGE TREATMENT SYSTEM INCLUDING THE MALABAR STP AT FISHERMANS ROAD
MALABAR
NSW 2036
LOT 1 DP 222550



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ALSO INCLUDES THE FOLLOWING STPS:  
FAIRFIELD STORM STP, SYMONS STREET, FAIRFIELD LOTS 1-6 DP11959  
AND LAND IN DP107139  
GLENFIELD STP, VICTORIA ROAD, MACQUARIE FIELDS, LOT 1 DP960  
LIVERPOOL STP, SCRIVENER STREET, LIVERPOOL, ALL LOTS DP87962,  
LOTS 1-2 DP553288 AND LOT 1 DP536200

A2.2 The premises also includes the reticulation system owned and operated by the licensee that is associated with the sewage treatment plant(s) identified in condition A2.1.

### A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Chemical Storage
Composting
Electricity generation

### A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:  
a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and  
b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

A4.2 Notwithstanding condition A4.1, works and activities carried out by the licensee must not be inconsistent with the EPA's Determining Authority Report for the Sewer Overflow Licensing Program, dated May 2000.

## 2 Discharges to Air and Water and Applications to Land

### P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

Air			
EPA identi- fication no.	Type of Monitoring Point	Type of Discharge Point	Location Description



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1	Discharge to air		Air sampling outlet of the foul air scrubbers labelled "ID Point #1" on drawing titled "Malabar STP 2 Simplified Site Layout" submitted to the EPA 23 June 2005
84	Air emission monitoring Discharge to air	Air emission monitoring Discharge to air	Air sampling outlet of the cogeneration facility labelled "NEW ID Point #84" on drawing titled "Malabar WWTP Revised: 1 April 2011" submitted to EPA 3 May 2011.
85	Air emission monitoring Discharge to air	Air emission monitoring Discharge to air	Air sampling outlet of the cogeneration facility labelled "NEW ID Point #85" on drawing titled "Glenfield WWTP Revised: 1 April 2011" submitted to EPA 3 May 2011.
86	Air emission monitoring Discharge to air	Air emission monitoring Discharge to air	Air sampling outlet of the cogeneration facility labelled "NEW ID Point #86" on drawing titled "Liverpool WWTP Revised: 1 April 2011" submitted to EPA 3 May 2011.

P1.2 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

P1.3 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

## Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
2		Discharge to waters	Deep water ocean outfall on seabed approximately 4.1 kilometres east of cliff face at Malabar STP labelled "Deep Water Ocean Outfall" on "Map 24" submitted to the EPA 23 June 2005
3		Discharge to waters	Submerged shoreline ocean outfall labelled "ID Pts 3 & 4 SWSOOS 1 & 2 Submerged Shoreline Ocean Outfall" on "Map 74" submitted to the EPA 23 June 2005
4		Discharge to waters	Submerged shoreline ocean outfall labelled "ID Pts 3 & 4 SWSOOS 1 & 2 Submerged Shoreline Ocean Outfall" on "Map 74" submitted to the EPA 23 June 2005
5	Volume monitoring		Malabar STP effluent weirs labelled "ID Point #5" on drawing titled "Malabar STP 2 Simplified Site Layout" submitted to the EPA 23 June 2005

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6	Effluent quality monitoring	Upstream of the bulkhead in the effluent channel leading to the deepwater ocean outfall labelled "ID Point #6" on the drawing titled "Malabar STP 2 Simplified Site Layout" submitted to the EPA 23 June 2005
7	Effluent quality monitoring	Upstream of inlet penstocks labelled "ID Point #7" on the drawing titled "Malabar STP 2 Simplified Site Layout" submitted to the EPA 23 June 2005
8	Effluent quality monitoring	Upstream of inlet penstocks labelled "ID Point #8" on the drawing titled "Malabar STP 2 Simplified Site Layout" submitted to the EPA 23 June 2005
9	Discharge to waters	Effluent diversion structure at Chipping Norton labelled "ID9 ID12 ID15" on drawing titled "Figure 2 - Georges River Effluent Transfer Scheme - Schematic" submitted to the EPA 23 June 2005
11	Volume monitoring	Downstream of SPS582, effluent flows from Liverpool STP to North Georges River submain labelled "ID11" on drawing titled "Liverpool STP Site Plan 02-07-2001" submitted to the EPA 21 June 2005
12	Volume monitoring	Effluent diversion structure at Chipping Norton labelled "ID9 ID12 ID15" on drawing titled "Figure 2 - Georges River Effluent Transfer Scheme - Schematic" submitted to the EPA 23 June 2005
15	Effluent quality monitoring	Effluent diversion structure at Chipping Norton labelled "ID9 ID12 ID15" on drawing titled "Figure 2 - Georges River Effluent Transfer Scheme - Schematic" submitted to the EPA 23 June 2005
17	Discharge to waters	Overflow from oxidation ponds at Glenfield STP to Georges River labelled "ID 17" on drawing titled "Glenfield STP 19/11/98" submitted to the EPA 23 June 2005
18	Volume monitoring	Overflow chamber at Glenfield STP labelled "ID18 ID20" on drawing titled "Glenfield STP 19/11/98" submitted to the EPA 23 June 2005
19	Volume monitoring	Downstream of SPS580, effluent flows to NGRS or Liverpool STP from Glenfield STP labelled "ID19" on drawing titled "Glenfield STP 19/11/98" submitted to the EPA 23 June 2005

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20	Effluent quality monitoring		Overflow chamber at Glenfield STP labelled "ID18 ID20" on drawing titled "Glenfield STP 19/11/98" submitted to the EPA 23 June 2005
22		Discharge to waters	Overflow outlet from Fairfield STP to the Orphan School Creek labelled "ID22" on drawing titled "Fairfield SSTP Site Plan 03-05-2003" submitted to the EPA 21 June 2005
23	Volume monitoring		Downstream of the bar screens prior to the common grit tank at Fairfield STP labelled "ID23" on drawing titled "Fairfield SSTP Site Plan 03-05-2003" submitted to the EPA 21 June 2005
24	Effluent quality monitoring		Effluent channel at Fairfield STP labelled "ID24" on drawing titled "Fairfield SSTP Site Plan 03-05-2003" submitted to the EPA 21 June 2005
47	Discharge to utilisation area; Volume monitoring	Discharge to utilisation area; Volume monitoring	Outlet from Liverpool STP chlorine contact tank to Warwick Farm racecourse labelled "ID47" on drawing titled "Liverpool STP Site Plan 02-07-2001" submitted to the EPA June 2005
75	Volume monitoring; Discharge to utilisation area	Volume monitoring; Discharge to utilisation area	Outlet of chlorine contact tank to Liverpool Golf Course labelled "ID75" on drawing titled "Liverpool STP Site Plan 02-07-2001" submitted to the EPA 21 June 2005
76	Effluent quality monitoring		Recycled Water Chlorine Contact Tank
80	Volume monitoring		In the pipe to the Western Branch Main Sewer, downstream of the LAP Pumping Station (SPS 368), labelled "ID80" on the drawing titled "Revised Liverpool STP Process Flow Chart", dated 26 June 2008, submitted to the EPA on 1 July 2008.
81	Effluent quality monitoring		Overflow chamber (Chamber 8302) downstream of the chlorine contact tank (CCT2) labelled "ID81" on the drawing titled "Revised Liverpool STP Process Flow Chart", dated 26 June 2008, submitted to the EPA on 1 July 2008.
82	Volume monitoring		Level Sensor located on the north wall of the inlet weir of chlorine contact tank (CCT2) labelled "ID82" on the drawing titled "Revised Liverpool STP Process Flow Chart", dated 26 June 2008, submitted to the EPA on 1 July 2008.



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83	Discharge to waters	Discharge point located downstream of CCT2 at access chamber to channel connecting CCT2 to Georges river labelled "ID83" on the drawing titled "Revised Liverpool STP Process Flow Diagram"dated 9 November 2009, submitted to the EPA on 30 November 2009
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## 3 Limit Conditions

### L1 Pollution of waters

- L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.
- L1.2 Subject to the conditions of this licence, sewage must not be discharged from the components of the reticulation system except from those components identified on the system map.
- L1.3 Notwithstanding the provisions of the condition above, this licence does not permit the pollution of waters at any time during dry weather from:
- a) uncontrolled overflows, or
  - b) directed overflows other than from sewage pumping stations,
- if a cause of the pollution is failure to:
- i) operate any part of the reticulation system in a proper and efficient manner; or
  - ii) maintain any part of the reticulation system in a proper and efficient condition.
- L1.4 This licence does not permit the pollution of water at any time during dry weather from any pumping station. This condition is effective from 1 July 2006.

### L2 Load limits

- L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

- L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

Assessable Pollutant	Load limit (kg)
BOD (Coastal Water)	58217500.00
BOD (Enclosed Water)	
Cadmium (Coastal Water)	301.00
Cadmium (Enclosed Water)	

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Chromium (Coastal Water)	10804.00
Chromium (Enclosed Water)	
Copper (Coastal Water)	43610.00
Copper (Enclosed Water)	
Lead (Coastal Water)	5615.00
Lead (Enclosed Water)	
Mercury (Coastal Water)	103.00
Mercury (Enclosed Water)	
Nitrogen (total) (Coastal Water)	13231250.00
Nitrogen (total) (Enclosed Water)	
Oil and Grease (Coastal Water)	9261875.00
Oil and Grease (Enclosed Water)	
Pesticides and PCBs (Coastal Water)	340.00
Pesticides and PCBs (Enclosed Water)	
Phosphorus (total) (Coastal Water)	2646250.00
Phosphorus (total) (Enclosed Water)	
Selenium (Coastal Water)	3969.00
Selenium (Enclosed Water)	
Total suspended solids (Coastal Water)	47632500.00
Total suspended solids (Enclosed Water)	
Zinc (Coastal Water)	59761.00
Zinc (Enclosed Water)	

- L2.3 For the purposes of condition L2.1 only, premises means the sewage treatment plant(s) referred to in condition A2.1 of this licence.
- L2.4 For the purposes of condition L2.2 and M1.1 the relevant load calculation protocol is the methodology detailed in the document titled "Development of Load Calculation Method and Trial Calculation" (June 2003) approved by the EPA in September 2003 and any subsequent amendments approved by the EPA in writing.

## L3 Concentration limits

- L3.1 For each monitoring/discharge point or utilisation area specified in the table/s below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.
- L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.
- L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those



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specified in the table's.

## L3.4 Water and/or Land Concentration Limits

### POINT 2

Pollutant	Units of Measure	Average percentile concentration limit	50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
Aluminium	micrograms per litre	885	-	1837	-
Hydrogen sulfide (un-ionised)	micrograms per litre	187	-	580	-
Nonylphenol ethoxylates	micrograms per litre	332	-	515	-

### POINT 9,17,47,75

Pollutant	Units of Measure	Average percentile concentration limit	50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
Biochemical oxygen demand	milligrams per litre	-	-	-	100
Total suspended solids	milligrams per litre	-	-	-	100

### POINT 22

Pollutant	Units of Measure	Average percentile concentration limit	50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
Biochemical oxygen demand	milligrams per litre	-	-	-	100
Total suspended solids	milligrams per litre	-	-	-	120

### POINT 83

Pollutant	Units of Measure	Average percentile concentration limit	50 percentile concentration limit	90 percentile concentration limit	100 percentile concentration limit
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Biochemical oxygen demand	milligrams per litre	100
Total suspended solids	milligrams per litre	100

POINT 2

Pollutant	Units of Measure	3DGM	50 percentile concentration limit	90 percentile concentration limit
Oil and grease	milligrams per litre	70	55	70
Total suspended solids	milligrams per litre	350	250	300

- L3.5 When a wet weather sewage treatment plant overflow is occurring, exceedances of the 3DGM and the 100 percentile concentration limits in condition L3.4 are permitted at the following points for the duration of the overflow where the overflow was the sole cause of the exceedance: 2, 9, 17, 22 and 83.
- L3.6 Not applicable.
- L3.7 For each monitoring/discharge point specified in the table(s) below (by a point number), the specified toxic effect of the effluent on the specified test organism must be greater than the corresponding limit listed for that organism in the table.

POINT 2

Toxicity	Units of Measure	50 percentile limit	90 percentile limit
Sea urchin sperm fertilisation (EC50)	percent effluent by volume	0.19	0.1

L4 Volume and mass limits

- L4.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:  
a) liquids discharged to water; or;  
b) solids or liquids applied to the area;  
must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of Measure	Volume/Mass Limit
2	megalitres per day	1199
3	megalitres per day	1199
4	megalitres per day	1199



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22	megalitres per day	460
47	megalitres per day	5
75	megalitres per day	5

L4.2 Notwithstanding the volume limits specified in condition L4.1, the combined volume discharged from point(s) 2, 3 and 4 must not exceed 1199 ML/day.

## L5 Waste

- L5.1 The licensee must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by the licence.
- L5.2 This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if those activities require an environment protection licence.
- L5.3 The licensee may receive and/or transfer sewage generated outside the premises for treatment, processing or reprocessing at the premises. The licensee must take reasonable steps to ensure that sewage received at the premises has been lawfully discharged in accordance with a trade waste agreement or customer contract (as applicable) in force between the licensee and the generator of the waste. The licensee must treat, process or reprocess the sewage in accordance with this licence prior to discharge from the premises.
- L5.4 The licensee may receive, store, treat, process or reprocess and/or transfer at the premises sewage products generated or stored outside the premises by the licensee’s other sewage treatment systems. Sewage products must be received, treated, processed or reprocessed in accordance with this licence.

## L6 Noise limits

- L6.1 Not applicable.

## L7 Other limit conditions

### L7.1 Hydraulic Sewer System Model

- a) The licensee must maintain a hydraulic sewer system model which has no temporal or magnitude bias in either flow volume or water levels at the licence gauges as referenced in the document titled "PRP101.1 System Model Performance Indicators, September 2000" and subsequent modifications made by the Criteria Review Committee.
- b) The licensee must undertake an annual Quality System audit of the hydraulic sewer system model to determine if the model used during that reporting period meets the standards set out in condition L7.1(a).
- c) The licensee must prepare a written report on each Quality System audit of any model used to assess sewage system wet weather overflow performance for the purpose of determining compliance with this licence. The report must also include the Pearson’s correlation coefficient for the model used during the reporting period.
- d) The licensee must provide a written report with each Annual Return on any Quality System



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- audit of the hydraulic sewer system model stating the methodology and results of the audit.
- e) The licensee must convene an Independent Criteria Review Committee at least once every three Reporting Periods to review the methodology and findings of each of the Quality System audits.
  - f) The licensee must ensure that the Independent Criteria Review Committee prepares a written report on the review required by condition L7.1(e).
  - g) The licensee must submit to the EPA a copy of each Independent Criteria Review Committee report received by the licensee in a particular Reporting Period with the following Annual Sewage Treatment System Performance Report required by condition R5 of this licence.

## L7.2 Wet weather overflow limits

Not applicable.

## L7.3 Wet weather overflow improvement requirements

Note: The objective of this condition is to require continuous reductions in impacts to the environment and community from wet weather overflows by requiring the licensee to achieve set improvement levels within defined periods based on abatement of prioritised sites.

- a) By 30 November 2027, and thereafter at intervals of not greater than every five years, the licensee must submit to the EPA a proposed wet weather overflow prioritisation list for all the wet weather overflow sites in Sydney Water's licensed reticulation systems the subject of environment protection licences 372, 378, 1688, and 1728.
- b) For the purposes of producing the wet weather overflow prioritisation list as required by condition L7.3a), the licensee must determine the prioritisation of wet weather overflow sites using the applicable methodology developed in accordance with the relevant conditions of Pollution Study 307.

Note: Upon acceptance by the EPA, the wet weather overflow prioritisation list will form the basis for an associated improvement level identified in PRP 307, and the licensee will have a maximum of five years to achieve that improvement level.

- c) The licensee must achieve the improvement levels in PRP 307 by the associated completion date specified.
- d) Within three months after a completion date specified in PRP 307, the licensee must provide a report to the EPA demonstrating compliance or otherwise with condition L7.3c).

## L7.4 Dry weather overflow limits

The total number of dry weather overflows reaching waterways from the sewage treatment system subject to this licence must not exceed 122 in any reporting period.

