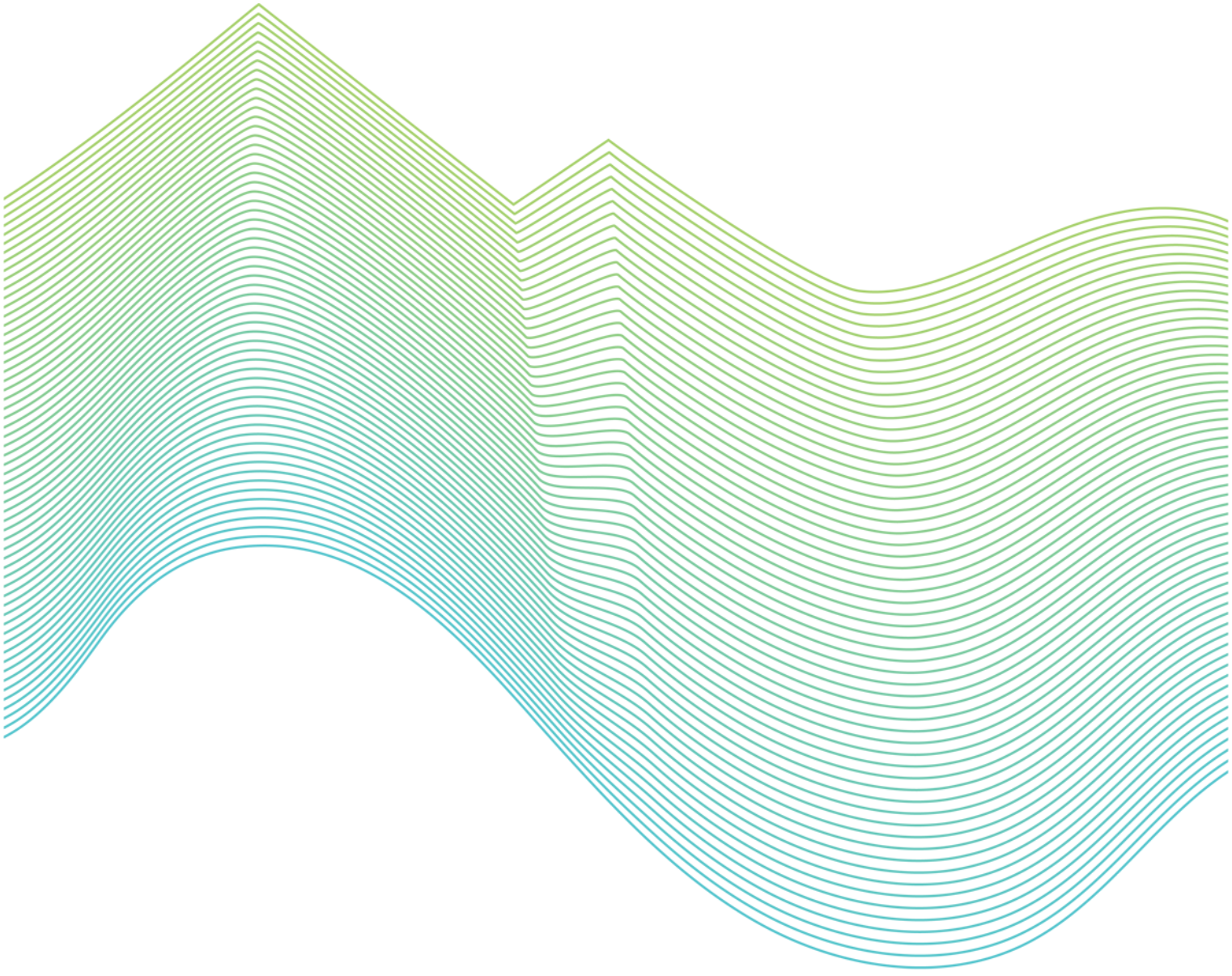
Hydro Tasmania

Annual Environmental Review Report

Tamar Valley Power Station

1 July 2024 to 30 June 2025



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ABBREVIATIONS

AER	Annual Environmental Review	GJ	Giga Joules	NOx	Nitrous Oxides
AETV	AETV Pty Ltd	hrs	Hours	NO_2	Nitrous Dioxide
ANZECC	Aus & NZ Environment and Conservation Council	Hz	Hertz	O_2	Oxygen
BBPS	Bell Bay Power Station	I1	Inline monitoring point at WWRP outlet	OCGT	Open Cycle Gas Turbine
BOD	Biochemical Oxygen Demand	I2	Inline monitoring point on the discharge sump flume	PCBs	Polychlorinated Biphenyls
CCGT	Combined-Cycle Gas Turbine	IBC	Intermediate Bulk Container	pH	Potential of hydrogen: measure of acidity and alkalinity
COD	Chemical Oxygen Demand	kL/hr	Kilolitres per hour	SCADA	Supervisory Control and Data Acquisition
COO	Chief Operating Officer	L	Litres	SS	Suspended Solids
COVA	COVA Thinking Pty Ltd (formerly SEMF Pty Ltd)	LAeq	A-weighted equivalent sound pressure	SW	Stormwater
CT	Cooling Tower	Ltn	Launceston	T	Tonnes
D1–D4	DB WQ monitoring locations (D1 to D4)	M1–M4	Near shore water quality monitoring locations	TEER	Tamar Estuary and Esk Rivers
dBA	A-Weighted Decibels	m	Metres	T/Hr	Tonnes per Hour
DB	Donovans Bay	m^3	Cubic metres	THMs	Trihalomethanes
0C	Degrees Celsius	m^3/hr	Cubic metres per hour	TN	Total Nitrogen
DO	Dissolved Oxygen	mg/L	Milligrams per litre	TP	Total Phosphorus
DP1	Discharge Point No.1	mg/m^3	Milligrams per cubic metre	TPH	Total Petroleum Hydrocarbons
DP2	Discharge Point No.2	ML	Mega litres	TSS	Total Suspended Solids
EMS	Environmental Management System	ML/yr	Mega litres per year	WW	Wastewater
EPA	Environment Protection Authority (Tasmania)	N/A	Not Applicable	FT8s	Pratt and Whitney turbines
EPN	Environment Protection Notice No. 7898/1 -	NATA	National Association of Testing Authorities	NS	Near Shore

