

73. Turriff Lodge STP

73.1 Activity and report details

Activity name	Turriff Lodge STP		
Activity address	New Norfolk		
Permit number	Licence to Operate – 3611	Date of issue	17 January 1989
EPN	8543/1	Date of issue	15 April 2013
Treatment level	Secondary Treatment		
Authorised Dry Weather Flows	4,100 kL/day		
Key Influent Source	Residential/Industrial		
Contact person	Kate Westgate		
Report author	George Fitzgibbon		
Contact details	Environment@taswater.com.au		
Date of submission	30 September 2025		

Figure 73-1: Turriff Lodge Sewage Treatment Plant



73.2 Monitoring and compliance summary

73.2.1 Flow data

Table 73-A: Flow monitoring summary

	Influent	Effluent	Reuse
Location name	Plant Inlet	Derwent River	No reuse scheme
Coordinates	E 506104 N 5264298	E 506133 N 5264442	NA
Method of measurement	Level sensor	Level sensor	NA
Date of last calibration/validation (if applicable)	10/11/2024	10/11/2024	NA

Table 73-B: Annual flow and rainfall data

Month	Average daily influent volume (kL/day)	Rainfall (mm/month) BOM Station ID 95081	Discharge to waters total effluent volume (ML)	Discharge to reuse total effluent volume (ML)
July 2024	1,883	50.6	56.92	--
August 2024	2,635	106.4	72.85	--
September 2024	2,443	97	85.35	--
October 2024	2,035	44.2	51.50	--
November 2024	1,963	29	47.56	--
December 2024	1,857	128	60.10	--
January 2025	1,577	27.6	46.20	--
February 2025	1,551	8.6	43.43	--
March 2025	1,544	11.6	47.87	--
April 2025	1,525	24.8	45.75	--
May 2025	1,644	47.6	50.97	--
June 2025	1,719	24	51.57	--
Annual 2024-25	1,867	599.4	660.08	0.00
% of total discharge	--	--	100.0%	0.0%

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

73.3 Bypass events

No bypass events recorded in the period.

73.4 Discharge compliance with permit limits

Table 73-C: Compliance summary

Parameter	Ammonia	BOD ₅	Chlorine	Nitrogen	Oil and grease	pH	Phosphorous	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	26	38	--	35	10	8.5	8	200	39
90th percentile	--	--	--	--	--	--	--	--	--
50th Percentile	--	--	--	--	--	--	--	--	--
Minimum	--	--	--	--	--	6.5	--	--	--
Samples analysed									
Number required	12	12	--	12	12	12	12	12	12
Number analysed	12	12	--	12	12	12	12	12	12
Statistical summary									
Max	26.2	40.0	0.8	39.8	5.2	7.4	6.6	75.0	27.0
90th percentile	25.4	37.2	0.7	35.6	4.7	7.4	6.5	20.0	15.4
50th percentile	21.2	22.5	0.6	31.0	3.4	7.2	5.6	10.0	8.2
Min	17.2	5.0	0.2	28.5	1.6	6.7	4.3	10.0	4.0
EPN Limit Compliance									
% compliance with Maximum	92%	92%	--	83%	100%	100%	100%	100%	100%
% compliance with 90th percentile	--	--	--	--	--	--	--	--	--
% compliance with 50th percentile	--	--	--	--	--	--	--	--	--
% compliance with pH range	--	--	--	--	--	100%	--	--	--

Table 73-D: Mass loads to the environment

Mass Loads	EPN limit	Frequency	2024-25 result
Nitrogen (kg)	--	Annual	21,311.6
Phosphorous (kg)	--	Annual	3,629.2
Method	Time weighted/grab sample method		

Table 73-E: Performance analysis (discharge to environment)

Effluent compliance parameter	Date(s) of non-compliance	Reasons for non-compliance	Actions to improve performance
Biochemical Oxygen Demand	19/08/2024	This non-compliance may attributed to high loading on the STP.	No specific actions undertaken.
Ammonia	19/08/2024	Turriff Lodge is a trickling filter treatment plant and is not designed to remove ammonia or total nitrogen. There may have been an issue with increased loading on the 19/08/2024 that could have contributed to the ammonia and total nitrogen non-compliance.	
Total Nitrogen	25/07/2024 19/08/2024		

No other parameters have had exceedances in reporting period.

73.5 Reuse annual reporting

No Recycled Water Scheme associated with this STP.