## L7.5 Choke improvement requirements

Note: The objective of this condition is to require continuous reductions in impacts to the environment and community from chokes by requiring the licensee to achieve set improvement levels within defined periods

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based on abatement works in prioritised areas.

a) By 31 December 2024 and then again by 31 December 2027, and thereafter at intervals of not greater than every five years, the licensee must submit to the EPA a proposed choke improvement prioritisation list. The list must be based on the scope of all the areas in Sydney Water's licensed reticulation systems.

b) For the purposes of producing the choke improvement prioritisation list as required by condition L7.5a), the licensee must determine the prioritisation of choke improvement areas using the applicable methodologies developed in accordance with the relevant conditions of Pollution Study 309.

Note: Upon acceptance by the EPA, the choke improvement prioritisation list will form the basis for an associated improvement level imposed under PRP 308, and the licensee will have a maximum of five years to achieve that improvement level.

c) The licensee must achieve the improvement levels in PRP 308 by the associated completion date specified.

d) Within three months after a completion date specified in PRP 308, the licensee must provide a report to the EPA demonstrating compliance or otherwise with condition L7.5c).

## 4 Operating Conditions

### O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O1.2 Biosolids at the premises must be stored, treated, processed, classified, transported and disposed in accordance with the Biosolids Guidelines, or as otherwise approved in writing by the EPA.

### O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

### O3 Emergency response

O3.1 In the event of an overflow from the reticulation system or a bypass from a sewage treatment plant that harms or is likely to harm the environment or present a significant public health risk, the licensee must take all reasonable and feasible actions as soon as practicable to minimise the impact of the overflow or bypass on the environment and public health.



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For the avoidance of doubt, the requirements of this condition are in addition to any measures required to be implemented in accordance with the Pollution Incident Response Management Plan required to be prepared and implemented under Part 5.7A of the Protection of the Environment Operations Act 1997.

## O4 Processes and management

### O4.1 Appropriate Treatment Processes

Sewage or effluent must be processed in accordance with the requirements of the table below.

Inflows to or Effluent from	Flow range	Required process	Discharge point
Inflow to Malabar sewage treatment plant	Less than 9,260 L/s	Screening, degritting and primary sedimentation	Point 2
Inflow to Malabar sewage treatment plant	9,260 L/s or more	Screening	Points 2, 3 and 4
Effluent from Liverpool sewage treatment plant	Less than 2600L/s	Screening, degritting, primary sedimentation, ponding and chlorination	Point 9
Effluent from Liverpool sewage treatment plant	Greater than 2600L/s and less than 5300L/s	Screening, storm tank, ponding and chlorination	Point 83
Effluent from Glenfield sewage treatment plant	All flows	Screening, storm tank or primary sedimentation, ponding and chlorination	Point 17
Effluent from Fairfield sewage treatment plant	All flows	Chemically assisted sedimentation	Point 22

### O4.2 Sewage or effluent must not be discharged from the following:

Point 17 unless:

- a) the pumping capacity of SPS580 is exceeded; and
- b) the oxidation pond and storm tanks at Glenfield STP are full.

Point 9 unless:

- a) the oxidation pond at Liverpool STP is full; and
- b) the pumping capacity of SPS406 is exceeded; or
- c) there is insufficient available capacity in the Northern Georges River Submain.

Point 22 unless:

- a) there is insufficient capacity in the Northern Georges River Submain; and/or
- b) when the pumping capacity of SPS384 and/or SPS419 are exceeded; and
- c) tanks storage at Fairfield STP is full.

Point 83 unless:

- a) the pumping capacity of SPS582 is exceeded; and
- b) the oxidation pond at Liverpool STP is full.

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O4.3 Not applicable.

O4.4 Not applicable.

O4.5 Not applicable.

O4.6 Not applicable.

## O4.7 Level of reticulation system management, operations and maintenance activities

The reticulation system must be managed, operated and maintained such that the operational and maintenance works and activities result in ongoing improvement in the system environmental performance, when compared with existing system environmental performance. The system environmental performance must not at any time fall below existing system environmental performance.

O4.8 For the purposes of determining whether the system environmental performance has fallen below existing system environmental performance:

- a) in relation to chokes, the licensee is to compare the average number of chokes per year per 100km of pipe in the reticulation system of all of the licensee's sewage treatment systems averaged over the period 1 July 1995 to 30 June 2000 to the average annual number of chokes averaged over all of the licensee's sewage treatment systems over the reporting period and the preceding four twelve month periods;
- b) in relation to odour complaints, the licensee is to compare the number of odour complaints from the reticulation system per year averaged over the period 1 July 1995 to 30 June 2000 to the average annual number of odour complaints over the reporting period and the preceding four twelve month periods;
- c) in relation to wet weather overflows, the licensee is to compare the number of wet weather overflows per 10 years as predicted by the hydraulic sewer system model for 1994 to the number of wet weather overflows per 10 years as predicted by the hydraulic sewer system model for the reporting period. This comparison must use the 10 year rainfall time series data in each model.

## O4.9 Wet weather partial treatment discharges

The sewage treatment system must be managed, operated and maintained such that the operational and maintenance works and activities must not at any time increase the frequency of wet weather partial treatment discharges above the existing wet weather partial treatment discharge frequency.

O4.10 For the purposes of determining compliance with condition O4.9, the licensee is to compare the number of wet weather partial treatment discharges per 10 years as predicted by the hydraulic sewer system model for 1994 to the number of wet weather partial treatment discharges per 10 years as predicted by the hydraulic sewer system model for the reporting period. This comparison must use the 10 year rainfall time series data in each model.

O4.11 A wet weather partial treatment discharge occurs when the inflow rate of sewage to the sewage treatment plant equals or exceeds:

- a) 11,600 L/s at the Malabar sewage treatment plant;
- b) 5300L/s at the Liverpool sewage treatment plant;
- c) any discharge to the Georges River from the Glenfield sewage treatment plant; or

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d) any discharge to Orphan School Creek from the Fairfield sewage treatment plant.

## O5 Other operating conditions

### O5.1 Prohibition on acceptance of pesticides

The licensee must not consent to any discharge of organophosphate pesticides (including chlorpyrifos, diazinon, malathion) or organochlorine pesticides (including dieldrin, heptachlor and chlordane) into the sewage treatment system.

## 5 Monitoring and Recording Conditions

### M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

### M1.4 Registers

The licensee must maintain and make available for inspection by the public, at the licensee's Head Office, registers recording the following information, for the sewage treatment system:

- a) a map or maps of the sewage treatment system showing:
  - i) the location of the sewage treatment plant or plants, sewage pumping stations, directed overflow structures, pipes and access chambers in the sewage treatment system, referenced by the licensee's identifier and the EPA point identification number, as applicable;
  - ii) the catchments, sub-catchments and sensitive areas relevant to the sewage treatment system;
- b) the number of chokes within the system reported to the licensee during each reporting period;
- c) a schedule of proposed works to be carried out in relation to the premises during each reporting period;
- d) the works completed in relation to the premises during each reporting period; and
- e) the complaints by type recorded under M7 during each reporting period.

M1.5 Changes to the system map must be recorded by reference to the date of the change, description of the change and the name of the person authorising the change.



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## M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

### M2.2 Air Monitoring Requirements

#### POINT 1

Pollutant	Units of measure	Frequency	Sampling Method
Chlorine	milligrams per cubic metre	Monthly	Special Method 1
Hydrogen Sulfide	milligrams per cubic metre	Special Frequency 3	Special Method 1

#### POINT 84

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11

#### POINT 85

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11

#### POINT 86

Pollutant	Units of measure	Frequency	Sampling Method
Nitrogen Oxides	milligrams per cubic metre	Yearly	TM-11

### M2.3 Water and/ or Land Monitoring Requirements

#### POINT 6

Pollutant	Units of measure	Frequency	Sampling Method
Aluminium	micrograms per litre	12 Times a year	Composite sample
Hydrogen sulfide (un-ionised)	micrograms per litre	12 Times a year	Grab sample
Nonylphenol ethoxylates	micrograms per litre	12 Times a year	Composite sample



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Oil and Grease	milligrams per litre	Special Frequency 1	Composite sample
Total suspended solids	milligrams per litre	Special Frequency 1	Composite sample
Toxicity	percent effluent by volume	12 Times a year	Grab sample

POINT 7

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 4	Composite sample
Total suspended solids	milligrams per litre	Special Frequency 4	Composite sample

POINT 8

Pollutant	Units of measure	Frequency	Sampling Method
Oil and Grease	milligrams per litre	Special Frequency 4	Composite sample
Total suspended solids	milligrams per litre	Special Frequency 4	Composite sample

POINT 15

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Special Frequency 2	Grab sample
Faecal Coliforms	colony forming units per 100 millilitres	Special Frequency 2	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample

POINT 20

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Special Frequency 2	Grab sample
Faecal Coliforms	colony forming units per 100 millilitres	Special Frequency 2	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample

POINT 24

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Special Frequency 2	Grab sample
Faecal Coliforms	colony forming units per 100 millilitres	Special Frequency 2	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample

POINT 76





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Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Monthly during discharge	Composite sample
Total suspended solids	milligrams per litre	Monthly during discharge	Composite sample

**POINT 81**

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Special Frequency 2	Grab sample
Faecal Coliforms	colony forming units per 100 millilitres	Special Frequency 2	Grab sample
Total suspended solids	milligrams per litre	Special Frequency 2	Grab sample

- M2.4 For the purposes of the table(s) above:
- a) Special Frequency 1 means:  
For the purposes of determining compliance with the average and percentile limits sampling must be undertaken every 6 days. For the purposes of determining compliance with the "3DGM limits" sampling must be undertaken every month over three consecutive days commencing on the day a sample is taken to determine compliance with the average and percentile limits.
  - b) Special Frequency 2 means sampling must occur as follows:
    - i) After 3 hours of continuous discharge, an effluent sample must be taken within the next hour;
    - ii) If the discharge is still occurring at 1400 hours on the same day as the sample taken in (a) was taken, another effluent sample must be taken between 1400-1500 hours; and
    - iii) After the sample in (ii) has been taken, and if the discharge is continuous into the following day and/or subsequent days, a further effluent sample must be taken between 1400-1500 hours on these days. This sampling regime must remain in place as long as the discharge is continuous.After the initial 3 hours of discharge, intermittent starts and stops of 2 hours or less are regarded as continuous for the purpose of this condition.
  - c) Special Frequency 3 means the collection of samples every 30 minutes during discharge.
  - d) Special Frequency 4 means the collection of samples daily during discharge from the plant to points 3 and 4.
  - e) Special Method 1 means a composite sample consisting of individual samples collected from each of the operating foul air scrubbers.

M2.5 The following conditions apply to the monitoring requirements under condition M2:

- a) where a monitoring frequency is specified as 2 times a year, monitoring must be undertaken at a minimum of 160 day intervals;
- b) where a monitoring frequency is specified as 4 times a year, monitoring must be undertaken at a minimum of 80 day intervals;
- c) where a monitoring frequency is specified as 6 times a year, monitoring must be undertaken at a minimum of 50 day intervals; and





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d) where a monitoring frequency is specified as 12 times a year, monitoring must be undertaken at a minimum of 25 day intervals.

- M2.6 The monitoring results collected in accordance with the conditions under M2 for:
- a) point 6 can be used to determine compliance with the limits in conditions L3.4 for point 2.
  - b) point 76 can be used to determine compliance with the limits in conditions L3.4 for point(s) 47 and 75.
  - c) point(s) 15 and 81 can be used to determine compliance with the limits in conditions L3.4 for point(s) 9 and 83.
  - d) point 20 can be used to determine compliance with the limits in conditions L3.4 for point 17.
  - e) point 24 can be used to determine compliance with the limits in conditions L3.4 for point 22.

M2.7 Subject to M2.8, where the licensee is unable to carry out any sampling required under condition M2 at the required frequency or interval or both because of a circumstance set out in column 1 of the Table below, the licensee is taken to have carried out the sampling at the required frequency or interval or both, as the case may be, if the licensee collects the required sample within the corresponding timeframe in column 2 of the Table.

No.	Column 1	Column 2
1	The unforeseen loss of power supply to the essential monitoring equipment that cannot be rectified by the reasonable provision and operation of standby generators	Within 48 hours of power being restored to the premises
2	The inability of the licensee to access or safely access the monitoring site or equipment due to tidal or fluvial flooding	As soon as practicable once flooding has ceased or abated
3	The failure or malfunction of essential monitoring equipment caused by tidal or fluvial flooding	Within 48 hours after failure or malfunction of essential monitoring equipment has ceased
4	The inability of the licensee to safely collect sea urchins for the purpose of toxicity monitoring due to adverse weather conditions	As soon as adverse weather conditions are favourable to resume collection of sea urchins for the purpose of toxicity monitoring

M2.8 The licensee must collect and analyse the required number of samples for the reporting period as specified in conditions M2.3 – M2.5 above.

M2.9 The licensee must keep records of all circumstances listed in column 1 of the Table in condition M2.7 which triggered sample collection in accordance with column 2 of the same Table, including information that can demonstrate that the circumstances in column 1 applied and that the sampling was carried out in accordance with the timeframe prescribed in column 2 of that Table. The licensee must keep these records for a period of 5 years after the end of the reporting period in which the circumstances occurred.

M2.10 The record must be produced to any authorised officer of the EPA who requests to see them.

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## M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- a) any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
  - b) if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
  - c) if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2022* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

- M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

- M3.3 The requirements of condition M3.2 also apply to the monitoring of the concentration of pollutants in waters.

- M3.4 Monitoring for effluent toxicity must be conducted in accordance with the relevant testing methods listed below:

Simon, J. & Laginestra, E. (1997), 'Bioassay for testing sublethal toxicity in effluents, using gametes of the sea urchin *Haliotis tuberculata*', National Pulp Mills Research Program, Technical Report No. 20 CSIRO, Canberra. ; and

Doyle, C.J., Pablo, R., Lim, R.P. & Hyne, R.V. (2003), 'Assessment of metal toxicity in sediment pore water from Lake Macquarie, Australia', *Archives of Environmental Contamination and Toxicology*, 44: 343-350.

Any proposed deviation from the methods listed above must be approved in writing by the EPA prior to the use of any other method.

## M4 Testing methods - load limits

Note: Division 4 of the *Protection of the Environment Operations (General) Regulation 2022* requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.

## M5 Environmental monitoring

- M5.1 Sydney Water Aquatic Monitoring (SWAM) Program

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- a) From 1 July 2023 onward, the licensee must undertake the monitoring programs detailed in the Sydney Water publication "Sydney Water Aquatic Monitoring (SWAM) Program, Version 1, April 2023", or in any replacement document approved in writing by the EPA.
- b) The licensee must maintain a database of the results obtained in undertaking monitoring programs specified in the document cited above, as well as monitoring programs previously undertaken under the publication "Sewage Treatment System Impact Monitoring Program, December 2010" (the STSIMP Document). Information from the database must be made available to any authorised officer of the EPA on request.
- c) The licensee must provide to the EPA the reports specified in the document cited above.
- d) The "SWAM Annual Data Report: All regions" specified in the document cited above must be submitted not later than 15 December in each year.
- e) The "SWAM Interpretative Report – Inland, estuarine, lagoon and nearshore marine waters" and "SWAM Interpretative Report – Offshore marine waters" (the SWAM Interpretative Reports) specified in the document cited above must be submitted in the first year of each new pricing cycle for the licensee as determined by the NSW Independent Pricing and Regulatory Tribunal (IPART).
- f) For the purposes of condition e) above, the next SWAM Interpretative Reports must be submitted by 31 December 2025.
- g) The licensee must continue to undertake the monitoring programs and reporting specified in the STSIMP Document until the commencement of the SWAM Program. This includes:
  - i) the continuation of monitoring programs in the STSIMP Document until 30 June 2023
  - ii) the provision of the "Sewage Treatment System Impact Monitoring Program (STSIMP): Annual Data Report" to the EPA by no later than 15 December 2023.

Note: Copies of reports relating to the SWAM Program can be found at:

<https://www.sydneywater.com.au/water-the-environment/how-we-manage-sydneys-water/wastewater-network/wastewater-monitoring.html>

## M6 Recording of pollution complaints

- M6.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.
- M6.2 The record must include details of the following:
  - a) the date and time of the complaint;
  - b) the method by which the complaint was made;
  - c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
  - d) the nature of the complaint;
  - e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
  - f) if no action was taken by the licensee, the reasons why no action was taken.