Hydro Tasmania document control			
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1.0 Executive Summary

The Tamar Valley Power Station (TVPS) is situated at Bell Bay on land adjacent to the Tamar Estuary in northern Tasmania. The TVPS has been operated by AETV Pty Ltd (AETV) since it came into full operation as a gas fired base load station on 19 September 2009. AETV is a wholly owned subsidiary of Hydro Tasmania (Hydro).

The TVPS is operated in accordance with the requirements of Environment Protection Notice (EPN) No. 7898/1 which was finalised and formally issued by the Environment Protection Authority Tasmania on 20 November 2012.

AETV has submitted an Annual Environmental Review (AER) report for the TVPS to the Environment Protection Authority (EPA) every year (as required by Condition RP1 of the EPN), commencing in 2010.

This AER report has been prepared by COVA Thinking Pty Ltd (COVA) on behalf of AETV for the reporting period of 1 July 2024 to 30 June 2025 to provide:

- Description of relevant operational management and environmental monitoring results
- Synopsis of environmental performance
- Discussion of compliance with the conditions of EPN 7898/1 (and applicable amendments issued to the EPN).

Key points regarding environmental performance over the reporting period:

- AETV operated the TVPS in an environmentally conscious manner during the 2024/25 reporting period, to meet and where possible exceed the requirements of the EPN and AETV commitments as outlined in previous AERs.
- The Mitsubishi CCGT operated on a temporary basis until 23 August 2024 after being successfully recommissioned in the previous reporting period on 7 June 2024. As reported in the 2023-24 AER, the CCGT is approved under the EPN and did not cause any environmental concerns for this short restart duration after a non-operational period of 5 years.
- Based on the operational information and environmental monitoring results, there has been no appreciable change in the way the site is operated, the power station is well maintained, and comprehensive environmental programs are in place, hence much of the current AER is consistent with the past several reporting years.

AETV is committed to operating the TVPS in an environmentally conscious manner, implementing additional precautionary measures as it deems necessary to improve internal management of environmental issues.

AETV is a wholly owned subsidiary of Hydro Tasmania (Hydro).

Hydro's Executive General Manager, Assets and Infrastructure (GM A&I) acknowledges the contents of this AER.

SIGNED STATEMENT OF ACKNOWLEDGEMENT	
Hydro GM A&I Signature:	
Hydro GM A&I Name:	Jesse Clark
Date:	

2.0 Introduction

2.1 Brief Site Description

The TVPS is located at 4055 East Tamar Highway at Bell Bay in northern Tasmania and is operated by AETV Pty Ltd (AETV). AETV is a wholly owned subsidiary of Hydro Tasmania.

Under Schedule 2 of the Environmental Management and Pollution Control Act 1994 (EMPCA), the TVPS is regulated as a level 2 Fuel Burning activity and is required to operate in accordance with the requirements of EPN No. 7898/1. A copy of the EPN, issued by the EPA (EPA, 2012) is provided in Appendix 1.

A summary of the power generating equipment utilised on-site is summarised in Table 1. The location of operational facilities on-site is shown in Figure 1.

Table 1: Power generating equipment used on-site during the reporting period

Units	Description	Location
Unit 201	Mitsubishi Combined Cycle Gas Turbine (CCGT)	Facility No. 3
Unit 104	Rolls Royce Trent Open Cycle Gas Turbine (OCGT)	Facility No. 2
Units 101A, 101B, 102A, 102B	Pratt & Whitney OCGT (hereafter referred to as the FT8s)	Facility No. 1
Unit 103A/B	This unit was taken offline during the 2017/18 reporting period and has remained permanently in a state of long term in situ storage	

2.2 Operational Overview

There has been no change in the operational equipment used at the TVPS for power generation since the previous reporting period, nor notable changes in procedures for their operation.

Unit 201 and the associated CT continued to operate until 23 August 2024 after being recommissioned on 7 June 2024 in the previous reporting period. As discussed in the 2023-24 AER, dry conditions in Tasmania and availability of gas led to the decision to temporarily restart Unit 201 after being in dry lay-up since June 2019. Following Unit 201 being placed back into dry lay-up on 23 August 2024, power during the reporting period was predominantly generated by Unit 104 and occasionally by the FT8s (Units 101A, 101B, 102A, and 102B).

While AETV schedules proposed periods of turbine operation of these units for the year, the actual timing of their operation is altered by the following:

- Hydro directives regarding power system capacity requirements
- Variation in the electricity and gas markets
- Availability of turbine units for commercial operation
- Requirement for maintenance works.

The general operation of power generating equipment during the reporting period and monitoring completed each month is outlined in Table 2 while turbine operating hours and fuel usage is provided in Table 6 (Section 3.5.1).

