

43.Prince of Wales (POW) STP

43.1 Activity and report details

Activity name	Prince of Wales (POW) STP		
Activity address	Derwent Park Road, Prince of Wales Bay, Hobart		
Permit number	Licence to Operate - 3540	Date of issue	8/03/1991
EPN	9208/1 8545/1	Date of issue	13/06/2018 05/03/2013
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	9900 kL/day		
Key Influent Source	Residential/Industrial/Tanker 6 x Category 3 Customers, 3 x Category 4 Customers		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 43- 1: Prince of Wales Sewage Treatment Plant



43.2 Monitoring and compliance summary

43.2.1 Flow data

Table 43-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Inlet	Derwent River	No reuse scheme
Coordinates	E 524957 N 5257635	E 525066 N 5258516	NA
Method of measurement	In line meter	Level sensor	NA
Date of last calibration/validation (if applicable)	16/02/2025	16/02/2025	NA

Table 43-B: Annual flow and rainfall data

Month	Average Daily Influent Volume (kL/day)	Rainfall (mm/month) BOM Station ID 94030	Discharge to Waters Total Effluent Volume (ML)	Discharge to Reuse Total Effluent Volume (ML)
July 2024	8,155	82.8	252.80	--
August 2024	8,391	82.8	260.13	--
September 2024	9,064	70.2	354.38	--
October 2024	6,113	39.7	260.58	--
November 2024	5,940	21.3	252.31	--
December 2024	8,361	116.5	279.14	--
January 2025	9,337	26.6	250.62	--
February 2025	7,894	13.6	217.63	--
March 2025	7,593	34.2	235.37	--
April 2025	7,958	33.7	238.75	--
May 2025	7,996	63.8	247.87	--
June 2025	8,776	49	263.28	--
Annual 2024-25	7,966	634.2	3,112.85	0.00
% of Total Discharge	--	--	100.0%	0.0%

2024-25 monthly flow data was submitted directly to the EPA

43.3 Bypass events

Table 43-C: Bypass events summary for POWST01 - OPD

Bypass ID:	POWST01-OPD					
Bypass description:	Pumped bypass from primary effluent pump station to chlorine contact tank					
Treatment bypassed:	Secondary Treatment					
Treatment level of impacted effluent:	Screened, De-gritted, Primary Treated and Chlorinated					
Flows exceeding:	340 L/s (Approximate)					
Discharge location:	Derwent Estuary: 525066E, 5258516N (GDA94)					
Start date / time	End date / time	Duration	Volume estimate	Cause	Response actions	
16/10/24 22:40	16/10/24 23:00	0.3 h	102 kL	Rainfall Event	No specific actions undertaken. To help reduce bypass events state-wide, during FY2024-25 TasWater has spent \$1.2 million on the identification, reification and monitoring of inflow and infiltration (I&I) within our systems. During FY2025 -26 we will be spending a further \$0.8 million on I&I works.	
18/10/24 09:01	18/10/24 10:01	1.0 h	143 kL	Rainfall Event		
14/11/24 10:41	14/11/24 10:51	0.2 h	92 kL	Rainfall Event		
25/11/24 14:37	25/11/24 14:47	0.2 h	92 kL	Rainfall Event		
01/12/24 03:41	01/12/24 06:21	2.7 h	1,311 kL	Rainfall Event		
07/12/24 06:21	07/12/24 10:21	4.0 h	1,306 kL	Rainfall Event		
07/12/24 13:41	07/12/24 18:11	4.5 h	1,163 kL	Rainfall Event		
22/12/24 18:28	22/12/24 21:58	3.5 h	1,071 kL	Rainfall Event		
05/01/25 18:18	05/01/25 18:48	0.5 h	153 kL	Rainfall Event		
12/01/25 12:48	12/01/25 13:38	0.8 h	102 kL	Rainfall Event		
15/01/25 18:48	15/01/25 19:58	1.2 h	357 kL	Rainfall Event		
22/05/25 05:26	22/05/25 05:36	0.2 h	51 kL	Rainfall Event		
24/05/25 06:34	24/05/25 12:36	6.0 h	1,846 kL	Rainfall Event		
08/06/25 20:51	08/06/25 21:31	0.7 h	92 kL	Rainfall Event		

10/06/25 10:11	10/06/25 17:51	7.7 h	719 kL	Rainfall Event	
07/12/24 10:21	07/12/24 14:31	4.2 h	7,166 kL	Rainfall Event	