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- M6.3 The record of a complaint must be kept for at least 4 years after the complaint was made.
- M6.4 The record must be produced to any authorised officer of the EPA who asks to see them.

## M7 Telephone complaints line

- M7.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- M7.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.
- M7.3 The preceding two conditions do not apply until 3 months after: the date of the issue of this licence.

## M8 Requirement to monitor volume or mass

- M8.1 For each discharge point or utilisation area specified below, the licensee must monitor:
  - a) the volume of liquids discharged to water or applied to the area;
  - b) the mass of solids applied to the area;
  - c) the mass of pollutants emitted to the air;at the frequency and using the method and units of measure, specified below.

### POINT 5

Frequency	Unit of Measure	Sampling Method
Continuous	kilolitres per day	Weir structure and level sensor

### POINT 11

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Magnetic flow meter

### POINT 12

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Weir structure and level sensor

### POINT 18

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Weir structure and level sensor

### POINT 19

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	Magnetic flow meter



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POINT 23

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Estimate

POINT 47

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Magnetic flow meter

POINT 75

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Magnetic flow meter

POINT 80

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Magnetic flow meter

POINT 82

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Weir structure and level sensor

- M8.2 The monitoring results collected in accordance with condition M8.1 for:  
a) point 5 can be used to determine compliance with the limits in condition L4.1 for point 2.  
b) point 12 can be used to determine compliance with the limits in condition L4.1 for point 9.  
c) point 18 can be used to determine compliance with the limits in condition L4.1 for point 17.  
d) point 23 can be used to determine compliance with the limits in condition L4.1 for point 22.  
e) point 47 and 75 can be used to determine compliance with the limits in condition L4.1 for point 76.
- M8.3 In the event that the licensee cannot comply with a volume monitoring method as required by this licence solely due to the failure or malfunction of essential monitoring equipment, volume may be calculated using another agreed method approved in writing by the EPA. This provision only applies for the duration of the failure or malfunction and the licensee is to rectify the failure or malfunction as soon as practical.

M9 Requirement to record bypass incidents from sewage treatment plants

- M9.1 The licensee must record the following details in relation to each bypass from the premises:  
  
a) the EPA point identification number through which the bypass discharged;  
b) the start time, date and duration of the bypass;  
c) the estimated volume of the bypass;  
d) the level of treatment at the sewage treatment plant prior to discharge;  
e) classification as a dry or wet weather bypass;  
f) the most likely cause of the bypass; and  
g) the name or names of the treatment process or processes bypassed.

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**M9.2** A dry weather bypass is a bypass that occurs when the inflow rate of sewage to the sewage treatment plant does not exceed 8,100 L/s at the Malabar sewage treatment plant; 650 L/s at the Liverpool sewage treatment plant; 1,000 L/s at the Glenfield sewage treatment plant; and all flows to the Fairfield sewage treatment plant. and a wet weather bypass occurs when this flow is equalled or exceeded.

## **M10 Other monitoring and recording conditions**

### **M10.1 Continuation of Monitoring Programs**

The licensee must conduct the following monitoring:

- a) continuation of all sewage treatment system and environmental monitoring programs related to sewer overflows that are underway as of 30 June 1999; and
- b) that monitoring identified at 2.2.4 in the Sydney Water document "Licensing Sewerage Overflows: Methods" dated June 1998 (a copy of which may be inspected at the EPA's Library), unless varied with the prior written approval of the EPA.

### **M10.2 Biosolids**

Biosolids at the premises must be recorded, monitored and classified in accordance with the Biosolids Guidelines, or as otherwise approved in writing by the EPA.

### **M10.3 Dry weather leakage monitoring program**

- a) The licensee must monitor (using results obtained by sampling and analysis) the concentration of faecal coliforms in samples collected from each sampling point identified on the spreadsheet titled "Dry Weather Leakage Monitoring Program SCAMP sampling locations master spreadsheet" and associated maps submitted to the EPA (EPA Reference: SF19/48619).
- b) The licensee must undertake the dry weather leakage monitoring at an annual frequency at each SCAMP monitoring point referenced in M10.3 a), unless subject to clause M10.6, using sampling method grab sample, units of measure of cfu/100mL.
- c) The licensee must seek approval in writing from the EPA to make changes to the dry weather leakage monitoring program SCAMP sampling locations.
- d) Within two weeks of receiving approval from the EPA, the licensee must update the master spreadsheet and associated maps referenced in condition M10.3a and provide the EPA with a copy of the updated documents.

### **M10.4 Investigations and remedial action for dry weather leakage**

- a) The licensee must investigate the cause of faecal coliform presence in samples collected as per M10.3 a) and M10.3 b) where the analysis results indicate an exceedance in the threshold of 10,000 cfu/100mL ("the threshold"). Investigations will be assigned a priority based on potential risk to the environment and public health and commence accordingly.
- b) The licensee must take remedial action where any investigation undertaken identifies the reticulation system as the cause of the exceedance of the threshold for faecal coliform specified in condition M10.4(a).
- c) The licensee must record:
  - i) the method, results and conclusions of investigations undertaken in accordance with condition M10.4(a), and

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ii) actions taken by the licensee as a result of the conclusions of the investigations.

**M10.5** When analysis results of three consecutive annual routine monitoring samples collected at a SCAMP monitoring point referenced in M10.3 a) exceeds the threshold for faecal coliforms specified in condition M10.4 a), the licensee must, in addition to the actions set out in condition M10.4, notify the EPA in writing as soon as practicable, providing the three sample analysis results, identifying the relevant SCAMP and providing the outcomes of any relevant investigations and remediation actions undertaken.

**M10.6** When analysis results of three consecutive annual routine monitoring samples collected at a SCAMP monitoring point referenced in M10.3 a) exceeds the threshold for faecal coliforms specified in condition M10.4 a), the licensee must commence sampling at the relevant sampling location referenced in M10.3 a) on a quarterly basis, unless otherwise approved in writing by the EPA. Sampling must be undertaken at quarterly intervals until three consecutive routine samples are below the threshold, at which time the frequency of sampling at the location can revert to an annual frequency as specified in M10.3 b).

## **M10.7 Monitoring of Deepwater Ocean Outfall**

The licensee must collect the following information on the operating characteristics of the deepwater ocean outfall as necessary and in a manner approved by the EPA:

- a) tide height at the end of the outfall;
- b) head loss through the outfall; and
- c) flow rate over time through the outfall.

**Note:** Deepwater Ocean Outfall monitoring data is analysed in accordance with Condition M5.1 of the licence in the Sewage Treatment System Impact Monitoring Program: Interpretative Report.

**M10.8** The licensee must undertake an underwater inspection of the following components of the outfall as necessary:

- a) each individual diffuser nozzle, while discharge is occurring;
- b) external components of the riser and those parts of the diffuser not covered by (a) above; and
- c) the sacrificial anodes.

## **6 Reporting Conditions**

### **R1 Annual return documents**

**R1.1** The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:

1. a Statement of Compliance,
2. a Monitoring and Complaints Summary,
3. a Statement of Compliance - Licence Conditions,
4. a Statement of Compliance - Load based Fee,
5. a Statement of Compliance - Requirement to Prepare Pollution Incident Response Management Plan,
6. a Statement of Compliance - Requirement to Publish Pollution Monitoring Data; and
7. a Statement of Compliance - Environmental Management Systems and Practices.





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At the end of each reporting period, the EPA will provide to the licensee notification that the Annual Return is due.

**R1.2** An Annual Return must be prepared in respect of each reporting period, except as provided below.

**Note:** The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

**R1.3** Where this licence is transferred from the licensee to a new licensee:

- a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
- b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

**Note:** An application to transfer a licence must be made in the approved form for this purpose.

**R1.4** Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:

- a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
- b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

**R1.5** The Annual Return for the reporting period must be supplied to the EPA via eConnect *EPA* or by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

**R1.6** Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:

- a) the assessable pollutants for which the actual load could not be calculated; and
- b) the relevant circumstances that were beyond the control of the licensee.

**R1.7** The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

**R1.8** Within the Annual Return, the Statements of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:

- a) the licence holder; or
- b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

## **R2 Notification of environmental harm**

**Note:** The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.



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R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.

R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which they became aware of the incident.

## R3 Written report

R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:

- a) where this licence applies to premises, an event has occurred at the premises; or
  - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence,
- and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.

R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.

R3.3 The request may require a report which includes any or all of the following information:

- a) the cause, time and duration of the event;
- b) the type, volume and concentration of every pollutant discharged as a result of the event;
- c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- g) any other relevant matters.

R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

## R4 Other notifications

- R4.1 a) Notwithstanding notification requirements under condition R2, the licensee must notify the EPA of incidents where:
- i. a dry weather sewage overflow from a sewage pumping station or
  - ii. sewage or effluent not treated at the sewage treatment plant in accordance with the requirements of conditions O4.1 - O4.6 has been discharged to, or is reasonably expected to discharge to, waterways; or
  - iii. a bypass of the Deep Water Ocean Outfall is discharged from the premises.
- b) Notifications must be made to the EPA by contacting the Environment Line as soon as practicable after the licensee becomes aware of the incident.
- c) The notification should include the relevant information as per s150 of the Protection of Environment

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Operations Act.

- d) Where an incident has been reported under condition R2 there is no requirement to report it under condition R4 in addition to the report made under condition R2.

Note: Notifications must be made to the other agencies such as Beachwatch, National Parks and NSW Food Authority, where relevant. The requirements for such notifications must be included in Pollution Incident Response Management Plans.

Note: The reporting requirements in condition R4 do not replace any other reporting requirements in the licence or under the Protection of the Environment Operations Act 1997.

## R5 Annual system performance report

R5.1 The licensee must supply to the EPA an Annual Sewage Treatment System Performance report not later than 30 September following the end of each reporting period.

R5.2 The Annual Sewage Treatment System Performance Report is to supplement the Annual Return and must report but not be limited to the following components:

### R5.3 Effluent discharged

- a) The percentile values calculated from the monitoring data for each pollutant which has corresponding limits.
- b) The annual load of all assessable pollutants.
- c) An analysis of the sewage treatment plant performance against the concentration, toxicity and load limits specified in the licence.
- d) An assessment of the current year's sewage treatment plant performance against the previous five year's performance. The assessment must include but not be limited to an explanation of any observed trends in the sewage treatment plant performance, and the reason for such trends.
- e) The load of oil and grease and total suspended solids discharged from the sewage treatment plant expressed as a percentage of the total load of oil and grease and total suspended solids directly discharged from all Sydney Water sewage treatment systems to ocean.
- f) The total volume discharged from the sewage treatment plant, and the average volume discharged from the sewage treatment plant during dry weather.
- g) The total volume and percentage volume of effluent recycled.
- h) i) The total number of sewage treatment plant bypasses and the total volume discharged that did not receive required treatment during:
  - AA) dry weather; and
  - BB) wet weather
 ii) A summary report of all bypass events which includes, but is not limited to, the following: classification as a dry or wet weather bypass, duration, volume discharged, volume treated, receiving waters, cause, treatment process(es) bypassed and any action(s) taken.

### R5.4 Biosolids



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Reporting requirements in accordance with the Biosolids Guidelines

## R5.5 Reticulation System

- a) Dry weather leakages:
  - i) monitoring results from each SCAMP;
  - ii) outcomes of any investigations; and
  - iii) details of rectification action taken.
- b) Dry weather overflows from chokes and sewage pumping stations:
  - i) including;
    - AA) number of dry weather overflows to waterways, for the whole system and for each SCAMP;
    - BB) total number of dry weather overflows, for the whole system and for each SCAMP;
    - CC) total number of dry weather overflows per 100km for whole system;
    - DD) the name of each sewage treatment system which exceeded the dry weather overflow limit at condition L7.4; and
    - EE) the name of each SCAMP where the number of dry weather overflows reaching waterways in a SCAMP exceeds the target for that SCAMP specified in the SCAMP table below.
  - ii) comparison of the dry weather overflow performance against the previous four twelve month periods for dry weather overflows to waterways and total dry weather overflows.
- c) Where the dry weather overflow sewage treatment system limit at condition L7.4 and/or target in the SCAMP table below was exceeded during the reporting period, the licensee must provide a report to the EPA no later than 30 September each year explaining the reason for the exceedance, which should include but not be limited to:
  - i) an analysis of the exceedances of limit(s) and / or target(s), including the determination of any long-term trends and evaluation of dry weather overflow abatement programs implemented by the licensee;
  - ii) the details of any dry weather overflow abatement investigations, works and activities that were scheduled to be undertaken during the reporting period and which were completed;
  - iii) the details of any dry weather overflow abatement investigations, works and activities that were scheduled to be undertaken during the reporting period and which were not undertaken or not completed;
  - iv) the details of any dry weather overflow abatement investigations, works and activities the licensee will undertake in subsequent reporting periods to minimise the likelihood of the limit(s) and / or target(s) being exceeded in any future reporting period, including the timeframes for those actions to be implemented and the level of prioritisation given to each sewage treatment system and / or SCAMP; and
  - v) an assessment of whether any amendment to the dry weather overflow abatement investigations, works and activities scheduled for the remaining reporting periods to 30 June 2015 is required to achieve the dry weather overflow limits and / or targets at condition L7.4 and in the SCAMP table below.

### SCAMP table

SCAMP Name	Dry Weather Overflows Reaching Waterways per Annum
S_ALEXANDRIA	1



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S_AMBARVALE	1
S_ARNCLIFFE	2
S_ASHCROFT	3
S_ASHFIELD	2
S_BANKSIA	1
S_BANKSTOWN	2
S_BELMORE	3
S_BELMORE_SOUTH	1
S_BEVERLY_HILLS	1
S_BEXLEY	1
S_BLAKEHURST	1
S_BONNYRIGG	2
S_BOSSLEY_PARK	4
S_BOTANY	1
S_BRIGHTON	2
S_CABRAMATTA	1
S_CAMPBELLTOWN	1
S_CAMPSIE	3
S_CANTERBURY	3
S_CASULA	2
S_CHIFLEY	1
S_CHIPPING NORTON	2
S_CONCORD_EAST	5
S_CONCORD_WEST	1
S_CONDELL_PARK	1
S_COOGEE	1
S_DRUMMOYNE	5
S_DULWICH_HILL	2
S_EAGLE_VALE	1
S_EARLWOOD	1
S_FAIRFIELD	2
S_FIVE_DOCK	3
S_GLENFIELD	1
S_GREENACRE	2
S_HOMEBUSH	4
S_HOXTON_PARK	5
S_HURSTVILLE	1
S_INGLEBURN	1



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S_KENSINGTON	1
S_KINGSGROVE	1
S_KOGARAH	1
S_KOGARAH_BAY	1
S_LAKEMBA	1
S_LANSVALE	2
S_LEICHHARDT	4
S_LEUMEAH	1
S_LIVERPOOL	1
S_LUGARNO	2
S_MAROUBRA	1
S_MAROUBRA_BEACH	1
S_MARRICKVILLE	1
S_MASCOT	1
S_MINTO	1
S_MOOREBANK	1
S_MOUNT_PRITCHARD	1
S_PADSTOW	3
S_PANANIA	2
S_PEAKHURST	1
S_PENSHURST	2
S_RABY	1
S_RANDWICK	1
S_REVESBY	1
S_RIVERWOOD	2
S_RUSE	1
S_SMITHFIELD	1
S_SOUTH_SYDNEY	1
S_STRATHFIELD	1
S_SUMMER_HILL	1
S_SYDENHAM	2
S_VILLAWOOD	2
S_WAKELEY	2
S_WETHERILL_PARK	2
S_WOODBINE	1
S_YENNORA	2

## R5.6 Wet weather overflow improvement requirements

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A report which provides:

- a) the details of any investigations, works and activities that were scheduled to be undertaken during the reporting period with the view to achieving the requirement of PRP 307, and identifying which were completed, not undertaken or not completed;
- b) the details of, and justification for, any deviations from the licensee's proposed wet weather overflow abatement program to achieve the requirement of PRP 307, and an assessment of how those deviations are expected to contribute to meeting the requirement of PRP 307;
- c) tracking of progress towards achieving the requirement of PRP 307, including an assessment of any points that the licensee considers has been achieved towards the requirement of PRP 307;
- d) an assessment of whether any changes to the licensee's wet weather overflow abatement program (including investigations, works and activities) for the remainder of the current PRP 307 improvement period are required to achieve the requirement of PRP 307 including, if relevant, proposed alternative and/or additional works and activities
- e) Details of any investigations, works and activities that were undertaken as part of Pollution Study 307 during the reporting period; and
- f) An outline of progress toward achieving the requirements of Pollution Study 307.