73.6 Ambient monitoring program

Table 73-F: Program details

Program	Turriff Lodge STP Post New Outfall Commissioning – Ambient Monitoring Plan (PNOC-AMP).
Status	Ambient water quality and biological monitoring in accordance with the PNOC-AMP within the Derwent River Estuary receiving environment.
Update	No ambient monitoring completed during the reporting period. The PNOC-AMP Ambient Monitoring Report (AMR) was completed during the reporting period and submitted to the EPA. AMR recommendations for ongoing ambient monitoring will be implemented in FY2025/26.
Comments	<p>The results of ambient monitoring within the Derwent River Estuary receiving environment associated with the new outfall and detailed within the AMR are summarised below:</p> <ul style="list-style-type: none"> • The behaviour of the effluent plume aligned with the new outfall hydrodynamic modelling predictions. In stratified river conditions the plume rises to the level of the halocline (i.e., mid water) and disperses upstream (incoming tide) or downstream (outgoing tide). In unstratified freshwater conditions, the plume rises to the surface and dilutes rapidly through the water column. • The effluent discharge had no observable impact on salinity, pH or turbidity in the receiving environment in surface, middle or bottom waters. Dissolved oxygen (DO) was impacted by stratification of the water column: DO was high when there was no stratification (freshwater) but was low in stratified bottom waters, particularly over the warmer months. • The impact of the STP effluent discharge into the upper Derwent Estuary was either low or negligible for measured ecosystem stressors compared to background conditions. Nutrients (ammonia, nitrate, total phosphorus and DRP) were occasionally elevated around the outfall but diluted to background levels within 50 m upstream and 25 m downstream of the outfall. These elevations in the vicinity of the outfall were not consistent with elevations of these nutrients in the STP effluent at the time. • Total and dissolved organic carbon (TOC and DOC) concentrations were highest following high rainfall and increased river flow (in mixed, unstratified freshwater conditions). TOC and DOC were occasionally slightly elevated around the STP outfall, but not consistently greater than background concentrations. • Occasional elevations in metal concentrations (aluminium, copper, iron, manganese and zinc) above background concentrations and exceeding the marine ANZG (2018) toxicant default guideline values were observed in mid and bottom waters in the immediate vicinity of the outfall (5m) and aligned with elevations in the in the effluent. • There was no measurable impact associated with chlorinated disinfection by-products (DBPs) around the outfall. The DBPs chloroform and N-nitrosodimethylamine (NDMA) were detected at low levels in the STP effluent on several occasions with only NDMA detected at the limit of reporting (LOR < 0.002 ug/L) within 5m of the outfall in May and November 2023. No other DBPs were detected during the water quality monitoring events. • Pathogen indicator organisms enterococci and <i>E. coli</i> concentrations occasionally exceeded the EPA low risk recreational guideline values in mid and bottom waters in the receiving environment but there was no evidence of a consistent impact from the STP discharge with levels likely related to urban and agricultural inputs from the township of New Norfolk. • Biological monitoring during peak growth in spring, summer and autumn suggested species assemblages and abundance of algae were generally similar between control and impact zones, with a slightly greater relative abundance of cyanobacteria in the impact zone. <p>Overall, the effluent discharges are considered to pose a low risk to the protected environmental values in the immediate vicinity of the STP outfall due to adequate mixing and dilution within the Derwent River Estuary.</p>

73.7 Groundwater monitoring

No groundwater monitoring program associated with the STP.

73.8 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 34 out of 108 in priority.

73.9 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.

There are no sludge/biosolids dewatering facilities at this site, with sludge transferred via liquid sludge transport to Prince of Wales Bay and Macquarie Point STPs. The total volume of sludge removed during the reporting period was 6685.5kL.

No stockpiling occurs at this site.

Table 73-G: Liquid sludge transfers from Turriff Lodge STP

Receiving STP	Volume (kL)
Macquarie Point STP	2338
Prince of Wales STP	4347.5
TOTAL	6685.5

73.10 Non-compliance with other permit requirements

Table 73-H: EPN non-compliances

EPN condition	Description of non-conformance	Future actions to be taken
EF3 Effluent quality limits for discharge to water	Discharge compliance with permit limits.	See section 73.4 Discharge compliance with permit limits and Performance Analysis.
WM2 Sewage Sludge Management Plan	Insufficient information regarding sludge transfers and digester upgrade.	Include information on sludge transfers and digester in 2024-25 SSMP.

73.11 Complaints and incident reporting

No complaints reported during the reporting period.

Table 74-I: Incident reporting

Date	Category	Details	Mitigation actions
29/05/2025	Mechanical	The digester flare at Turriff Lodge STP faulted and required replacement. Any excess biogas generated was being released in a controlled manner through the emergency PRV on the digester lid.	Rectified.

73.12 Any other relevant information

Table 73-J: 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 outlines both short- and long-term considerations for the Turriff Lodge STP. The proposed long-term strategy is for a local treatment solution at Turriff Lodge STP.

For further information on Turriff Lodge STP please contact TasWater on 13 6992

www.taswater.com.au