Figure 1: TVPS operational facilities layout

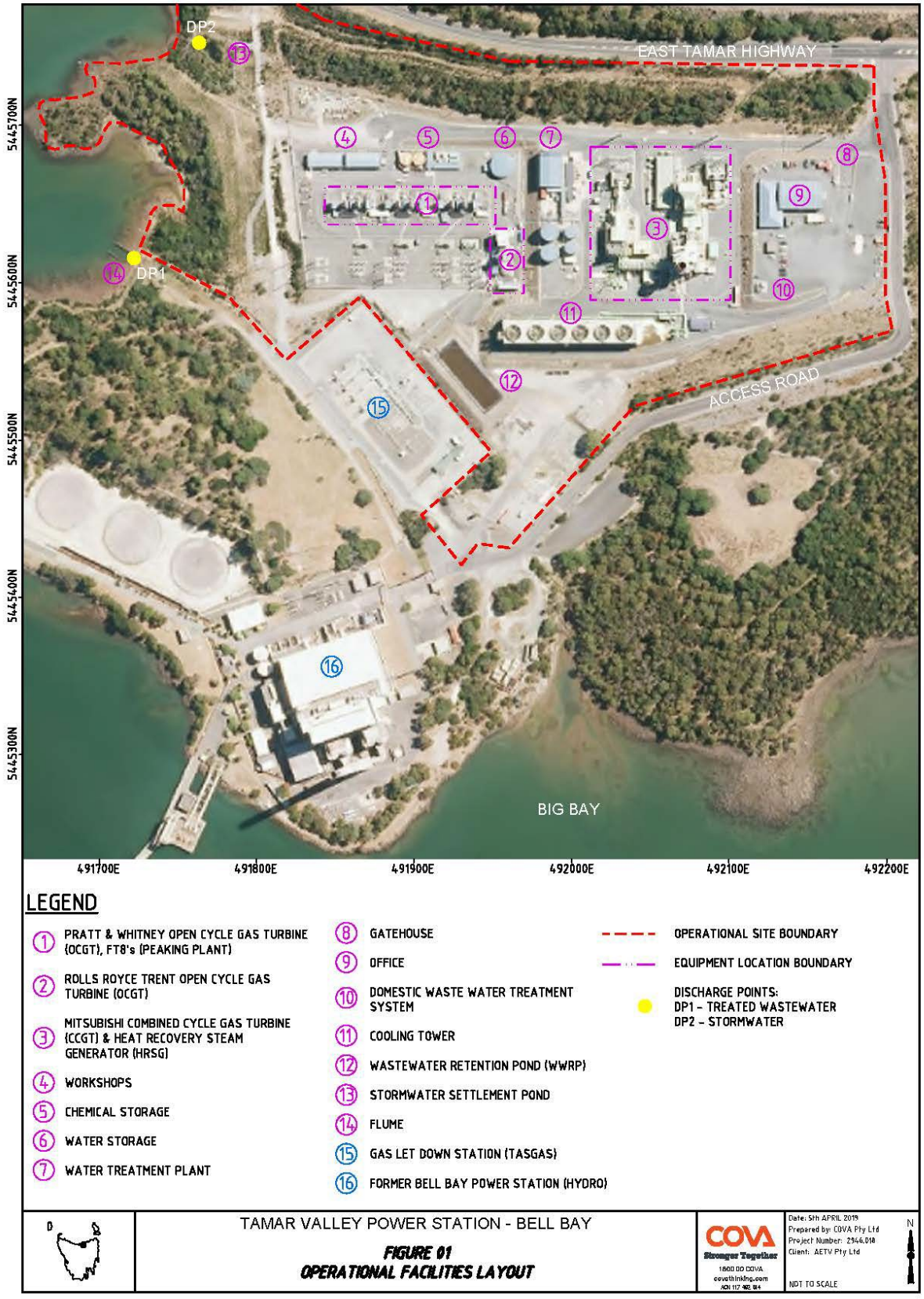


Table 2: TVPS operational and monitoring overview (1 July 2024 to 30 June 2025)

	July 24	Aug 24	Sept 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	June 25
ENVIRONMENTAL MONITORING FOR EPA REPORTING:												
WWRP Discharge (Monthly)	04-Jul-24	27-Aug-24	24-Sep-24	23-Oct-24	12-Nov-24	09-Dec-24	15-Jan-25	11-Feb-25	11-Mar-25	01-Apr-25	20-May-25	18-Jun-25
Inline WW Discharge Temperature	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Stormwater Discharge (Quarterly)	-	27-Aug-24	-	-	-	09-Dec-24	-	-	No discharge	No discharge	No discharge	18-Jun-25
Donovans Bay (Quarterly)	-	-	Exemption	-	-	Exemption	-	-	Exemption	-	-	Exemption
Near Shore Temp (M1 to M4) (Quarterly)	04-Jul-24	27-Aug-24	24-Sep-24	23-Oct-24	12-Nov-24	09-Dec-24	15-Jan-25	11-Feb-25	11-Mar-25	01-Apr-25	20-May-25	18-Jun-25
In-faunal assemblages (Triennial)	-	-	Exemption	-	-	-	-	-	-	-	-	-
Stack (Air)	-	-	-	-	-	-	-	04-Feb-25	-	-	-	-
Environmental Noise Survey (Annual)	3-5 Jul-2024	01-Aug-24	-	-	-	-	-	04-Feb-25	-	-	-	-
OPERATIONAL & ADDITIONAL ENV. MONITORING (Internal):												
Other parameters – Inline WWRP Discharge Water Quality	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count	Algal Count
Additional Stormwater Discharge Sampling (As required)	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Inspection Field Notes (Monthly)	04-Jul-24	27-Aug-24	24-Sep-24	23-Oct-24	12-Nov-24	09-Dec-24	16-Jan-25	11-Feb-25	11-Mar-25	01-Apr-25	20-May-25	18-Jun-25
TYPICAL EQUIPMENT OPERATIONAL USAGE:												
Rolls Royce Trent OCGT (Unit 104)	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Intermittent	Not avail.
Mitsubishi CCGT (Unit 201)	Operational	Operational to 23/8/24	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up	Dry lay-up
Pratt & Whitney OCGTs (FT8s) - Units 101A/101B and 102A/102B	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)	As needed (103 not operational)

2.3 Review of EPN 7898/1

While the operational profile of TVPS has changed significantly since 2012 to one where normal operation is on an intermittent basis rather than continuous, the site nonetheless remains an integral part of Hydro Tasmania's energy strategy. The current EPN No. 7898/1 for the site contains conditions that are sensible and applicable to a continuously operating facility but are not practicable in the context of an intermittently operating facility.