## R5.7 Complaints and reports

A breakdown of the total number of complaints and reports received by the licensee in relation to the premises into categories of "odours", "water pollution – sewage treatment plant", "water pollution – reticulation system", and any other category indicated by the complaint/report. A brief description of any significant unresolved issues arising out of the complaints and reports must be provided.

- R5.8 The Annual Sewage Treatment System Performance Report must be presented in a format approved in writing by the EPA.

## 7 General Conditions

### G1 Copy of licence kept at the premises or plant

- G1.1 A copy of this licence must be kept at the premises to which the licence applies.
- G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.
- G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

### G2 Contact number for incidents and responsible employees

- G2.1 The licensee must operate 24-hour telephone contact lines for the purpose of enabling the EPA to directly contact one or more representatives of the licensee who can:
  - a) respond at all times to incidents relating to the premises; and
  - b) contact the licensee's senior employees or agents authorised at all times to:
    - i) speak on behalf of the licensee; and

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ii) provide any information or document required under this licence.

G2.2 The licensee is to inform the EPA in writing of the appointment of any contact persons, or changes to the person's contact details as soon as practicable and in any event within fourteen days of the appointment or change.

## G3 Signage

G3.1 The location of EPA point number(s) listed in tables P1.1, P1.2 & P1.3 must be clearly marked by signs that indicate the point identification number used in this licence and be located as close as practical to the point.

## 8 Pollution Studies and Reduction Programs

### U1 PRP 302: Wet weather overflow abatement Pollution Reduction Program 2010-2015

U1.1 **302.1** The objective of the wet weather overflow abatement pollution reduction program (PRP) 2010-2015 is to require investigations and planning to identify options for works and activities to reduce the number of wet weather overflows in the Southern Beaches wastewater catchment.

#### U1.2 Southern Beaches Overflow Abatement

**302.2** By 30 June 2013 the licensee must provide a report to the EPA outlining the options for works and actions necessary to reduce the number of overflows in the Southern Beaches wastewater catchment area, which consists of the SCAMPS listed below, to no more than 20 overflows per 10 years.

The report should include:

- i) the options for works and actions to achieve 20 overflows per 10 years in the Southern Beaches wastewater catchment area;
- ii) details of the preferred option, including the rationale for selecting these works and actions as the preferred option, and the proposed staging, costing and timeframes for implementation of the preferred option; and
- iii) an assessment of how the preferred option will impact on sewer overflow performance, expressed as:
  - a) the frequency of wet weather overflows per 10 years for the whole sewer treatment system;
  - b) the number of overflows in any 10 year period in 50 percent of directed overflow locations in the whole sewer treatment system; and
  - c) the number of overflows in any 10 year period in 90 percent of directed overflow locations in the whole sewer treatment system.

The SCAMPS which are the subject of this PRP are as follows:

Coogee  
Randwick  
Maroubra  
Maroubra Beach

Note: For the purposes of condition PRP302.2, the frequency of overflows for the reporting period is to be

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determined using the sewer system hydraulic model required by conditions at L7.1 with 10 year rainfall time series data.

- U1.3 **302.3** In addition to the reporting requirements of condition R5.6 and PRP303, the licensee must submit with each Annual System Performance Report:
- (i) a statement outlining the number of wet weather overflows from the area the subject of this PRP; and
  - (ii) details of any investigations, works and activities undertaken during the reporting period and an outline of progress toward achieving the objective of this PRP.

## U2 PRP 303: Wet weather overflow abatement strategic framework Pollution Reduction Program

- U2.1 **303.1** The objective of the wet weather overflow pollution reduction program (PRP) is to require improvements to progress toward the wet weather overflow goals expressed in the document titled "Licensing Sewerage overflows – Environmental Impact Statement, June 1998 Volume 3 Southern Suburbs".
- U2.2 **303.2** By 30 June 2013 the licensee must prepare and submit in writing to the EPA a strategic framework which will underpin the licensee's wet weather overflows abatement program to 2021. The framework must include proposed investigations, works and activities capable of achieving the long term 2021 targets of 5 - 44 wet weather overflows per 10 years.
- U2.3 **303.3** The licensee must submit with the Annual System Performance Report required by condition R5.6, a statement which provides:
- i) a summary of actions undertaken towards the preparation and implementation of the strategic framework as required by PRP303; and
  - ii) the details of any investigations, works and activities that were undertaken and completed during the reporting period with the view to improving the wet weather overflow abatement performance of the system.
- U2.4 **303.4** By 30 December 2013, the licensee must prepare and submit in writing to the EPA a methodology to identify future wet weather overflow abatement works programs to supplement the strategic framework required by condition PRP303.2. The methodology must provide at a minimum:
- i) detailed steps and conditions that the licensee proposes to use to identify and priorities future wet weather overflow abatement works;
  - ii) detailed processes that the licensee proposes to apply to set the scope and extent of future wet weather overflow abatement works programs;
  - iii) a codified description of the strategic framework approach; and
  - iv) a proposed approach to justify any alternatives to the long term targets specified in condition PRP303.2.

Note: The EPA intends to impose a further PRP on this licence to implement wet weather overflow abatement works identified in the strategic framework to ensure progress towards achieving the long term 2021 target of 5 - 44 wet weather overflows per 10 years.

## U3 PRP 801: Dry Well Infrastructure

- U3.1 The objective of this PRP is to help prevent the overflow of sewage to the environment caused by the failure of sewage pumping station dry wells or associated infrastructure as a result of flooding or other causes.



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U3.2 The licensee must prepare a Dry Well Infrastructure Report that includes:

- a) identification of all incidents in the licensee's network within the last 5 years in which dry well infrastructure has flooded or been inundated and that resulted in sewage being discharged to the environment;
- b) identification and assessment of the causes of the identified incidents;
- c) a risk assessment of dry well infrastructure across the entire Sydney Water network that takes into consideration:
  - i. siting of electrical infrastructure in relation to potential flooding or other dangers;
  - ii. operation and maintenance procedures relating to dry well infrastructure;
  - iii. the suitability of equipment used in dry well infrastructure;
  - iv. similarities with conditions that contributed to the identified incidents.
- d) a review of the identified incidents and the findings of the risk assessment with emphasis on any pattern of incidents and the potential for further incidents relating to sewage overflows from the licensee's dry well infrastructure.

U3.3 The licensee must prepare an Options Study if the review specified in Condition U4.2d) identifies any issues that require improvement.

U3.4 The Options Study must:

- a) consider the use or introduction of alternative equipment, procedures, engineering solutions and siting of equipment;
- b) detail a range of feasible options; and
- c) recommend a preferred option that will help mitigate the risk of sewage overflows from dry well infrastructure.

U3.5 Each option must be supported by adequate justification, including a cost/ benefit analysis, to enable the EPA to make an adequate assessment of the option.

U3.6 The licensee must submit the Dry Well Infrastructure Report and Options Study to the EPA by 31 December 2014.

## U4 PRP 304: Wet weather overflow abatement Pollution Reduction Program 2014-2016

U4.1 **304.1** The objective of the wet weather overflow abatement pollution reduction program (PRP) 2014-2016 is to require investigations, planning, works and activities to be undertaken in order to reduce the number of wet weather overflows and improve wet weather overflow environmental performance in prioritised areas of the Southern Suburbs sewage treatment system.

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## U4.2 Lime Kiln Bay Wet Weather Overflow Abatement

**304.2** By 30 June 2015 the licensee must undertake all works and actions necessary to reduce the number of wet weather overflows from the North Georges River Submain at Dairy Creek to no more than 10 overflows per 10 years.

- U4.3 **304.3** By 30 August 2016 the licensee must provide an assessment of how the works completed to meet the objective of condition PRP304.2 will impact on sewer overflow performance, expressed as:
- i) the frequency of wet weather overflows per 10 years for the whole sewer treatment system;
  - ii) the number of overflows in any 10 year period in 50 percent of directed overflow locations in the whole sewer treatment system; and
  - iii) the number of overflows in any 10 year period in 90 percent of directed overflow locations in the whole sewer treatment system.

## U4.4 Wolli Creek Wet Weather Overflow Abatement

**304.4** By 30 June 2015 the licensee must provide a report to the EPA outlining in detail a stormwater inflow and infiltration source control approach to reduce the number of wet weather overflows in the Wolli Creek wastewater catchment area, which consists of the SCAMPS listed below. The report must investigate the benefit in terms of an estimated reduction in wet weather overflows per 10 years that could be achieved through a range of source control options, including but not limited to:

- i) reducing stormwater inflow to the Sydney Water sewer;
- ii) reducing stormwater infiltration to the Sydney Water sewer;
- iii) reducing stormwater inflow to private sewers;
- iv) reducing stormwater infiltration to private sewers; and
- v) a combination of these and any other identified options.

The SCAMPS which are the subject of this PRP are as follows:

Hurstville  
Beverly Hills  
Arncliffe  
Kingsgrove

- U4.5 **304.5** In addition to the reporting requirements of condition R5.6, the licensee must submit with each Annual System Performance Report:
- i) a statement outlining the number of wet weather overflows from the area that is the subject of this PRP;
  - ii) details of any investigations, plans, works and activities that were undertaken during the reporting period and an outline of progress toward achieving the objective of this PRP; and
  - iii) details of any activities undertaken during the reporting period to evaluate the benefits realised from works to achieve the objective of this PRP.

**Note:** For the purposes of PRP304 the frequency of overflows for the reporting period is to be determined using the Hydraulic Sewer System Model required by condition L7.1 with the 10 year rainfall time series data in the model.

## U5 **Pollution Study: Trial Stormwater Ingress Source Control Project**

- U5.1 The objective of this Pollution Study is to require the licensee to undertake a trial project within the Wolli Creek wastewater catchment to identify, develop and test stormwater inflow source control measures, and to assess

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the cost and effectiveness of these measures in consideration of achieved reductions in stormwater ingress into the wastewater system and associated improvements in wastewater system performance.

U5.2 The licensee must develop a draft project plan for the project that meets the objective stated in condition U5.1, and is based on, and builds upon the report submitted by the licensee to the EPA on 30 June 2015 in accordance PRP 304.4 (EPA reference DOC15/245312-01).

The project plan is to clearly outline (and justify where applicable) the tasks required, including:

- the project background and scope
- the methodology and timeframes, including hold and evaluation points for the different phases
- stakeholder and community consultation
- the assessments required to determine the effectiveness of the source control approach for both public and private sewers.
- an outline of the data, information and analyses required to assess the effectiveness of the proposed approach.
- The process for potentially applying the findings of this trial to other wastewater catchments.

The licensee must submit the draft project plan to the EPA within three months of the Pollution Study being issued.

U5.3 The licensee must finalise the project plan in accordance with any written comments provided by the EPA and resubmit it to the EPA within three weeks of receiving such comments.

U5.4 The licensee must undertake the trial project in accordance with the objective outlined in U5.1 and the methodology and timelines in the EPA approved project plan, or any revisions to the project plan approved in writing by the EPA.

U5.5 The licensee must apply to the EPA in writing for any variations to the EPA approved project plan that are proposed by the licensee based on its evaluation at the trial hold points identified in the project plan. As per condition U5.4, any revisions to the project plan will require written approval by the EPA.

Note: The EPA will undertake to review any applications from the licensee to vary the project plan and provide a written response within three weeks.

U5.6 The licensee must submit detailed draft reports on the trial project to the EPA, that are developed in accordance with the approved project plan and the objective stated in U5.1, at the following project milestones and by the specified dates:

- a) At the completion of private sewer works in the Penshurst section of the Beverley Hills SCAMP – 31 July 2018
- b) At the completion of public sewer works in the Hurstville SCAMP – 30 September 2018
- c) At the completion of all private sewer works in the Beverley Hills SCAMP – 28 February 2020
- d) At the completion of public sewer works in all four of the applicable SCAMPs (Hurstville, Arncliffe, Kingsgrove and Beverley Hills SCAMPs) – 31 March 2020
- e) At the completion of private sewer works in all four of the applicable SCAMPs (Hurstville, Arncliffe, Kingsgrove and Beverley Hills SCAMPs) – 31 January 2021
- f) A comprehensive final report at the completion of the trial project – 15 March 2021

Note: If (as per condition U5.5) the EPA approves a revision to the project plan based on evaluation of the trial at a hold point and such a revision makes one or more of the reports listed in U5.6 obsolete, then the requirement to provide that report/s will be removed from condition U5.6.

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- U5.7 The licensee must finalise the draft reports listed in U5.6 by addressing any written comments provided by the EPA and resubmit them to the EPA within four weeks of receiving such comments.
- U5.8 In addition to the reporting requirements of condition R5.6, the licensee must submit with each Annual System Performance Report:
- (i) details of any investigations, plans, works and activities that were undertaken during the reporting period, and
  - (ii) an outline of progress toward achieving the objectives of this Pollution Study.

## U6 Pollution Study: Mid-Parramatta River stormwater ingress investigation

- U6.1 The objective of this Pollution Study is to require the licensee to undertake a scientifically rigorous investigation (including sewer flow gauging, direct measurement of inflow at sewer openings and refinements to hydraulic sewer system modelling) to identify the magnitude and sources of stormwater ingress into the wastewater system in the mid-Parramatta River catchment (between the Northern rail line and James Ruse Drive). This is to inform consideration of whether a program of targeted stormwater ingress source control works would be effective in reducing the impacts of wet weather sewage overflows on the environment and community. The study must include (but may not be limited to) areas within the following sub-catchments where source control is most likely to be effective based on existing data:

- Haslams Creek;
- Duck River; and
- Vineyard Creek.

- U6.2 The licensee must develop a draft project plan for the investigation that allows the licensee to meet the objective and scope stated in U6.1 and which clearly outlines (and provides justification for) the project background, scope, methodologies (monitoring, modelling and statistical) and timeframes.

The licensee must submit the draft project plan to the EPA within 10 weeks of this Pollution Study being issued.

- U6.3 The licensee must finalise the project plan by addressing any written comments provided by the EPA and resubmit it to the EPA for approval within three weeks of receiving such comments.
- U6.4 The licensee must undertake the investigation in accordance with the objective and scope outlined in U6.1 and the methodology and timelines in the EPA approved project plan (or any revisions to the project plan approved by the EPA in writing) and submit a detailed draft report on the investigation to the EPA by 30 September 2018 which must include (but not be limited to):

- An introduction and background;
- Description of methodologies used (including monitoring, modelling and statistical);
- Description of assumptions used in, and limitations of, the investigation;
- Results, including analysis and interpretation of results to provide an assessment of:
  - o Percentages of total rainfall entering the wastewater system,
  - o Proportions of ingress attributed to infiltration and inflow, and
  - o Proportions of ingress entering through private and public assets.
- Detailed analysis and discussion of results, including (but not limited to) analysis of the benefits that could

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be achieved (in estimated reductions in overflow frequency and volume) in the study area through a range of source control options, including but not limited to:

- o reducing stormwater inflow to the Sydney Water sewer,
- o reducing stormwater infiltration to the Sydney Water sewer,
- o reducing stormwater inflow to private sewers,
- o reducing stormwater infiltration to private sewers, and
- o a combination of these and any other identified options.
- Conclusions, including recommendations for a targeted program of source control works to reduce the impacts of wet weather overflows on the Mid-Parramatta River, where it is considered that this would be effective.

U6.5 The licensee must finalise the draft report by addressing any written comments provided by the EPA and resubmit it to the EPA within four weeks of receiving such comments.

U6.6 The licensee must submit written progress reports to the EPA in December 2017 and April 2018, which must include (but not be limited to):

1. A summary of any investigations, plans, works and other activities that have been undertaken to meet the objective and scope of this Pollution Study as stated in U6.1; and
2. Tracking of progress against the timeframes included in the approved project plan towards meeting the objectives and timeframes of this Pollution Study.