43.4 Discharge compliance with permit limits

Table 43-D: Compliance Summary

	Ammonia as N	BOD ₅	Chlorine	Nitrogen	Oil and Grease	pH	Phosphorus	E, coli	Total suspended solids
Permit/EPN limit	mg/L	mg/L	mg/L	mg/L	mg/L	Units	mg/L	MPN/100mL	mg/L
Maximum	32	65	1.0	45	10	8.5	10	500	30
90th Percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	52	52	52	52	52	52	52	52	52
Number analysed	52	52	56	52	52	52	52	52	52
Statistical summary									
Maximum	31.6	81.0	5.2	47.7	3.0	7.3	9.8	24,196	21.6
90th percentile	22.0	49.7	1.7	41.4	2.0	7.0	6.8	2,340	13.8
50th percentile	16.3	20.5	0.9	34.9	1.4	6.8	5.8	10	6.5
Minimum	2.6	5.0	0.1	17.2	1.0	5.7	1.5	10	4.0
EPN Limit Compliance									
% compliance with Maximum	100%	94%	66%	94%	100%	100%	100%	85%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	90%	--	--	--

Table 43-E: Mass loads to the environment

Mass Loads	EPN Limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	15,217.10
Phosphorous (kg)	--	Annual	17,056.66
Method	Flow weighted/Composite method		

Table 43-F: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance			Reasons for non-compliance	Actions to improve performance
E. coli	13/08/2024 3/09/2024 10/09/2024	8/10/2024 15/10/2024 22/10/2024	2/01/2025 23/04/2025	There are occasions of variable chlorine demand, with the total chlorine residual increasing when the dose rates have remained the same or even reduced. It is suspected that variability due to trade waste and tankered waste may have been a contributing factor.	Regular review and adjustment of chlorine dose rates. Installation of chlorine analysers.
Chlorine	16/07/2024 1/10/2024 12/11/2024 17/12/2024 14/01/2025 21/01/2025	28/01/2025 11/02/2025 25/02/2025 4/03/2025 18/03/2025 25/03/2025	15/04/2025 29/04/2025 6/05/2025 13/05/2025 20/05/2025 3/06/2025		
pH	9/07/2024 13/08/2024	23/12/2024 2/01/2025	23/04/2025	MHL dosing system was at times offline leading to low pH.	Rectification of dosing system.
BOD	7/01/2025 21/01/2025	4/02/2025		Likely attributed to trade waste and tankered waste inputs.	No specific actions.
Nitrogen	2/07/2024 17/12/2024	7/01/2025			

No other parameters had exceedances in the reporting period.

43.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

43.6 Ambient monitoring program

No ongoing routine ambient monitoring program

Table 43-G: Program details

Program	Prince of Wales (POW) STP Ambient Monitoring Report 2024
Status	Biennial water quality, sediment and infauna monitoring. Not an EPN requirement but was completed to understand the risks associated with the STP effluent discharges into the Derwent Estuary.
Update	Water quality, sediment and infauna monitoring events completed in winter (August) and summer (December) 2024.
Comments	<p>An ambient monitoring report for the POW STP 2024 surveys has been submitted separately to this AER. Notable findings of the study include:</p> <ul style="list-style-type: none"> • Ammonia was highest in the surface waters at sites near to the outfall during both sampling events. There were no exceedances of the relevant toxicant Default Guideline Value (tDGV). • Nitrogen concentrations were elevated at the outfall during both monitoring events, most frequently in surface and mid depths. In the summer sampling event, results were elevated across all sites, which was likely caused by the period of high rainfall that preceded sampling. • Phosphorus and Dissolved Reactive Phosphorus (DRP) results exceeded the EPA Default Guideline Values (DGVs) for the majority of sites in the winter monitoring event. Concentration decreased with increasing distance from the outfall site. The results from the summer sampling event suggest that the effluent discharge is influencing the phosphorus and DRP concentrations at the outfall site. • Enterococci levels exceeded the low-risk guideline value for recreational waters at the outfall and downstream near site in winter (both 52 MPN/100mL). Conversely in summer, following the rain event, all sites exceeded the guideline value except for one. • Contaminant analysis of sediments showed elevation in most metals. Based on the number of current and historical inputs of metals into the POW receiving environment, it is difficult to attribute these results solely to the POW STP. • Benthic infauna community structure was significantly influenced by sampling date, suggesting temporal changes in species composition. The site was not significantly correlated, implying that spatial variation in community composition was not a strong predictor and hence effluent discharge was unlikely to be affecting infauna composition. <p>The outfall is currently located in an area with restricted mixing and tidal flushing. The receiving environment of the POW STP is characteristic of an environment highly disturbed by both current and historical anthropogenic inputs. Biennial ambient monitoring will continue.</p>

43.7 Groundwater monitoring

No groundwater monitoring program associated with the STP.