The previous AER introduced the review of the current EPN that has gradually been undertaken in consultation with the EPA. As discussed, the review identified a number of necessary and proposed amendments to the site's EPN due to the availability of long-term information relating to site operating conditions and environmental monitoring. An EPN Review Report was submitted in August 2023 to the EPA to formally facilitate negotiation of conditions for an amended or new EPN.

During this reporting period, AETV continued to progress the EPN review with the EPA. The key objective has been to refine the EPN to be reflective of TVPS operations and flexible to the potentially changing nature of those operations yet continue to build on the existing best practice environmental management currently undertaken at the site. The final draft of the revised EPN was achieved in March 2025. The revised EPN is currently moving through the required statutory process prior to being formally issued to AETV.

2.4 Scope and Structure of AER

This AER has been prepared in accordance with the requirements of Condition RP1 of the EPN, with a signed copy submitted to the Director of the EPA and the document made publicly available. The objective of the AER is to provide an overview of the environmental management, monitoring and performance of the TVPS during the previous reporting period from 1 July 2024 to 30 June 2025.

The AER sections are structured to address elements of Condition RP1 of EPN 7898/1. These elements are referenced as subsection numbers for the condition in **Table 3**.

Table 3: Location of EPN Condition RP1 related information within this AER

RP1	Summary of EPN Requirement	Location in AER
1.0	A publicly available AER for the activity must be submitted to the Director by the new date of 30 September annually (Approved by Director of the EPA on 26 March 2018).	This AER 2024-25
1.1	A statement by the General Manager or Chief Executive Officer, acknowledging the contents of the current AER. AETV's Chief Operating Officer assumes this responsibility.	Executive Summary
1.2	A listing of any complaints received from the public during the reporting period and any actions that have resulted.	Section 3.3
1.3	A listing of environmental incidents and non-compliance with EPN conditions that occurred during the reporting period, with details of any mitigation or preventative actions implemented in response.	Section 3.4
1.4	A summary of any environment related procedural or process changes that have been implemented during the reporting period.	Section 3.2
1.5	A summary of the monitoring data required by the Director. Presentation of data in graphical form where possible, including comparison with the historical results. Mention any special causes and system changes that have impacted on the parameters monitored. Explanation of significant deviations between actual results and any predictions made in previous reports.	Section 4

1.6	Inclusion of a summary of fulfilment of environmental commitments made for the reporting period, with an indication of results of the actions implemented and explanation of any failures to achieve such commitments.	Section 6
1.7	A summary of the amounts (tonnes or litres) of both solid and liquid wastes produced and treatment methods implemented during the reporting period. Detail any initiatives or programs planned to avoid, minimise, re-use or recycle wastes over the next reporting period.	Section 3.5.2
1.8	A copy of Hydro's most recent Tamar Valley Site Incident Response Plan.	Appendix 2

3.0 Operational Management

3.1 TVPS EMS Roadmap

As a subsidiary of Hydro, TVPS operations are integrated into relevant management systems developed for the wider organisation. Hydro implements a third-party certified ISO 14001:2015 environmental management system (EMS) which to date, has been broadly applied to TVPS. The Hydro EMS is fundamental in providing the framework for managing TVPS's environmental aspects and impacts. Furthermore, the importance of integrating the systematic framework underlying an EMS into TVPS's everyday leadership, business and operational practices is acknowledged.

The development of an EMS roadmap was progressed during the reporting period to convey how the existing environmental management approach at TVPS aligns with the overarching Hydro EMS framework. Review of existing information and a range of internal meetings were undertaken. Once complete, an action plan will be developed to enhance the existing effective and proactive approach undertaken at TVPS through ensuring a coordinated approach is being implemented for environmental planning, commitment to action, reviewing progress, making changes as required, and communicating with all stakeholders. Ultimately, the EMS roadmap will facilitate continuous improvement in environmental management at TVPS and provide access to the key information and documents that are fundamental to the implementation and maintenance of an EMS.

3.2 Environment-related Procedural / Process Changes

Key environment-related procedural or process changes implemented during the reporting period include:

- CCGT was online until 23 August 2024 and remained on 3-day return to service until early September. Returned to dry layup 10-day return to service in September 2024.
- Ongoing management of FT8 operational hours due to these units operating close to the EPN NOx limit, and developing a strategy for future use, as briefly discussed below.
- Annual maintenance outages completed for units as follows:
    - Unit 101: 27 Oct 2024 to 11 Nov 2024
    - Unit 102: 22 Sept 2024 to 21 Nov 2024
    - Unit 103: Remains on extended outage since 25 Sept 2023 commenced
    - Unit 104: 14 July 2024 to 6 Sept 2024
    - Unit 201: 3 Jun 2025 to 17 Jun 2025
- Cooling tower pipework was painted in November 2024 to remediate corrosion issues prior to refilling in case of bushfire.
- Water supply changed to Curries River Dam in February 2025 and returned to Chimney Saddle in June 2025.
- In June 2025, WWRP DO_2 and pH probes were moved into a flow cell supplied by a pump within the pond to maintain a constant flow and level around the probes. This change has been made due to low levels, low flow, temperature influences and algae within the pond weir when plant is not running. This will be monitored daily to ensure there are no issues.