U6.7 In addition to the reporting requirements of condition R5.6, the licensee must submit with each Annual System Performance Report:

1. Details of any investigations, plans, works and activities that were undertaken as part of this Pollution Study during the reporting period; and
2. An outline of progress toward achieving the objectives of this Pollution Study.

Note: A Pollution Reduction Program is intended to be included on the licence for implementation of abatement works based on the outcomes of this Pollution Study.

## **U7 Pollution Study: Preliminary assessment of potential impacts of wet weather overflows at Foreshores Beach**

U7.1 The objective of this Pollution Study is to implement a monitoring program to verify the frequency and volume of wet weather overflows that impact Foreshores Beach.

U7.2 The licensee must develop a draft project plan for the Pollution Study that allows the licensee to meet the objective stated in U7.1. The project plan must clearly outline (and provide justification for):

- The project background and scope;
- The data and information required to verify the volume and frequency of overflows to Foreshores Beach, including identification of the applicable overflow points;

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- The methodology, including proposed location of gauging stations; and
- The timeframes for the tasks required to complete this Pollution Study .

The licensee must submit the draft project plan to the EPA within two months of this Pollution Study being issued.

- U7.3 The licensee must finalise the project plan by addressing any written comments provided by the EPA and resubmit it to the EPA for approval within three weeks of receiving such comments.
- U7.4 The licensee must undertake the investigation in accordance with the objective outlined in U7.1 and the methodology and timelines in the EPA approved project plan (or any revisions to the project plan approved by the EPA in writing) and submit a detailed draft report on the investigation to the EPA by 30 June 2019, which must include (but may not be limited to):
- An introduction and background;
  - Description of methodologies used;
  - Results of the investigation;
  - Detailed analysis and discussion of results. (this section should identify any critical knowledge and further work required to understand the level of risk to the environment and human health); and
  - Conclusions, including recommendations for how this information may assist Sydney Water with its masterplan for the Southern and Western Suburbs Ocean Outfall Sewer.
- U7.5 The licensee must finalise the draft report by addressing any written comments provided by the EPA and resubmit it to the EPA within four weeks of receiving such comments.
- U7.6 In addition to the reporting requirements of condition R5.6, the licensee must submit with each Annual System Performance Report:
1. Details of any investigations, plans, works and activities that were undertaken as part of this Pollution study during the reporting period; and
  2. An outline of progress toward achieving the objectives of this Pollution Study.

## U8 Pollution Study: Prospect Creek catchment wet weather overflow abatement options report

- U8.1 The objectives of this Pollution Study are to require the licensee to:
- 1) investigate the nature and scale of impacts on the environment and community due to wet weather overflows which discharge anywhere in the Prospect Creek drainage catchment; and
  - 2) analyse the full range of options for abating these impacts.

This is to identify whether a program of targeted wet weather overflow works would be effective in reducing the impacts of wet weather sewage overflows on the environment and community in the Prospect Creek catchment.

The investigation and options analysis must be based on (but may not be limited to) a literature review of all existing relevant information that is publicly available or held by Sydney Water, analysis of the frequency and



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volume of wet weather overflow points in the catchment, available water quality monitoring and modelling data, and available community usage data.

- U8.2 The licensee must undertake the investigation and options analysis in accordance with the objective and scope outlined in U8.1 and submit a detailed draft report to the EPA by 31 May 2018 which must include (but may not be limited to):
- An introduction and background, including (but not limited to) a detailed description of the waterways in the study area and their community uses, and a description of the wet weather overflows in the study area;
  - Description of methodologies used;
  - Detailed description of the nature, scale and location of the impacts and risks of wet weather sewage overflows on the environment and community from overflow points which discharge in the Prospect Creek catchment;
  - Identification and description of the full range of options, and/or suites of options, to reduce the environmental and community impacts of wet weather overflows which discharge in the Prospect Creek catchment;
  - Detailed analysis of the identified options, and/or suites of options, including (but not limited to):
    - the estimated benefits achieved in terms of wet weather overflow performance associated with each option, or suites of options, including reductions in frequency and/or volume of wet weather overflows, and/or reductions in pollutant loads from these wet weather overflows.
    - an analysis of the projected environmental benefits gained through the estimated improvements in wet weather overflow performance.
    - a SWOT (strengths, weaknesses, opportunities, and threats) analysis.
    - indicative costing of each option.
    - indicative timeframes to implement each option.
    - identification of any critical knowledge gaps to understanding the benefits and costs of each option.
  - Conclusions, including identification of (and detailed justification for) a preferred option, or suite of preferred options, to inform discussions between Sydney Water and EPA concerning abatement of wet weather overflows in the Prospect Creek catchment.

- U8.3 The licensee must finalise the draft report by addressing any written comments provided by the EPA and resubmit it to the EPA within four weeks of receiving such comments.

- U8.4 In addition to the reporting requirements of conditions R5.6, the licensee must submit with each Annual System Performance Report:
- details of any investigations, plans, works and activities that were undertaken as part of this Pollution Study during the reporting period, and
  - an outline of progress toward achieving the objectives of this Pollution Study.

Note: A Pollution Reduction Program is intended to be included on the licence for implementation of abatement works based on the outcomes of this Pollution Study.

## U9 PRP 307: Wet Weather Overflow Pollution Reduction Program

### U9.1 PRP 307.1: Wet Weather Overflow Pollution Reduction Program – Improvement Period 2020 - 2024

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a) The objective of the wet weather overflow abatement pollution reduction program (PRP) for the improvement period of 1 July 2020 - 30 June 2024 is to reduce the impact of wet weather overflows across the licensee's four major coastal reticulation systems by requiring the licensee to undertake abatement works at prioritised sites to achieve the improvement level as specified in PRP 307.1b).

b) The improvement level and completion date for PRP 307.1 as required by condition L7.3c) is:

Improvement Level: 60 Points

Completion Date: 30 June 2024

c) Compliance with the improvement level at PRP 307.1. condition b) must be achieved in accordance with the EPA document titled Regulatory Measure For Reducing Wet Weather Overflows From Sydney Water Corporation's Four Coastal Systems For 2020-2024 [Reference number DOC20/2000676] and be based on abatement works undertaken on relevantly prioritised wet weather overflow sites prioritised as per the Sydney Water document titled Risk Assessment Process: Wet Weather Overflow Program [Reference number D0001657] on the following sewer systems:

- EPL No. 372 (Southern Suburbs)
- EPL No. 378 (Northern Suburbs)
- EPL No. 1688 (Bondi)
- EPL No. 1728 (Cronulla)

## U9.2 PRP 307.2: Wet Weather Overflow Pollution Reduction Program – Improvement Period 2024 – 2030

a) The objective of the wet weather overflow abatement pollution reduction program (PRP) for the improvement period of 1 July 2024 - 30 June 2030 is to reduce the impact of wet weather overflows across the licensee's four major coastal reticulation systems by requiring the licensee to undertake abatement works at prioritised sites to achieve the improvement level as specified in PRP 307.2b).

b) The improvement level and completion date for PRP 307.2 as required by condition L7.3c) is:

Improvement Level: Implement a wet weather overflow abatement program which is designed to achieve the objective of a 6% reduction in the total cumulative wet weather overflow volume of 'Category 1' prioritised wet weather overflow sites from the following sewer systems:

- EPL No. 372 (Southern Suburbs)
- EPL No. 378 (Northern Suburbs)
- EPL No. 1688 (Bondi)
- EPL No. 1728 (Cronulla)

Completion Date: 30 June 2030

c) Compliance with the improvement level at PRP 307.2. condition b) must be achieved based on abatement works undertaken on 'Category 1' prioritised wet weather overflow sites prioritised as per the Sydney Water document titled 2024-2028 WWOA Prioritisation Methodology: Process Report [Reference number SW 121 04/22, D0002152]

d) By 28 February 2024, the licensee must submit a draft program plan to the EPA which is designed to achieve the Improvement Level for PRP 307.2. The program plan must include (but not be limited to):

- a description of the abatement works, including (but not needing to be limited to): a description of the types of works; the areas to be abated; and the scale/amount of works to be implemented.



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- the rationale for the abatement works, including (but not needing to be limited to) justification for the selection of: the types of works; the areas to be abated; and the scale/amount of works to be implemented.
- an estimated breakdown of the schedule of works for each financial year in the period 2024-2030.
- the estimated costs of the works for each financial year in the period 2024-2030.

e) The licensee must finalise the draft program plan by addressing any written comments provided by the EPA and resubmit it to the EPA in writing within eight weeks of receiving such comments.

## **U10 Pollution Study 307: Development of wet weather overflow prioritisation methodologies to produce prioritisation profiles**

### **U10.1 Pollution Study 307.1: Development of a wet weather overflow prioritisation methodology for the purpose of producing a baseline prioritisation profile - Improvement period 2024 - 2028**

a) The objective of this Pollution Study is the development and implementation of a plan (the "Improvement Plan") to develop a refined wet weather overflow prioritisation methodology (the "Refined Methodology"), for use in the wet weather overflow improvement period 2024 – 2028. The intent of the Improvement Plan is to resolve technical issues and uncertainties (i.e. limitations and assumptions) with the current prioritisation methodology through the identification, development and use of new and improved tools and information to achieve a Refined Methodology.

b) The licensee must develop a draft Improvement Plan to meet:

- i. the objective stated in a) and
- ii. the timeframe required to meet f).

c) The licensee must submit the draft Improvement Plan to the EPA within 16 weeks of this Pollution Study being issued.

d) No longer applicable.

e) The licensee must host progress workshops with the EPA throughout the implementation of the Improvement Plan at a frequency of no less than twice per year.

f) The licensee must implement the Improvement Plan and submit a draft Refined Methodology to the EPA by 30 November 2021.

g) The licensee must finalise the Refined Methodology by addressing any written comments provided by the EPA and resubmit it to the EPA for approval within eight weeks of receiving such comments.

### **U10.2 Pollution Study 307.2: Development of a refined wet weather overflow prioritisation methodology for the purpose of producing a prioritisation list - Improvement period 2030 – 2035**

a) The objective of this Pollution Study is to require the Licensee to develop a refined wet weather overflow prioritisation methodology (the "Refined Methodology") for use across the Licensee's reticulation systems the subject of environment protection licences 372, 378, 1688, and 1728 in the wet weather overflow improvement period 2030 – 2035. The intent is for the Licensee to resolve technical issues and uncertainties

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(i.e. limitations and assumptions) with the current prioritisation methodology through the identification, development and use of new and improved tools and information to achieve the Refined Methodology.

b) The licensee must develop and submit in writing to the EPA by 30 June 2027 a draft Refined Methodology.

c) The licensee must finalise the Refined Methodology by addressing any written comments provided by the EPA and resubmit it to the EPA in writing within eight weeks of receiving such comments.

d) The licensee must host progress workshops with the EPA throughout the development of the Refined Methodology at a frequency of no less than twice per year.

## **U11 Pollution Study: Odour Risk Reduction Study at Liverpool, Glenfield and Fairfield STPs and surrounding sewer network**

U11.1 The objective of this Pollution Study is to require the licensee to undertake a detailed investigation to identify the odour risks from the Liverpool, Glenfield and Fairfield sewage treatment plants and surrounding sewer reticulation network (the Study Area) and determine reasonable and feasible measures to reduce these risks.

Note: The Study Area is demarcated in the Project Plan required by Condition U11.2.

U11.2 By 30 November 2021 the licensee must undertake all works and actions necessary to complete an Odour Risk Reduction Study. The Odour Risk Reduction Study must investigate odour risks in the Study Area and identify options for reducing these risks. The Odour Risk Reduction Study must identify options using (but not limited to) analysis of the following:

- Existing odour inventories, known odour sources and their significance;
- Incidents and events (including desilting of SWOOS1 and SWOOS2) in the Study Area within the last 3 years which had the potential to cause elevated odours;
- Odour complaints data (including odour enquiries and feedback) for the last 3 years and any correlations, trends or relationships to operational conditions including weather conditions, flow rates, effluent characteristics and composition, and system maintenance works;
- Odour risk reduction recommendations made to the licensee regarding the Premises within the past 3 years;
- The designed capacity (including throughput and treatment capability) of the Liverpool, Glenfield and Fairfield sewage treatment plants compared with current flows and growth numbers and any impact on odours generated;
- Current industry best practice for the monitoring and investigation of sewage odours and their applicability to the Study Area;
- Current industry best practice technology for the control of odours at sewage treatment plants and their applicability to the Study Area;
- Current industry best practice monitoring and maintenance of odour control at sewage treatment plants and their applicability to the Study Area;
- Alternative equipment, procedures, engineering solutions, preventative maintenance measures and siting of equipment; and
- Any other Odour Risk Reduction Options or analysis deemed relevant by the licensee and/or the appropriately qualified and independent consultant.

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- U11.3 By 20 April 2021 the licensee must provide to the EPA a draft project plan that meets the objectives as stated in U11.1 and clearly outlines the project scope, tasks, methodology and timeframes. The project plan must include details of the proposed investigations, works and activities required to conduct the Odour Risk Reduction Study as outlined in U11.2.
- U11.4 The licensee must finalise the project plan required by U11.2 by addressing all written comments provided by the EPA on the project plan, then resubmitting it to the EPA within four weeks of receiving such comments.
- U11.5 By 18 June 2021 the licensee must engage an appropriately qualified and independent person(s) to provide input for key elements of the study as detailed in the project plan.
- U11.6 By 30 November 2021 the licensee must undertake the investigation, works and activities included in the most recent version of the project plan required by Conditions U11.2 and U11.4.
- U11.7 By 20 December 2021 the licensee must submit to the EPA a report that, at minimum, fulfils the requirements of Conditions U11.1 to U11.6. The report must analyse the information below to identify risk reduction options:
- Existing odour inventories, known odour sources and their significance;
  - A list of incidents and events in the Study Area within the last 3 years which had the potential to cause elevated odours. Include start and finish dates (where relevant) and a brief description;
  - A list of odour complaints data (including odour enquiries/feedback) for the last three years;
  - Graphical presentation and explanation of odour complaints data (including odour enquiries and feedback) and any correlations, trends or relationships to operational conditions including monitoring data, weather conditions, flow rates, effluent characteristics and composition, and system maintenance works;
  - A list of all odour risk reduction recommendations made to the licensee regarding the Premises within the past 3 years and identify whether these were undertaken;
  - Identification and comparison of the designed capacity (including throughput and treatment capability) of the Liverpool, Glenfield and Fairfield sewage treatment plants compared with current flows and growth numbers and any impact on odours generated;
  - Current industry best practice for the monitoring and investigation of sewage odours and their applicability to the Study Area;
  - Current industry best practice technology for the control of odours at sewage treatment plants and their applicability to the Study Area;
  - Current industry best practice monitoring and maintenance of odour controls at sewage treatment plants and their applicability to the Study Area;
  - Identification of alternative equipment, procedures, engineering solutions, preventative maintenance measures and siting of equipment; and
  - Any other Odour Risk Reduction Options or analysis deemed relevant by the integrated project team.
- U11.8 The licensee must assess all odour risk reduction options for any options identified for reducing odour risks in the Study Area as identified in the Odour Risk Reduction Study in Condition U11.2. The Options assessment must, at a minimum:
- Consider the options identified in the Odour Risk Reduction Study;
  - Detail the range of feasible options, including both long-term and short-term options;
  - Recommend the preferred option(s) that will help mitigate the risk of offensive odours from the Study Area;

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- Provide adequate justification for the preferred option(s) such as by a cost/predicted benefit analysis; and
- Provide a timeframe for implementation of the preferred option(s).

U11.9 By 30 March 2022 the licensee must submit to the EPA a report on the assessment completed to meet Condition U11.8.

Note: A Pollution Reduction Program may be included on the licence for implementation of works based on the outcomes of this Pollution Study.

Note: The EPA does not expect the licensee to delay the implementation of odour risk reduction options prior to the finalisation of this Pollution Study and any reports required. These risk reduction options can be implemented at any time.