43.8 Inflow and infiltration (I&I)

The latest revision to the TasWater Inflow and Infiltration Management Plan includes details of the actions undertaken statewide to address I&I issues.

A Multi Criteria Assessment was undertaken by TasWater in 2024 to prioritise I&I investigation and works state-wide. This catchment was ranked 4 out of 108 in priority. Works this period included:

- Field investigation and defect identification ongoing.

43.9 Sludge and biosolids

The latest revision to the Sewage Sludge Management Plan (SSMP) includes full details of the actions undertaken during the reporting period. This STP was assessed as compliant with the 2024-25 SSMP.

Liquid sludge was received from the six STPs listed in table 43-J. The total sludge volume received at Prince of Wales Bay STP for the reporting period was 10240.5kL.

Biosolids are removed regularly from site, no stockpiling occurs.

Table 43-H: Biosolids sludge classification

Parameter	Number of Samples	Maximum (mg/kg)	Mean (mg/kg)	Minimum (mg/kg)	BACC (mg/kg)	Contaminant Classification
Arsenic	12	3.1	2.6	2.1	3.2	A
Cadmium	12	6.3	4.7	3.2	6.2	B
Chromium	12	52.2	35.5	28.1	49.2	A
Copper	11	572.0	445.7	341.0	592.4	B
Lead	12	71.7	49.8	30.4	69.9	A
Mercury	12	1.8	1.2	0.6	2.0	B
Nickel	12	225.0	44.8	22.4	158.7	B
Zinc	12	1810.0	1407.5	1070.0	1837.1	B

*No Copper result for February 2025 due to lab testing error. BACC = biosolids adjusted contaminant concentration

Table 43-I: Volume and disposal destination

Quantity (DST)	Average solids content (%)	Stabilisation method	Stabilisation grade	Contamination grade	Biosolids classification	End use destination
615.6	21.9	Anaerobic digestion	B	B	2	Whitemarsh Farm, Blue Hills Farm, Coronation Hotel, Thorpe Farm

Notes: DST = Dry solid tonne. U/C = Unclassified

Table 43-J: Liquid sludge transfers received at Prince or Wales Bay STP

STP transferred from	Volume received (kL)
Cygnets STP	211.4
Dover STP	22
Geeveston STP	148.1
Midway Point STP	3995.7
Risdon Vale STP	1515.8
Turriff Lodge STP	4347.5
Green Point STP	5928
TOTAL	16168.5

43.10 Non-compliance with other permit requirements

Table 43-K: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent quality limits for discharge to the River Derwent	Discharge compliance with permit limits	See section 43.4 Discharge compliance with permit limits and Performance Analysis
EM3 (8545/1) Discharge Management Plan	Discharge Management Plan overdue	TasWater acknowledges the non-compliance associated with the DMP condition. We are working towards the intent of the EPN condition to prioritise discharge risk reduction projects in line with our EPA endorsed Wastewater Risk Management Plan and Price and Service Plan process.

43.11 Complaints and incident reporting

No complaints recorded in the period.

Table 43-L: Customer complaints and incidents

Date	Category	Details	Mitigation actions
11/04/2025	Mechanical	<p>Significant process upset at Prince of Wales Bay STP was identified.</p> <p>A high trade waste load was identified as the main cause. Most possibly a stronger than usual tankered waste load was the root cause of the issue</p>	Investigated tankered waste companies that have used the site (based on fob access). This will allow for the potential follow-up/review of what waste was disposed of at the site.

43.12 Any other relevant information

Table 43-M: Projects or significant operational events that occurred in FY 2024-25

Project or significant operational event	Progress
Derwent Hobart Sewerage Regional Master Plan	The Derwent Hobart Sewerage Regional Master Plan has been completed and includes the short term and long-term considerations for the POW STP.

For further information on the Prince of Wales STP please contact TasWater on 13 6992

www.taswater.com.au