Proposed Strategy for Future Use of FT8 Units

It is proposed for the original equipment manufacturer (OEM) to visit the site to conduct condition assessment of engines, generator, protection and control systems and recommend options for refurbishment. Based on this inspection report, refurbishment of the generators will be carried out over the coming financial year(s). A program

will be developed to shuffle the gas generator locations to provide 50MW of operational peaking plant using the current serviceable generators.

3.3 Summary of Complaints

No formal complaints were received by AETV from the public during the reporting period relating to the operation of the TVPS. No complaints or reportable incidents were recorded by the EPA.

It is noted the EPA investigated a noise complaint from the Beaconsfield area on 27 March 2025, however TVPS was deemed not responsible for the noise.

3.4 Environmental Non-Compliance Incidents

No significant environmental incidents occurred on-site during the reporting period. However, AETV reported one stack testing non-compliance event and two discharge water quality related events to the EPA during the reporting period. In all instances, non-compliance events were managed promptly, and an appropriate level of investigation completed to identify the cause and ensure suitable controls were implemented where necessary. Investigations found discharge water quality non-compliances to be isolated events while the stack testing non-compliance is an ongoing issue being managed accordingly. All findings were communicated to the EPA within the agreed timeframe.

A summary of the reportable non-compliance incidents during the AER reporting period is provided in Table 4.

It is noted, incidents at the site are managed in accordance with the TVPS Incident Response Plan. The current version of this plan is provided in Appendix 2.

Table 4: Summary of reportable non-compliance events during 2024/25

Date	Monitoring Frequency	Non-compliant Result /EPN Limit	Non-compliance Event Description and Action
4-Jul-24	DP1 Monthly	Total Phosphorous 1.46 mg/L (EPN Limit - 1 mg/L)	During the July 2024 monthly sampling, a TP result of 1.46 mg/L was reported against the EPN maximum limit of 1 mg/L. An MU of +/-9.5% is associated with the result hence, the TP concentration at the time of sampling was somewhere within the range of 1.32 - 1.6 mg/L. Investigation – A review of site operations identified two issues that most likely contributed to the Total Phosphorous exceedance as follows: - An issue with the gland packing on the closed cooling water system on start-up of the Mitsubishi U201 led to losses of the inhibitor Corrshield MD 4100. This product contains phosphorous and nitrogen. - Considerable drum blowdown on the Low-pressure boiler was required to help stabilise the boiler chemistry. While this issue has been rectified, the blowdown contained phosphate and ammonia, hence is also considered to be a potential contributor to the elevated TP result. Action - The likely causes of the TP exceedance were promptly addressed hence effectively mitigating the potential for any ongoing elevated TP discharge. New gland packing has rectified the issue, verified by minimum losses of the inhibitor since that time. Notification - EPA notified on 17/7/24 and replied on 30/7/24 - satisfied with action taken and will advise any further requirements based on results from August monthly monitoring.

Date	Monitoring Frequency	Non-compliant Result /EPN Limit	Non-compliance Event Description and Action
27-Aug-24	DP1 Monthly	Total Phosphorous 1.65 mg/L (EPN Limit - 1 mg/L)	During the August 2024 monthly sampling event, a TP result of 1.65 mg/L was reported against the EPN maximum limit of 1 mg/L. An MU of +/-0.16 is associated with the result hence, the TP concentration at the time of sampling was somewhere within the range of 1.49 - 1.81 mg/L. Investigation – The TP exceedance in July and August were found to be attributable to temporary operation of the Mitsubishi CCGT and release of blowdown water containing phosphorus. Action - The CCGT ceased operation in late August and returned to dry layup in September. This saw the concentration of TP in the September sample (0.24 mg/L) return to below the discharge limit hence no further action was required. Notification - EPA notified on 13/9/24 and replied on 21/10/24 - satisfied no further action required based on September TP result returning to well below the discharge limit.
4-Feb-25	Stack Testing	Unit 102B – 77 mg/m^3 NOx (25 MW) (EPN Limit – 70 mg/m^3 as NO2 @ 15 % O2)	Investigation - The sampling event result of 77 mg/m^3 for this unit is a slight improvement on the last test (80mg/m^3) and also falls within limits if the measurement uncertainty of 12% is taken into consideration. Since the last stack test event where thermocouples had been replaced on the FT8 units, investigation of the water injection orifice plates has been carried out. Some discrepancies were found across the units and AETV is now awaiting advice from industry experts. Action - Due to the age of these units OEM expertise is proving limited but AETV is continuing to seek help from others in this field. It is also confirmed, operation of the FT8 units for power generation remains minimal with Unit 104 being the preferred unit to start. Notification - EPA notified on 14/3/25 and replied on 19/3/25 – notification was acknowledged however no further correspondence has been received on the matter.

3.5 Relevant Operational Data

3.5.1 Fuel Usage and Operating Hours

The total gas consumption of power generating equipment at the TVPS including when FT8s were operated as synchronous condensers during the reporting period was 2,196,698 GJ. This is equivalent to approximately 49,431 T of gas (using the conversion factor 44.44 GJ/T, from National Pollutant Inventory Combustion in Boilers Manual Version 3.6 December 2011) (NPI, 2011).

Table 5 below provides a summary of compliance with maximum quantities as prescribed in EPN Condition Q1 for fuel usage and power generation.

Table 5: Compliance with maximum quantities as per EPN Condition Q1

Details	Maximum Quantities	Summary for the 2023/24 AER reporting period
Condition Q1(1) 77 T/hr of total capacity to consume fuel	22.32 T/hr	This fuel was consumed over a total of approximately 2,608 hours (without synchronous condensers), resulting in an average consumption (fuel usage efficiency) of 22.32 T/hr. Unit 201 was offline for 10 of the 12 months of the reporting period so fuel consumption was well below the prescribed EPN limit.
Condition Q1(1.4) 100 hrs / 12-month period burning distillate fuel	N/A	All power generating equipment at the TVPS was operated on natural gas. No distillate fuel (diesel) was consumed.