## U12 Pollution Study 308: Dry weather overflow abatement program 2025-2029

U12.1 **308.1** The objectives of this Pollution Study are to require the licensee to develop and submit a Sydney Water area of operations wide program of works for dry weather overflow (DWO) abatement in the 2025-2029 IPART price period which:

- a) targets reductions in both the frequency and volume of DWOs in areas where DWOs are likely to have a comparatively high environmental and/or human health impact; and
- b) in the interests of attaining continuous improvement in sewage treatment system environmental performance, aims to achieve demonstrable improvement in the licensee's DWO environmental performance beyond its existing performance at 30 June 2025.

U12.2 **308.2** The licensee must develop and submit in writing to the EPA by 2 December 2022 a report presenting a proposed Sydney Water area of operations wide program of works for DWO abatement in the 2025-2029 IPART price period which:

- a) targets reductions in both the frequency and volume of DWOs in areas where DWOs are likely to have a comparatively high environmental and/or human health impact, by prioritising works based on consideration of a range of factors, including but not needing to be limited to:
  - i. the likelihood of DWOs occurring.
  - ii. the likely volume of DWOs when they occur.
  - iii. the sensitivity, ecological value and public use of the receiving environment.
  - iv. the level of difficulty of access for response and clean-up of DWOs when they occur.
- b) is based on consideration of a wide range of cost-effective contemporary, innovative and emerging DWO abatement methods, techniques and technologies with reference to Australian and international DWO abatement best practice;
- c) aims to achieve demonstrable improvement in the licensee's DWO environmental performance beyond its existing performance at 30 June 2025; and
- d) includes:
  - i. a detailed description of the approach (including but not needing to be limited to an outline of the data, information and analyses) used to prioritise the areas selected for abatement based on condition 308.2a).
  - ii. a description of the program of works, including (but not needing to be limited to): a description of the types of works; the areas to be abated; and the scale/amount of works to be implemented.
  - iii. the rationale for the program of works, including (but not needing to be limited to) justification for the selection of: the types of works; the areas to be abated; and the scale/amount of works to be implemented.
  - iv. An estimated breakdown of the schedule of works for each financial year in the period 2025-2029.

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- v. the estimated costs of the works for each financial year in the period 2025-2029.
- vi. an assessment of the expected benefits of the program of works in terms of (but not needing to be limited to) quantified estimated reductions in the frequency and volume of DWOs.
- vii. (in line with condition 308.1b) a quantified assessment of how the program is expected to result in improved DWO environmental performance beyond the licensee's existing performance at 30 June 2025.

**U12.3 308.3** The licensee must finalise the draft program of works by addressing any written comments provided by the EPA and resubmit it to the EPA in writing within eight weeks of receiving such comments.

**Note:** A Pollution Reduction Program is intended to be included on the licence for implementation of dry weather overflow abatement works in 2025-2029 based on the outcomes of this Pollution Study.

## **U13 Pollution Reduction Program: Implementation of Odour Reduction Measures**

**U13.1** The objective of this Pollution Reduction Program (PRP) is to implement measures to minimise or prevent offensive odour emissions from the premises to achieve compliance with section 129 of the Act. The EPA may utilise the information provided under this PRP to include additional conditions in this EPL.

This PRP refers to documents titled U11-8 Odour Risk Reduction Options Study Georges River Plants – Summary Report (Sydney Water, May 2022) and U11-7 Odour Risk Reduction Study Georges River Plants (Sydney Water, December 2021) as well as the appendices attached to these reports (the 'Odour Study Reports'). The 'Study Area' is demarcated in the Project Plan required by Condition U11.2.

### **Implementation of Best Practice Recommendations**

**U13.2**

1. The licensee must review the best practice recommendations detailed in the document titled Pollution Study: Odour Risk Reduction Study at Liverpool, Glenfield and Fairfield STPs and surrounding sewer network Best Practice Paper (Stantec, October 2021) and by no later than 30 June 2023, the licensee must submit a report outlining the outcome of the review, including a revised list of best practice recommendations and an implementation timeframe. Any recommendation that licensee identifies cannot be implemented must be clearly and adequately justified why it cannot be reasonably and feasibly implemented either currently or in the future.
2. The licensee must report to the EPA the progress made towards implementation of the best practice recommendations as per the implementation timeframe on a 6 monthly basis.

### **Implementation of odour mitigation infrastructure and actions**

**U13.3** The licensee must complete the odour mitigation actions outlined below (1-7) by 30 June 2025\*. The licensee must update the EPA on the progress of all actions no later than every 6 months from the commencement date of the PRP until the completion of the work required under this condition. The licensee must advise the EPA within 3 months of completing all actions, outline any odour performance outcomes or further actions

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required to prevent or minimise odour from the identified source(s), including their estimated timeframes.

1. The licensee must install adequate automated water cannons in the Glenfield storm tanks so that sludge can be effectively removed as soon as possible after wet weather events that utilise the storm tanks.
2. The licensee must install an automated feed flushing arrangement for the Glenfield storm tanks that avoids sludge exposure by retaining and circulating liquid during tank draining.
3. To ensure peak dry weather flow from the primary effluent pump station does not flow to the oxidation pond at Liverpool STP, the licensee must install either adequate pumping capacity with redundancy or manage these high peak flows through the secondary process.
4. The licensee must repair and optimise ductwork and covers on primary sedimentation tanks at Liverpool STP.
5. The licensee must develop wet and dry weather flow management options for the oxidation pond at Liverpool STP and network.
6. The licensee must complete commissioning and installation of a permanent odour control unit at SP0213 and SP0419 and validate performance of odour control units as meeting or exceeding the minimum standards specified in the Sydney Water's most up to date technical specifications for odour control units.
7. The licensee must complete flow control optimisation of the Georges River Effluent Diversion Scheme (GREDS) including changes to the Integrated Instrumentation, Control, Automation and Telemetry System (IICATS) and Supervisory Control and Data Acquisition (SCADA) and automation of critical control valves.

\*With the exception of the odour control unit at SP0419 which must be completed by 30 September 2025.

## Implementation of plant assessments and studies

U13.4 The licensee must complete the assessments or studies outlined below (1 – 5) by no later than 31 December 2023. The licensee must provide the EPA with a report of the outcomes of all actions in this condition within 3 months of completion and include recommendations for further works required to minimise odour from the identified source(s).

1. The licensee must complete a performance and capacity assessment for the Glenfield STP and Liverpool STP wet scrubbers. The scrubber assessments must be completed by an appropriately qualified expert and must determine the required scrubber air flow rate, size and efficiency for each STP to meet current and future needs. Should the assessment determine the scrubber performance and capacity is not adequate, the licensee must consider and recommend options to meet this air flow rate, size and efficiency and propose a timeframe to implement the recommendations.
2. The licensee must complete a trial of sodium hypochlorite dosing into the Liverpool STP oxidation pond during wet weather. This trial must cover a range of wet weather operational conditions and where possible, a minimum of 4 wet weather events.
3. The licensee must assess the feasibility of either converting induct/educt vents to induct only vents or installing passive odour control units at a minimum of 3 Discharge Maintenance Holes vent shafts within each Study Area of Glenfield, Fairfield and Liverpool.
4. The licensee must complete a detailed options study for covering, extracting and treating odours at the Fairfield inlet works. This must be completed by an appropriately qualified expert.
5. The licensee must complete a detailed options study to reduce the odours from the PSTs following wet weather events and during emptying and cleaning of the PSTs.



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## Evaluation program

- U13.5 The licensee must implement an Odour evaluation program for the purpose of evaluating the effectiveness of the Odour Reduction Measures implemented under this PRP. This must include but is not limited to:
1. Providing a monitoring and evaluation program plan to the EPA by no later than 30 June 2023 designed to enable Sydney Water to provide a report under conditions U13.6, and incorporation of any feedback provided by the EPA.
  2. Monitoring of changes in odour emissions related to odour reduction measures implemented under this PRP, in accordance with plan developed under U13.5.1.
  3. Evaluation of odour complaints and reports received in accordance with the Odour Complaints Analysis methodology used in U11-8 Odour Risk Reduction Options Study Georges River Plants – Summary Report (Sydney Water, May 2022), including determination of any relationships between odour complaints and odour reduction works completed under this Pollution Reduction Program.
  4. Undertake regular proactive community engagement in the Study area with a frequency determined by community feedback but yearly as a minimum. Engagement must provide opportunity for community feedback and report on community concerns regarding odour management in each respective STP Study Area.
- U13.6 By no later than 31 December 2025, the licensee must provide a report on the evaluation program under U13.5 (the Evaluation Report). This report must determine, for the Liverpool STP, Glenfield STP, and Fairfield STP the effectiveness of the measures implemented under this PRP in minimising or preventing odour emissions and offsite odour impacts at each STP and associated study area. The evaluation should consider the level of compliance risk, including any areas of uncertainty and the basis used to make this determination.

## Long term odour mitigation options

- U13.7 The licensee must identify and scope out all odour mitigation measures not considered or implemented as part of this PRP for odour reduction within the Malabar Sewage Treatment System for the purpose of compliance with s129 of the Act. This must include an assessment of potential reduction in odour impact as well as the practical steps required to implement each option. The licensee must provide the EPA with a long-term odour mitigation report by no later than 30 March 2025.

The licensee must give consideration to, but is not limited to the following options:

1. Permanent ventilation with odour control for the Belmont Rd Carrier and Glenfield Campbelltown Submain
2. Construction of new inlet works at Glenfield and upgrade of secondary processes including reconfiguration of the operation of the storm tanks to minimise odour generation
3. For the Glenfield storm tanks: covering the tanks, removal of the tanks, and conversion to a covered storage system, and optimization of flow management to avoid odour generation
4. For the Liverpool oxidation pond: covering the pond, removal of the pond, and conversion to a covered storage system, and optimization of flow management to avoid odour generation
5. Ensure the draining of the low spot in the rising main from SP0419 is monitored and controlled.
6. Upgrade capacity in the system (treatment or network) in response to growth that also assists to mitigate odour issues
7. Wastewater recycling and reuse options.

Note: The purpose of this condition is to identify the full range of long-term options. Options should not be excluded

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at this stage on a feasibility or funding basis. Assessment of the feasibility and reasonableness of implementing long-term options will only be required depending on ongoing compliance with s129 and the risks indicated by the Evaluation Report under U13.6.

## **U14 Pollution Study 309: Development of choke prioritisation methodologies to produce choke improvement prioritisation lists**

### **U14.1 Pollution Study 309.1: Development of a choke prioritisation methodology for the purpose of producing a choke improvement prioritisation list - Improvement period 2025 - 2030**

- a) The objective of this Pollution Study is to require the Licensee to develop a choke prioritisation methodology, through the identification, development and use of appropriate tools and information, for use across all of the Licensees areas of operations in the choke improvement period 2025 – 2030.
- b) The licensee must develop and submit in writing to the EPA by 30 June 2024 a draft choke prioritisation methodology which takes into account the likelihood and consequence of chokes occurring in a given area.
- c) The licensee must finalise the draft choke prioritisation methodology by addressing any written comments provided by the EPA and resubmit it to the EPA in writing within eight weeks of receiving such comments.
- d) The licensee must host at least two progress workshops with the EPA throughout the development of the choke prioritisation methodology.

### **U14.2 Pollution Study 309.2: Refinement of the choke prioritisation methodology for the purpose of producing an improved choke improvement prioritisation list - Improvement period 2030 - 2035**

- a) The objective of this Pollution Study is to require the Licensee to improve the choke prioritisation methodology developed under Pollution Study 309.1, through the identification, development and use of appropriate tools and information, for use across all of the Licensees areas of operations in the choke improvement period 2030 – 2035.
- b) The licensee must develop and submit in writing to the EPA by 30 June 2027 an improved choke prioritisation methodology which takes into account the likelihood and consequence of chokes occurring in a given area.
- c) The licensee must finalise the draft improved choke prioritisation methodology by addressing any written comments provided by the EPA and resubmit it to the EPA in writing within eight weeks of receiving such comments.
- d) Starting from the 2024-25 financial year, the licensee must host at least two progress workshops with the EPA throughout the development of the improved choke prioritisation methodology.

## **U15 PRP 308: Choke Improvement Pollution Reduction Program**

### **U15.1 PRP 308.1: Choke Improvement Pollution Reduction Program – Improvement period 2025 - 2030**



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Note: The details of this PRP are to be determined following submission by the licensee of the chokeimprovement prioritisation list as required by condition L7.5a) before 31 December 2024.

## U15.2 PRP 308.2: Choke Improvement Pollution Reduction Program – Improvement period 2030 - 2035

Note: The details of this PRP are to be determined following submission by the licensee of the chokeimprovement prioritisation list as required by condition L7.5a) before 31 December 2027.

## 9 Special Conditions

### E1 Sydney Water Dry Weather Sewage Overflow Response Report

#### E1.1 Report Scope

a) The Licensee must provide a single, combined Report (“the Report”) on the adequacy of the systems, resources, processes, procedures, practices and training it has in place for its reticulation system as at the date which this condition is included in the Licence to comply with:

1. Condition O3.1 of the Sydney Water Environment Protection Licences (EPLs) on responding to sewer overflows; and
2. Part 5.7 of the Protection of Environment Operations Act 1997 (“the Act”) regarding the notification of incidents; and
3. Part 5.7A of the Act and Part 3A POEO (General) Regulation regarding requirements for a Pollution Incident Response Management Plan (PIRMP).

b) The Report is to identify any improvements that the Licensee should make so that its response to sewer overflows from its reticulation system complies with the regulatory requirements identified within this condition.

#### E1.2 Independent Expert

a) The Report must be prepared by a suitably qualified and experienced independent environmental expert (the “Expert”).

b) Details of three options on the Expert (and team members) proposed to be engaged by the Licensee must be provided to the EPA's Regional Manager Operations - Metropolitan Infrastructure for written approval by 12 April 2019.

c) The Licensee must ensure when selecting the proposed Expert and their team for b) above that there is expertise in each team across all the areas of human health, aquatic and terrestrial ecology, water science, laboratory operations, sewage and environmental engineering, logistics and systems auditing. For the purposes of this condition, the Licensee must provide the EPA the following details for the Expert and each proposed team member:

1. name;
2. contact details;
3. the area in which they have expertise;

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- 4. relevant qualifications;
- 5. relevant experience;
- 6. availability.

- d) The Licensee must engage an Expert and team that is approved by the EPA's Regional Manager Operations - Metropolitan Infrastructure in writing by two weeks after approval is received from the EPA.
- e) Once engaged, the Licensee must require the Expert and their team to meet with the EPA to discuss the background and context for the Report.

## E1.3 Report Requirements

- a) The Licensee must provide a single combined Report which examines, makes recommendations to improve and provides conclusions about the effectiveness of the licensee's procedures and processes with respect to its response to sewer overflows from its reticulation system.
- b) The Report must detail the current systems, resources, processes, procedures, practices and training used by the Licensee on or around the time that this condition was included in this Licence.
- c) The Licensee must also require the Expert to provide as part of the final Report:
  - 1. a list of all the documents considered, including copies of any of the Licensee's procedures specifically referenced in the Report;
  - 2. names, roles and organisations of personnel interviewed by the Expert (including their team members) in preparing the Report.

- d) The report must consider the following:

## E1.4 Notifications

- a. process for notification of incidents to the EPA to meet the requirements of Part 5.7 of the Act;
- b. process for determining incidents that trigger the statutory requirement for notification to the EPA per Part 5.7 of the Act;
- c. process for providing information to comply with Part 5.7 of the Act;
- d. process for providing further information to the EPA following the initial self-report in an accurate and timely manner to comply with Part 5.7 of the Act;
- e. the practices used to implement the processes under a – d in a timely and consistent manner;

## E1.5 Incident Management

- f. roles and responsibilities of personnel involved in incident management including, but not limited to, overseeing of incident response, coordination and implementation of on ground response, liaison with and communication to the EPA, provision of information to the public, and whether roles and responsibilities are sufficiently clear;
- g. availability, accessibility and scheduling of suitable plant and personnel resources for all aspects of managing the sewer overflow;
- h. process and methodology used to allocate priority when responding to sewer overflows, including relationships to other responses being undertaken by the Licensee;
- i. whether the systems, resources, processes, procedures, practices and training in place for monitoring and auditing current processes require improvement and if so, the reasons, to meet the requirements of

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Condition O3.1 of the EPLs;

## E1.6 *Rectification of faults and sewage containment*

- j. processes or procedures for response to, and rectification of, faults;
- k. adequacy of processes and procedures for achieving timely and satisfactory fault rectification;
- l. processes or procedures for implementation of sewage containment strategies;
- m. adequacy of processes and procedures for achieving timely implementation of sewage containment strategies;
- n. adequacy and effectiveness of the methods for, and execution of, sewage containment, to meet the requirements of Condition O3.1 of the EPLs;

## E1.7 *Management of environmental and health impacts resulting from sewer overflows*

- o. assessment methodology for determining environmental and health impacts resulting from sewer overflows;
- p. assessment methodology for determining appropriate clean-up strategies to remediate the environment and reduce risk to public health;
- q. processes or procedures for achieving timely implementation of clean-up strategies;
- r. types of environmental remediation works utilised to clean-up after sewer overflows;
- s. effectiveness of environmental remediation works utilised to clean-up after sewer overflows;
- t. types of remediation works utilised for reducing public health risks from sewer overflows;
- u. effectiveness of remediation works utilised for reducing public health risks from sewer overflows;
- v. assessment methodology for determining the adequacy of clean-up strategies; and
- w. environmental impact of clean-up strategies, to meet the requirements of Condition O3.1 of the EPLs;

## E1.8 *Risk communication*

- x. methods used to communicate potential health risks from sewer overflows to potentially affected parties to meet the requirements of Condition O3.1 of the EPLs. This may include but is not limited to signage, door knocking, written notification and physical barriers;
- y. processes for achieving timely implementation of communication referred to in (x) to meet the requirements of Condition O3.1 of the EPLs;
- z. adequacy and appropriateness of communication methods deployed; and

## E1.9 *Training*

- aa. adequacy of the Licences' requirements for staff competency in relation to incident management, fault rectification, assessment of environmental and health risks and undertaking remediation works, including staff training provided by the Licensee.

## E1.10 **Report**

- a) The Licensee must submit to the EPA's Regional Manager Operations - Metropolitan Infrastructure a draft Report ("Draft Report"), being a report prepared by the Expert (and their team) covering all of the matters described in conditions E1.3-E1.9, six months after the Expert is engaged (condition E1.2 d).
- b) The Licensee must ensure the Draft Report is updated to address any comments made by the EPA.
- c) The Licensee must submit to the EPA's Regional Manager Operations - Metropolitan Infrastructure the final

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Report one month after the EPA's comments have been provided (condition E1.10 b).

## E1.11 Implementation of the Report Recommendations

a) The Licensee must submit an Implementation Plan to the EPA's Regional Manager Operations - Metropolitan Infrastructure by no later than three months after acceptance of the final Report by the EPA (condition E1.10 c).

b) The Implementation Plan must:

1. identify what actions the Licensee proposes to take in response to the Report from the Expert;
2. propose a timeframe for these action(s); and
3. provide an explanation for the Licensee's proposals where there is any variance from the recommendations in the final Report.

- E1.12 a) The Licensee must complete all activities and outputs identified in Appendix 1 of the Implementation Plan dated 22 November 2020 by 30 June 2022.
- b) Evidence of the completion of the Implementation Plan activities and outputs must be provided to the EPA as outlined in Condition E1.13b.

## E1.13 Progress Report

a) The Licensee must submit a Progress Report to the EPA's Manager Regulatory Operations Metro every three months from 25 October 2021 detailing the progress of all activities and outputs to be implemented in accordance with the Implementation Plan until all activities and outputs have been completed.

b) Each Progress Report outlined in condition E1.13a must:

1. Provide a status update on activities and outputs to achieve the recommendations identified in Appendix 1 of the Implementation Plan that have been completed since the last Progress Report; and
2. Outline any work packages that will not be completed by June 2022, including the details of any reasons why the Licensee has been unable to complete these work packages.

## E2 Mandatory Environmental Audit

### E2.1 Audit purpose

Subject to conditions E2.2 - E2.20 below, the licensee must engage an auditor to undertake a mandatory environmental audit ("the Audit"). The purpose of the Audit is to:

- a) provide information to the licensee about the adequacy of its systems to comply with regulatory requirements including compliance with the Act and licence conditions in order to:
  - prevent the occurrence of sewage overflows from rising mains and minimise the community and environmental health risks posed by these sewage overflows;

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- prevent the occurrence of sewage overflows from sewage pumping stations caused by failure and minimise the community and environmental health risks posed by these sewage overflows; and
- b) identify improvements to be made by the licensee so that the licensee's systems in place for managing sewage pumping stations and rising mains comply with the regulatory requirements including under the Act and licence conditions.

## E2.2 Independent Auditor

The licensee must engage a suitably qualified and experienced independent certified environmental auditor (the "Auditor"). The Auditor may obtain the services of additional Auditor/s and relevant technical experts. At a minimum, the Auditor and team members must comprise of expertise in the areas of sewage and environmental engineering, logistics and systems auditing. It is noted that the EPA encourages the licensee to consider relevant international as well as national expertise. The Auditor and team members must be approved of in writing by the EPA before being engaged.

E2.3 By 2 December 2022, the licensee must provide the EPA by email addressed as "ATTENTION Manager ROMS" to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au), with the details of at least three Auditors (and team members) that are suitably qualified to undertake the Audit under condition E2.6 - E2.14. The licensee may identify a preferred Auditor and team to undertake the Audit. For the purposes of this condition, the licensee must provide the EPA with the following details for the Auditor and each proposed team member:

- name;
- contact details;
- the area in which they have expertise;
- relevant qualifications;
- relevant experience; and
- availability.

E2.4 The EPA will approve an Auditor and team and advise the licensee in writing. The licensee must engage the approved Auditor team within two weeks after the EPA's approval.

E2.5 Within five weeks of engagement of the Auditor and team, the licensee must arrange for the Auditor and their team to meet with the EPA to discuss the background and context for the Audit.

### Audit scope

E2.6 The requirement to prepare an audit in relation to this licence can be satisfied by the licensee providing a single combined report that addresses issues relevant to each of the 23 licences the subject of these mandatory audit requirements.

E2.7 In relation to systems currently in place for managing and operating sewage pumping stations and rising mains, the Audit must:

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- detail and examine those systems and the licensee's adherence to those systems;
- detail and examine any deficiencies in those systems and the licensee's adherence to those systems; and
- make recommendations and conclusions in respect of the following (E2.8 - E2.14), without limitation:

## E2.8 *Construction and design*

- systems for considering the following in the construction and design of new upgraded or replacement sewage pumping stations and rising mains:
  - locational, environmental, and operational risk factors, including capacity of pumping stations and rising mains to account for future state planning needs;
  - future maintenance and resource requirements;
  - redundancy;
- systems for ensuring the construction and design of new, upgraded or replacement sewage pumping stations and rising mains comply with relevant design and construction standards;
- systems for ensuring quality control and quality assurance for new, upgraded or replacement sewage pumping stations and rising mains to comply with relevant standards;
- adequacy of the systems in place for constructing and designing new, upgraded or replacement sewage pumping stations and rising mains including those at a.- c. to meet the regulatory requirements at condition E2.1.
- adequacy of the systems in place for constructing and designing new, upgraded or replacement sewage pumping stations and rising mains including those at a.- c. to meet best international practice, codes of practice and relevant policies relating to the protection of the environment and human health.

## E2.9 *Operation*

- the licensee's requirements for staff competency in relation to operating rising mains and pumping stations, including staff training by the licensee;
- adequacy of the systems for operating sewage pumping stations and rising mains in a manner which reduces risk factors related to failure, prevents the occurrence of sewage overflows and minimises the human health and environmental impact of resultant sewage overflows;
- adequacy of the systems for operating sewage pumping stations and rising mains to meet the regulatory requirements at condition E2.1;
- adequacy of the operating systems for sewage pumping stations and rising mains to meet best international practice, codes of practice and relevant policies relating to the protection of the environment and human health.

## E2.10 *Assessment of condition*

- systems for identifying the need to undertake condition assessment for sewage pumping stations and rising mains including methodology, timeliness, frequency, resource and financial allocation towards condition assessment and amongst different condition assessment activities;
- systems for planning and scheduling for short, medium and long term condition assessment for sewage pumping stations and rising mains including methodology, timeliness, frequency and, resource and financial allocation at the level of the officer staff overseeing condition assessment activities and at the business level of staff overseeing remedial activities, resource supply and, financial allocation;
- systems for undertaking condition assessment of rising mains and sewage pumping stations including methodology, timeliness, frequency and, resource and financial allocation;



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- m. technology and techniques used to undertake condition assessment;
- n. systems to develop better technology and improved techniques to undertake condition assessment on sewage pumping stations and rising mains;
- o. systems for planning and undertaking of follow-up actions for sewage pumping stations and rising mains when condition assessment results are received, in particular what processes are followed when a condition assessment identifies recommendations, makes conclusions or proposes improvements or identifies that risk of failure factors have changed;
- p. systems for prioritising assessment of condition activities against both:
  - other rising main and sewage pumping station assets; and
  - other licensee plant systems and works;
- q. adequacy of the systems, technology and techniques including those at j.-p. for undertaking condition assessment for rising mains and pumping stations to reduce risk factors related to failure, prevent sewage overflows and minimise the human health and environmental impact of resultant sewage overflows;
- r. adequacy of the systems, technology and techniques including those at j.-p. for undertaking condition assessment for rising mains and pumping stations to meet the regulatory requirements at condition E2.1.
- s. adequacy of the systems, technology and techniques at j.-p. for condition assessment of rising mains and pumping stations to meet best international practice, codes of practice and relevant policies relating to the protection of the environment.

## E2.11 Remedial activities

- t. systems for identifying remedial activities needs including methodology, timeliness, frequency and, resource and financial allocation;
- u. systems for planning and scheduling for short, medium and long term remedial activities for sewage pumping stations and rising mains including methodology, timeliness, frequency and, resource allocation, at the level of the officer staff overseeing remedial activities and at the business level of staff overseeing remedial activities, resource supply and, financial allocation;
- v. systems for undertaking remedial activities including methodology, technology, timeliness, frequency and, resource and financial allocation;
- w. technology and techniques used to undertake remedial activities for sewage pumping stations and rising mains;
- x. systems to develop better technology and improved techniques to undertake remedial activities on sewage pumping stations and rising mains;
- y. systems for considering all relevant risk factors related to failure of sewage pumping stations and rising mains in identifying and undertaking remedial activities;
- z. systems for prioritising remedial activities for rising mains and sewage pumping stations against both:
  - other rising main and sewage pumping station assets; and
  - other licensee plant systems and works;
- aa. systems for updating remedial schedules and plans when relevant and new or previously unaccounted for information is identified;
- bb. the adequacy of systems for remedial activities for sewage pumping stations and rising mains including those at t.-aa. to reduce risk factors related to failure, prevent sewage overflows and minimise the human health and environmental impact of resultant sewage overflows;
- cc. the adequacy of systems for remedial activities for sewage pumping stations and rising mains including those at t.-aa. to meet the regulatory requirements at condition E2.1.
- dd. the adequacy of systems for remedial activities for sewage pumping stations and rising mains including those at t.-aa. to meet best international practice, codes of practice and relevant policies relating to the protection of the environment.

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## E2.12 Contingency planning and response

ee. the systems for contingency planning and response to prevent a sewage overflow after failure occurs for sewage pumping stations and rising mains including:

- i. the timeliness and availability of resources and information about contingency planning and response;
- ii. the licensee's requirements for staff competency in relation to responding to failures of rising mains and pumping stations, including staff training by the licensee;

ff. after a sewage overflow occurs from a sewage pumping station or rising main, the systems for contingency planning and response to minimise the volume of sewage discharged to the environment and minimise environmental/human health impacts including:

- i. the timeliness and availability of resources and information about contingency planning and response;
- ii. the licensee's requirements for staff competency in relation to responding to failures of rising mains and sewage pumping stations, including staff training by the licensee;

gg. the systems for contingency planning before failure occurs in a sewage pumping station and rising main to:

- i. identify risk factors;
- ii. identify asset failure scenarios;
- iii. test and update plans;

hh. the adequacy of systems for contingency planning and response to prevent a sewage overflow after failure occurs for sewage pumping stations and rising mains to meet the regulatory requirements at condition E2.1;

ii. the adequacy of systems for contingency planning and response to minimise the volume of sewage discharged to the environment and minimise environmental/human health impacts after a sewage overflow from a sewage pumping station or rising main occurs, to meet the regulatory requirements at condition E2.1;

jj. the adequacy of systems for contingency planning before failure occurs in a sewage pumping station or rising main to meet the regulatory requirements at condition E2.1;

kk. the adequacy of systems for contingency planning and response to prevent a sewage overflow after failure occurs in sewage pumping stations and rising mains to meet best international practice, codes of practice and relevant policies relating to the protection of the environment;

ll. the adequacy of systems for contingency planning and response to minimise the volume of sewage discharge to the environment and minimise environment and human health impacts after a sewage overflow occurs from a sewage pumping station and rising mains to meet best international practice, codes of practice and relevant policies relating to the protection of the environment

mm. the adequacy of systems for contingency planning before failure occurs or issue arises in a sewage pumping station or rising main to meet best international practice, codes of practice and relevant policies relating to the protection of the environment.

## E2.13 Risk assessment and risk management

nn. the systems to undertake risk assessment/s including methodology, data sources and significance weightings given to components of the risk assessment to determine and manage the risk and consequence of failure;

oo. the systems to review and update risk assessment/s including methodology, data sources, frequency and timeliness;

pp. the systems for using risk assessment information for contingency planning

qq. the systems for implementing action to mitigate risks;



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- rr. the adequacy of the risk assessment systems including those at nn.-qq. to account for all relevant risk factors which could contribute to failure including (but not limited to) infrastructure characteristics, sewage characteristics, environmental conditions, locational, redundancy, accessibility and operational risk factors;
- ss. adequacy of risk assessment and risk management systems including those at nn.-qq. to reduce risk factors related to failure, prevent sewage overflows and minimise the human health and environmental impact of resultant sewage overflows;
- tt. adequacy of risk assessment and risk management systems including those at nn.-qq. for rising mains and sewage pumping stations to meet the regulatory requirements at condition E2.1;
- uu. the adequacy of risk assessment/s process to enable the licensee to prioritise and make decisions about rising main and sewage pumping station condition assessment and remedial activities.

## E2.14 Recommendations

- vv. Recommendations for any improvements that the licensee should make so that its rising mains and pumping stations are operated and managed:
  - i. in accordance with best international practice and best available technology;
  - ii. in a manner which prevents future rising main and sewage pumping station failures and resultant sewage overflows;
  - iii. in a manner so that they are not carried on in an environmentally unsatisfactory manner;
  - iv. in order to meet the regulatory requirements at condition E2.1.
- ww. Recommendations for a broad strategic plan that the licensee should undertake for improvements made under vv., in time frames of less than 5 years, 10 years, 20 years and 30 years plus.

## Environmental Audit Report Requirements

- E2.15 The licensee must instruct the Auditor to prepare a draft environmental audit report ("Draft Audit Report"), being a single, combined report prepared by the Auditor, which includes:
  - a) all of the matters described in conditions E2.1, E2.6 and E2.7 - E2.14;
  - b) a list of documents considered and reviewed, including any of the licensee procedures specifically referenced in the Draft Audit Report;
  - c) names, roles and organisations of personnel interviewed by the Auditor (including their team members) in preparing the Draft Audit Report;
  - d) the two declarations required under Section 176 of the Act; and
  - e) a summary of the Audit including the conclusions and recommendations, in electronic format so it can be entered into the Public Register (as required by section 308 of the POEO Act).
- E2.16 The licensee must instruct the Auditor to provide the Draft Audit Report to the EPA by email addressed as "ATTENTION Manager ROMS" to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au), within 6 months of the date of the EPA's written approval of the Auditor and at the same time as, or before, the Draft Audit Report is provided to the licensee.
- E2.17 The licensee must ensure the Draft Audit Report is updated by the Auditor to address any comments made by the EPA.
- E2.18 The licensee must submit the Final Audit Report to the EPA by email addressed as "ATTENTION Manager

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ROMS" to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au), no later than one month after receipt of the EPA's comments on the Draft Audit Report. A PDF version of the report is to be provided.