An improvement in fuel usage efficiency was recorded when the FT8s open cycle gas turbines (OCGTs) were operated as generating equipment with synchronous condensers (15.25 T/hr) compared to without (22.32 T/hr). Operating the FT8s as synchronous condensers plays an important role in system control.

Further information regarding operational hours and fuel (gas) usage of all turbines during the reporting period is provided in **Table 6** and **Table 7**, presenting fuel usage as "with" and "without" synchronous condensers.

Table 6: TVPS turbines operating hours and calculated total fuel usage (1 July 2024 to 30 June 2025)

Month	Mitsubishi Unit		Rolls Royce Unit		FT8 Units							
	Unit 201 CCGT		Unit 104 OCGT		Unit 101 A / B		Unit 102 A / B		Unit 103 A / B		Gas Use GJ	Diesel GJ
	Op Hrs	Gas Use GJ	Op Hrs	Gas Use GJ	Op Hrs	Sync Hrs	Op Hrs	Sync Hrs	Op Hrs	Sync Hrs		
Jul-24	603:75	960598	0	0	0:00	0:00	0:00	0:00	0:00	0:00	0	0
Aug-24	539:00	888781	1:50	576	0:00	0:00	0:00	0:00	0:00	0:00	0	0
Sep-24	0:00	0	29:50	15,945	0:00	0:00	0:00	0:00	0:00	0:00	4	0
Oct-24	0:00	0	59:50	34,374	0:00	0:00	0:00	0:00	0:00	0:00	0	0
Nov-24	0:00	0	35:25	18,199	9:00	0:00	9:00	0:00	0:00	0:00	4,707	0
Dec-24	0:00	0	27:50	14,708	10:50	582:5	11:50	17.5	0:00	0:00	5,617	0
Jan-25	0:00	0	66:30	31,062	0:00	22:50	0:00	0:00	0:00	0:00	9	0
Feb-25	0:00	0	94:80	50,547	22:80	0:00	22:80	0:00	0:00	0:00	11,395	0
Mar-25	0:00	0	169:50	91,217	0:00	165:5	0:00	0:00	0:00	0:00	46	0
Apr-25	0:00	0	161:30	90,001	6:50	12:50	6:50	0:00	0:00	0:00	3,636	0
May-25	0:00	0	291:00	163,779	6:25	351:00	6:25	0:00	0:00	0:00	3,388	0
Jun-25	0:00	0	290:00	162,017	62:25	57:25	66:00	0:00	0:00	0:00	36,120	0
Total	**1,142:75**	**1,849,379**	**1,226:00**	**672,425**	**117:25**	**1,191:25**	**122:00**	**17:50**	**0**	**0**	**64,922**	**0**
Compared to 2023/24	**574:23**	**937,920**	**1,386:27**	**760,921**	**617:49**	**631:24**	**594:57**	**643:39**	**0**	**0**	**497,857**	**0**

Table 7: Summary of TVPS turbine fuel usage and efficiency

	Without synchronous condensers		With synchronous condensers	
Total gas usage (as GJ):	2,586,726	GJ	2,586,726	GJ
Total gas usage (as Tonnes):	58,207	T	58,207	T
Total operating hours:	2608	Hrs	3816.75	Hrs
Fuel usage (efficiency):	22.32	T/hr	15.25	T/hr
EPN total capacity to consume fuel:	77.00	T/hr	77.00	T/hr

3.5.2 Waste Management

Wastes generated by the TVPS operation are managed in accordance with the waste management hierarchy. Generation of waste materials is minimised where possible, and generated wastes are separated, reused, recycled and disposed of in an approved manner. A summary of the types and quantities of primary solid and liquid waste materials generated on-site and their management are provided in Table 8.

Further waste improvements initiated by AETV which are not shown included regular review of waste management practices on-site, raising personnel awareness during internal meetings, consideration of how waste will be managed in project planning, and discussions with waste contractors regarding collection frequency in order to ensure optimal efficiency.

Table 8: Solid and liquid waste materials management summary

Month	General Waste	Recycled Paper	Recycled Cardboard	Comingled Recycling	Liquid Waste	Other
Jul-24	9	-	1100	-	8000	
Aug-24	-	-	-	-	8000	
Sep-24	9	-	2200	-	8000	
Oct-24	9	-	1100	-	8000	
Nov-24	9	-	-	480	8000	
Dec-24	9	-	1100	-	8000	
Jan-25	9	-	-	-	-	
Feb-25	9	-	1100	-	8000	
Mar-25	9	-	-	480	8000	4 pallets of e-waste
Apr-25	18	-	1100	-	8000	
May-25	9	-	1100	-	8000	
Jun-25	9	-	-	480	4500*	
Jun-25	-	-	-	-	8000	
Total	**108 m^3**	**0 L**	**8,800 L**	**1,440 L**	**92,500 L**	
Compared to 2023/24	**111 m^3**	**720 L**	**8,800 L**	**2,880 L**	**65,600 L**	

* Oily liquid waste removed by oil recycling business

3.5.3 Water Usage

While there is no compliance limit for water usage in the EPN, AETV reports water usage in the AER to provide context for process and treated wastewater discharge discussions. Water usage information improves understanding of the changes in WWRP operation, discharge WQ and flow rates.

A large volume of raw water is supplied annually to the TVPS from either of two water supplies:

- Treated water from the Chimney Saddle; and
- Untreated water from the Curries River Dam.

The water source is varied by Tasmanian Water and Sewerage Corporation Pty Ltd (TasWater) based on the status of its water storage levels.

Regardless of the source, raw water distributed to the site is split between two lines with some directed to the raw water tank for treatment and some transferred straight to the CT. Once treated, this water is directed to the CT and blended to ensure the water quality is suitable for use within this system.

A summary of the raw water supply sources and volumes stored and consumed on-site during the reporting period are summarised in Table 9. It is noted that whilst Unit 201 was not in operation during the reporting period, water is utilised in the cooling towers as it is a requirement of the insurance company to keep them full over the summer months to lower the fire risk.

Table 9: Total raw water supply, storage and usage

MONTH	RAW WATER SUPPLY		STORAGE IN RAW WATER TANK (M^3)	USE IN COOLING TOWERS (M^3)	COMMENTS
	CURRIES RIVER DAM (UNTREATED)	CHIMNEY SADDLE (TREATED)			
Jul-2024			14,383	63,485	U201 online
Aug-2024			11,559	68,063	U201 online
Sep-2024			4,930	0	
Oct-2024			2,878	0	
Nov-2024			2,019	845	Top up cooling tower due to evaporation
Dec-2024			1,817	0	
Jan-2025			2,661	0	
Feb-2025			3,458	698	Top up cooling tower due to evaporation
Mar-2025			5,457	63	Top up cooling tower due to evaporation
Apr-25			5,625	867	Top up cooling tower due to evaporation
May-25			7,997	0	
Jun-25			8,487	1,809	Top up cooling tower ready to start U201
Total	**4 months**	**8 months**	**71,271**	**135,830**	

* Topping up cooling tower due to evaporation but Unit 201 Offline

4.0 Environmental Performance

4.1 Overview

AETV has continued to implement its operational and environmental monitoring (including sampling, collection of monitoring data and investigations) and reporting programs as outlined in Table 10. An overview of the timing of environmental monitoring and correlation of operational equipment usage and water supply during the reporting period is shown in Table 2.

Table 10: AETV's operational and environmental monitoring and reporting

Operational	Environmental
Incidents and complaints	Environmental incidents
Procedural and operational equipment changes	Stack emission testing - exemptions from February 2024 (Units 101 and 102) and from May 2024 (Unit 104)
Compliance with EPN maximum quantity regulatory requirements	Treated wastewater (WW) water quality and flow both inline (I1&I2) and at discharge point (DP1)
Water usage (from two sources)	Treated stormwater (SW) discharge water quality measured at DP2
Turbine operational hours and fuel usage	Nearshore discharge temperature (other parameters on a voluntary basis)
Solid and liquid waste produced	Donovans Bay water quality sampling (quarterly) and biological survey (triennial) - exemption from March 2023
Hazardous materials	Equipment noise calibration
Emergency response and contingency plan	Site-wide environmental noise survey
	Site inspections

4.2 Atmospheric Monitoring

AETV undertake air quality monitoring as required by EPN 7898/1 which involves quarterly testing of stack emissions from all power generating equipment when under full load and normal operating conditions (as operational logistics permitted), with FT8s tested in a rotational manner. The location of power generating equipment is as shown on Figure 1.

However, the equipment to be used for power generating and the duration of its use is difficult for AETV to accurately plan, due to fluctuations in the national electricity and gas market. Subsequently, stack emission monitoring of units is challenging to coordinate and may not be required on a quarterly basis due to reduced operation. Section 2.3 provides a summary of how these issues are being considered as part of a review of the site's EPN, currently underway in consultation with the EPA. This review is establishing the effectiveness of existing monitoring conditions in context of the intermittent operation of the power station.

In the meantime, as discussed in the previous AER, due to low operational hours for Unit 101 and 102 between December 2023 and February 2024, AETV requested an exemption from the quarterly stack testing for these units on 16 February 2024 (Unit 103 and Unit 201 were non-operational). The EPA approved this request in a letter dated 21 February 2024. Ongoing low utilisation of all OCGTs from March 2024 led to AETV requesting an exemption from the quarterly stack testing for Unit 104 on 8 May 2024. The EPA approved this request in a letter dated 15 May 2024.

An unexpected change in generation requirements for the State in mid-May 2024 resulted in the decision to recommission Unit 201 in late May. Unit 201 was restarted on 7 June 2024 and continued on full operation for the remainder of the month. Units 101 and 102 continued to be used sparingly, however a lightning strike at TVPS late in June 2024 resulted in some damage to all units, further reduced availability of these units. Given the circumstances, Unit 201 remained in service until 27 August 2024, representing commercial operation for nearly two months during this 2024-25 reporting period. Unit 201 was placed in dry layup on 10-day return to service in September 2024 and remained non-operational for the remainder of the reporting period.

4.2.1 Stack Emission Results and Testing Frequency

The timing of stack emission monitoring that was undertaken during the reporting period and a summary of results for each power generation unit are summarised in Table 11, with comparison to the applicable EPN limit for each unit.

Table 11: Stack testing results NOx (as NO2 @ 15 % O2)

Unit	Turbine	EPN Limit	20 Jun 24 (for reference only)	2 Feb 25
Unit 101A	Pratt & Whitney OCGT	**70**	No Test	**56**
Unit 101B	Pratt & Whitney OCGT	**70**	No Test	No Test
Unit 102A	Pratt & Whitney OCGT	**70**	No Test	No Test
Unit 102B	Pratt & Whitney OCGT	**70**	No Test	**77**
Unit 103A	Pratt & Whitney OCGT	**70**	Out of service during 2024-25	
Unit 103B	Pratt & Whitney OCGT	**70**	Out of service since in 2018	
Unit 104	Rolls Royce Trent OCGT	**60**	No Test	**42**
Unit 201	Mitsubishi CCGT	**60**	**54** (online until 23/8/24)	Offline

Compliance with EPN Condition *A2 Emission Limits* was achieved with the exception of Unit 102B during the February 2024 monitoring event. Despite considerable work to identify the underlying cause of the elevated NOx concentrations from these units in recent years, this is an ongoing issue that AETV is committed to investigating and making necessary changes where practicable to do so given the age of the FT8s.