## Implementation of Recommendations of Mandatory Environmental Audit

E2.19 The licensee must submit an Audit Implementation Report to the EPA by email addressed as "ATTENTION Manager ROMS" to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au), by no later than 3 months after receipt of the Final Audit Report.

E2.20 The Audit Implementation Report must:

- a) identify what actions the licensee proposes to take in response to the Audit Report;
- b) propose a timeframe for these action(s); and
- c) provide an explanation for the licensee's proposals where there is any variance from the recommendations of the Auditor in the Final Auditor Report.

## E2.21 Mandatory Environmental Audit Dictionary

For the purposes of conditions E2.1 to E2.20 the following definitions apply:

Rising main means:

a sewer pressure main which transfers sewage collected by sewage pumping station to a point of discharge such as a gravity sewer main or sewage treatment plant between the last valve inside a pumping station site and the discharge point.

Sewage pumping station means:

a structure which controls the transport of sewage through the sewer pipes, where steep hills and other variations in the land topography can prevent or limit the gravity flow of sewage to the sewage treatment plant. The sewage pumping station includes infrastructure from the collecting manhole to the start of the rising main and all infrastructure relevant to the function of the sewage pumping station.

Environmentally unsatisfactory manner means:

the definition as specified in section 95 of the Act.

Systems means:

the licensee's interacting or interdependent policies, plans, procedures, practices, processes, standards, strategies and resources (not limited to those) which are currently in place for managing and operating sewage pumping stations and rising mains.

Condition assessment means:

activities undertaken for the purpose of determining the condition of an asset. This includes (but is not limited to) activities undertaken to identify whether there are any leaks or defects on an asset, activities undertaken to determine how much life the asset has left, and activities to decide upon preventative maintenance or remedial work to extend its life or replacement of the asset.

Remedial activities means:

activities related to maintenance, repair, renewal, upgrade and redundancy upgrades.



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Failure means:  
an issue which inhibits or prevents normal operation of a sewage pumping station or rising main which could lead to sewage overflows.

**E3    Renewal of the Homebush/Strathfield 750mm rising main**

- E3.1    The Licensee must complete relining of the pressurised section of the 750mm rising main at Homebush/Strathfield (which receives flows from sewer pumping station SP0041) as soon as is reasonably practicable and by no later than 31 December 2025.
- E3.2    The Licensee must advise the EPA of the completion of the works required by E3.1 within 10 business days via email to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au)

**E4    Renewal of the Carramar rising main**

- E4.1    The Licensee must submit to the EPA a Carramar Renewal Project Plan which sets out the timeframes for the completion and commissioning of the renewal works for the new Carramar rising main no later than 5 months after the implementation of this condition.
- E4.2    The Licensee must complete the renewal and commissioning of the new Carramar rising main from chainage 600 to the Northern Georges River Submain (NGRS) in accordance with the Carramar Renewal Project Plan and the dates set out within that Plan.
- E4.3    For the purpose of interpreting compliance with Condition E4.2, the most recent version of the Carramar Renewal Project Plan that has been agreed to in writing by the EPA at the time applies.
- E4.4    The Licensee is to notify the EPA in writing of any anticipated delays to meeting the completion date(s) under the Carramar Renewal Project Plan including:
  - 1. an amended Project Plan identifying the current projected completion date(s), and
  - 2. an explanation for the change in projected completion date(s).
- E4.5    The Licensee must advise the EPA of the completion of the works required by E4.4 within 10 business days following completion, via email to [info@epa.nsw.gov.au](mailto:info@epa.nsw.gov.au) and copied to [metrowater.infrastructure@epa.nsw.gov.au](mailto:metrowater.infrastructure@epa.nsw.gov.au)

**E5    Special Dictionary - SWC**

E5.1

Term	Definition
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approved	Means approved in writing by the EPA. The EPA's approval may be given unconditionally, or subject to conditions.
average concentration limit	Means the average of twelve monitoring test results undertaken during the reporting period.
average dry weather flow (ADWF)	Means the average flow at a point calculated or measured over a 24 hour period in dry weather
Biosolids	Has the same meaning as in Schedule 1, Part 3 of the Protection of the Environment Operations Act 1997.
Biosolids Guidelines	Means the "Environmental Guidelines: Use and disposal of biosolids products" published by the EPA November 1997, or any subsequently updated guidelines which replace this publication.
Bypass	Means circumstances where sewage has been received at the sewage treatment plant but is discharged from the plant without it being treated, processed or reprocessed by means of any or all of the designed treatment processes of the plant. A new bypass event is defined as a bypass that commences at least 24 hours after the end of the previous bypass.
catchment	Catchment boundaries are marked on the system map
cfu	Means colony forming units.
choke	Means a full or partial blockage in a sewer pipe that results in sewage being discharged to the environment. A choke may be caused by structural collapse of the sewer pipes, tree roots, debris or siltation.
condition	Means a condition of this licence.
directed overflow	Means a directed overflow structure within the reticulation system.
directed overflow structure	Means a designed structure (excluding access chambers) in the reticulation system which operates as a relief to allow sewage to discharge at a planned location or a sewage pumping station, but does not include a bypass from a sewage treatment plant.
discharge	Has the same meaning as in Schedule 1, classification [71] of the Protection of the Environment Operations (General) Regulation 1998.
dry weather	Dry weather occurs when less than 10 millimetres of rainfall has been measured at a rain gauge in the catchment of the sewage treatment system during a 24 hour period (where there is no rain gauge in the catchment, at the rain gauge closest to the centre of the catchment). Dry weather SPS discharge occurs when less than 10mm rainfall has been measured at a rain gauge in the catchment of the SPS during a 24 hour period (where there is no rain gauge in the catchment at the rain gauge closest to the SPS).
dry weather overflow	Means an overflow in the reticulation system not caused by wet weather, as determined by the hydraulic sewer system model.
effluent	Means sewage that has received all of the designed treatment processes at the sewage treatment plant.

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emission factor	In relation to load-based licensing, means the level of emissions expected to be generated relative to another characteristic of the activity.
harm	Has the same meaning as in the Protection of the Environment Operations Act 1997.
kL	Means kilolitre.
L/s	Means litres per second.
leakage	Overflows caused by the exfiltration of sewage from faults, such as cracks, in sewer pipes to the surrounding environment.
licence issue date	Means the date of the issue of this licence, or if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.
mL	Means millilitres.
ML	Means megalitres.
node	Is a point in the hydraulic sewer system model that represents one or more overflows in the same catchment.
offensive odour	Has the same meaning as in the Protection of the Environment Operations Act 1997.
overflow	Is a discharge of untreated or partially treated sewage from the sewage treatment system. Overflows may occur as directed overflows or uncontrolled overflows.
Partial disinfection	Means a discharge of sewage or effluent from an STP that occurs when the flow rate of sewage at the influent point of the STP equals or exceeds the rate specified in condition O6.3
Partial treatment discharge	Means a discharge of sewage or effluent from an STP that occurs when the flow rate of sewage at the influent point of the STP equals or exceeds the rate specified in condition O6.3 for Bondi, Malabar and North Head STPs only.
performance acceptance criteria	In relation to hydraulic sewer stem model, means the standard of accuracy (sometimes called the "goodness of fit") to be achieved when observations of a particular performance indicator are compared to the results predicted by the model.
reticulation system	Means that part of the sewage treatment system which collects and transports sewage to the sewage treatment plant and includes all sewer pipes (whether greater or less than 300mm diameter), access chambers, vent shafts, directed overflow structures and sewage pumping stations, but does not include the sewage treatment plant.
SCAMP	Sewer Catchment Asset Management Plan
sewage	Means all material received in the reticulation system
sewage products	Means any by-product of the treatment processes and includes biosolids, raw sludge, liquid sludge, thickened sludge, digested sludge, screenings and grit.



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sewage pumping station (SPS)	Is a structure which controls the transport of sewage through the sewer pipes, where steep hills and other variations in the land topography can prevent or limit the gravity flow of sewage to the sewage treatment plant.
sewage treatment plant (STP)	Is a facility at which sewage is stored and treated following delivery from the reticulation system prior to discharge, and includes discharge structures and STP bypass points.
sewage treatment system	Means the reticulation system and the sewage treatment plant used for the transport, treatment and discharge of effluent and sewage.
sub-catchment	Sub-catchment boundaries are marked on the system map
ten year rainfall time series data	Means the rainfall data for the period 1985 to 1994 as used in the EISs.
Trade waste agreements	Means agreements reached between the licensee and industrial and commercial customers to restrict the amount of toxic and other potentially harmful substances discharged to the sewerage system.
ug/L	Means micrograms per litre.
uncontrolled overflow	Means an overflow from any part of the reticulation system that is not a directed overflow. Leakage or overflows from access chambers are examples or uncontrolled overflows.
waters	Has the same meaning as in the Protection of the Environment Operations Act 1997.
waterways	Means the whole or any part of any river, stream, lake, lagoon, swamp, wetlands, natural or artificial watercourse, dam or tidal waters (including the sea), but does not include watercourses that are dry at the commencement of the overflow, or underground pipes, channels or gutters designed to receive or pass rainwater.
wet weather	Wet weather occurs when 10 millimetres or more of rainfall has been measured at a rain gauge in the catchment of the sewage treatment system during a 24 hour period (where there is no rain gauge in the catchment, at the rain gauge closest to the centre of the catchment).
wet weather overflow	Means an overflow in the reticulation system caused by wet weather as determined by the hydraulic sewer system model.



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## Dictionary

### General Dictionary

<b>3DGM [in relation to a concentration limit]</b>	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
<b>Act</b>	Means the Protection of the Environment Operations Act 1997
<b>activity</b>	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
<b>actual load</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>AM</b>	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>AMG</b>	Australian Map Grid
<b>anniversary date</b>	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>annual return</b>	Is defined in R1.1
<b>Approved Methods Publication</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>assessable pollutants</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>BOD</b>	Means biochemical oxygen demand
<b>CEM</b>	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
<b>COD</b>	Means chemical oxygen demand
<b>composite sample</b>	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
<b>cond.</b>	Means conductivity
<b>environment</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>environment protection legislation</b>	Has the same meaning as in the Protection of the Environment Administration Act 1991
<b>EPA</b>	Means Environment Protection Authority of New South Wales.
<b>fee-based activity classification</b>	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
<b>general solid waste (non-putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997





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<b>flow weighted composite sample</b>	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
<b>general solid waste (putrescible)</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>grab sample</b>	Means a single sample taken at a point at a single time
<b>hazardous waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>licensee</b>	Means the licence holder described at the front of this licence
<b>load calculation protocol</b>	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
<b>local authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>material harm</b>	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
<b>MBAS</b>	Means methylene blue active substances
<b>Minister</b>	Means the Minister administering the Protection of the Environment Operations Act 1997
<b>mobile plant</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>motor vehicle</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>O&amp;G</b>	Means oil and grease
<b>percentile [in relation to a concentration limit of a sample]</b>	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
<b>plant</b>	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
<b>pollution of waters [or water pollution]</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>premises</b>	Means the premises described in condition A2.1
<b>public authority</b>	Has the same meaning as in the Protection of the Environment Operations Act 1997
<b>regional office</b>	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
<b>reporting period</b>	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
<b>restricted solid waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>scheduled activity</b>	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
<b>special waste</b>	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
<b>TM</b>	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .





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TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non-putrescible), special waste or hazardous waste
Wellhead	Has the same meaning as in Schedule 1 to the Protection of the Environment Operations (General) Regulation 2021.

Mr Warren Hicks

Environment Protection Authority

(By Delegation)

Date of this edition: 25-May-2000



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End Notes	
1	Licence varied by notice V/M upgrade, issued on 06-Jul-2000, which came into effect on 06-Jul-2000.
2	Licence varied by notice 1007245, issued on 29-Oct-2001, which came into effect on 23-Nov-2001.
3	Licence varied by change to discharge point type, issued on 30-Nov-2001, which came into effect on 30-Nov-2001.
4	Licence varied by notice 1018147, issued on 27-Jun-2002, which came into effect on 28-Jun-2002.
5	Licence varied by notice 1021027, issued on 23-Dec-2002, which came into effect on 17-Jan-2003.
6	Licence varied by notice 1028327, issued on 08-Jul-2003, which came into effect on 02-Aug-2003.
7	Licence varied by notice 1032881, issued on 19-Mar-2004, which came into effect on 02-Apr-2004.
8	Licence varied by notice 1038499, issued on 30-Jun-2004, which came into effect on 30-Jun-2004.
9	Licence varied by notice 1043387, issued on 11-Mar-2005, which came into effect on 24-Mar-2005.
10	Licence varied by notice 1046971, issued on 30-Jun-2005, which came into effect on 30-Jun-2005.
11	Licence varied by notice 1053458, issued on 29-Jun-2006, which came into effect on 29-Jun-2006.
12	Licence varied by notice 1070427, issued on 05-Mar-2007, which came into effect on 05-Mar-2007.
13	Licence varied by notice 1092119, issued on 16-Sep-2008, which came into effect on 16-Sep-2008.
14	Licence varied by notice 1092485, issued on 04-Nov-2008, which came into effect on 04-Nov-2008.
15	Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
16	Licence varied by Admin. corrections to Annual Return, issued on 01-Jul-2009, which came into effect on 01-Jul-2009.
17	Licence varied by notice 1104120, issued on 27-Nov-2009, which came into effect on 27-Nov-2009.
18	Licence varied by notice 1111303, issued on 17-Feb-2010, which came into effect on 17-Feb-2010.



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19	Licence varied by notice 1111763, issued on 10-Mar-2010, which came into effect on 10-Mar-2010.
20	Licence varied by notice 1116059, issued on 02-Jul-2010, which came into effect on 02-Jul-2010.
21	Licence varied by notice 1122885, issued on 20-Dec-2010, which came into effect on 20-Dec-2010.
22	Licence varied by notice 1126547, issued on 04-Apr-2011, which came into effect on 04-Apr-2011.
23	Licence varied by notice 1129019, issued on 27-Jun-2011, which came into effect on 27-Jun-2011.
24	Licence varied by notice 1501969 issued on 28-Jun-2012
25	Licence varied by notice 1507163 issued on 20-Jul-2012
26	Licence varied by notice 1516025 issued on 30-Aug-2013
27	Licence varied by notice 1519252 issued on 25-Jul-2014
28	Licence varied by notice 1528286 issued on 11-Feb-2015
29	Licence varied by notice 1528937 issued on 23-Mar-2015
30	Licence varied by notice 1538188 issued on 19-Feb-2016
31	Licence varied by notice 1539073 issued on 15-Apr-2016
32	Licence varied by notice 1539863 issued on 15-Apr-2016
33	Licence varied by notice 1541876 issued on 23-Jun-2016
34	Licence varied by notice 1542682 issued on 28-Jul-2016
35	Licence varied by notice 1543449 issued on 10-Aug-2016
36	Licence varied by notice 1553529 issued on 29-Jun-2017
37	Licence varied by notice 1555385 issued on 17-Aug-2017
38	Licence varied by notice 1560305 issued on 22-Dec-2017
39	Licence varied by notice 1572460 issued on 30-Nov-2018
40	Licence varied by notice 1577308 issued on 25-Mar-2019
41	Licence varied by notice 1580186 issued on 01-Jul-2019
42	Licence varied by notice 1586254 issued on 04-Oct-2019
43	Licence varied by notice 1587663 issued on 31-Oct-2019
44	Licence varied by notice 1592763 issued on 20-Mar-2020
45	Licence varied by notice 1594887 issued on 19-May-2020



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46	Licence varied by notice	1608025 issued on 13-May-2021
47	Licence varied by notice	1609936 issued on 01-Jul-2021
48	Licence varied by notice	1611946 issued on 27-Aug-2021
49	Licence varied by notice	1614894 issued on 15-Dec-2021
50	Licence varied by notice	1615280 issued on 16-Dec-2021
51	Licence varied by notice	1618976 issued on 03-Jun-2022
52	Licence varied by notice	1623337 issued on 27-Oct-2022
53	Licence varied by notice	1627806 issued on 06-Apr-2023
54	Licence varied by notice	1628495 issued on 28-Apr-2023
55	Licence varied by notice	1629149 issued on 26-Jun-2023
56	Licence varied by notice	1630888 issued on 27-Jul-2023
57	Licence varied by notice	1635653 issued on 16-Jan-2024