Compliance with EPN Condition *A3 Stack Testing Frequency* is required when gas turbines are being utilised for commercial purposes. Similar to previous years, TVPS gas turbines were commercially operated in an intermittent manner which can be summarised as follows for the reporting period:

- Unit 101 and Unit 102 OCGT were used sparingly for most of the reporting period hence the number of operating hours only required one stack testing event which was completed on Unit 102B.
- Unit 103A OCGT was not available for generation during the reporting period due to ongoing operational issues.
- Unit 104 was the most utilised OCGT during the reporting period, operating on regular basis from September 2024 once pump issues were resolved, however the number of operating hours only required one stack testing event during the reporting period.
- Unit 201 returned to dry lay-up in September 2024 hence stack testing was not required (given it was completed at start-up in June 2024).

4.2.2 Summary of Compliance with Other Conditions

The operation of all open cycle gas turbines (Units 101A, 102A, 102B and U104) has been with water injection during the reporting period as required under Condition A5 (1) of the EPN.

4.3 Noise Monitoring

4.3.1 Noise Sources and Continuous Monitoring

The return of Unit 201 to dry lay-up in August 2024 removed this noise source from the site's noise profile once again. However, as mentioned in the previous AER, correspondence with the EPA regarding restart of Unit 201 confirmed the requirement to conduct an environmental noise survey and update the site's noise model. These requirements were fulfilled based on operational status and noise specialist availability during the July and August 2024. The environmental noise survey results are provided in Section 4.3.2 while the findings associated with updating the site noise model are summarised in Section 4.3.3.

Since the return of Unit 201 to non-operational status in September 2024, there have been no notable additions of equipment or changes to the site operations during the remaining reporting period that would add to the noise profile for the site and require an update to the site-wide environmental noise survey, or site noise model.

It is noted that decommissioning and demolition of the old Bell Bay Power Station (downhill of TVPS) commenced in April 2024 and continued during the reporting period. This project represents additional noise sources in the area which are likely to continue until December 2025. However, there is regular communication between the Hydro Project Manager, contractors engaged to complete the work (McMahon Services) and AETV regarding activities being undertaken and scheduling of work.

AETV continued to monitor noise emissions from the operation during the reporting period using a permanent (calibrated) noise monitoring station located on-site. Noise data collected by this permanent monitoring station is reviewed regularly and supports early identification of potential issues. The continuous site data also provides the means to follow-up noise complaint/s in the event one should be received.

4.3.2 Annual Environmental Noise Survey 2024

The restart of Unit 201 Mitsubishi CCGT in June 2024 was considered an operational change in context of the typical intermittent operation of the site hence required the annual environmental noise survey to be conducted for 2024. An environmental noise survey of the TVPS was conducted by Tarkarri Engineering between 3 – 5 July 2024. All measurements were taken in accordance with the *Tasmanian Noise Measurement Procedures Manual* and measurement positions from previous surveys were utilised.

The noise survey was conducted to satisfy the requirements set out in Condition N4 of EPN 7898/1 and reported to meet the general requirements of Conditions N1. In brief, the results of the survey were as follows:

- Noise emission levels at sensitive receiver location 2 did not exceed the applicable noise emission limits for the power station.
- Exceedances occurred at sensitive receiver positions 4, 5 and 6 during the night period (no exceedances occurred during the day and evening periods), however these exceedances did not constitute potential breaches of the EPN conditions due to ambient noise source contributions.

The noise survey results confirmed compliance with EPN noise conditions. The report was submitted to the EPA in fulfilment of the requirements set out in Condition N5.

4.3.3 Site Noise Model Update

AETV Power commissioned Tarkarri Engineering to update the existing environmental noise model of the TVPS. The model fulfills the requirements of conditions N2 of Environmental Protection Notice (EPN) no. 7898/1 (r1). The original model was developed in 2010 and updated on a number of occasions, the last of which was in 2015.

The results of a comprehensive site wide noise survey conducted in August-September 2024 were used to update the noise model of the base load Combined Cycle Gas Turbine. Operation of the CCGT (base load units) was modelled with the peaking plant not operational at the time of this update. Modelling results from the Tarkarri Engineering report (5939b_AC_R_AETV Power, October 2024) show:

- Good correlation with measured noise levels from the recent environmental noise survey of the power station. Predicted dBA levels were complaint with the sites noise emission limits while predicted dBC levels showed that a potential for excessive low frequency noise in the Rowella area (on the south-west side of the Tamar River).
- The Cooling Tower array is the dominant noise source area in the station while low frequency noise emissions from the power station are controlled by the Heat Recovery and Steam Generator and the Gas Turbine exhaust.

The non-operational status of the peaking plant at the time of the noise model update in August-September 2024 necessitated another site survey when the supplementary plant was operational. Near-field spectral noise measurements were conducted in February 2025 in accordance with measurements previously conducted at the station for past iterations of the peaking plant in the model in 2010, 2012 and 2015. This data will be used to parameterise the noise sources associated with the peaking plant in the next model update.

In the interim, Tarkarri Engineering has conducted a preliminary review of the measurement data collected in February this year against measurement data collected previously for the peaking plant infrastructure (7092a_AC_R_AETV Power, September 2025). This review has revealed that the noise output from the noise sources in the peaking plant have not significantly changed since previous measurements for the model were conducted and as such, it is expected that model results will not vary significantly from those previously published. It is also noted that improvements in the base model domain and more recent iterations of the model algorithms used to predict noise may result in some variations to the predicted levels from the peaking plant, however this would not be the result of significant changes to model input data for the peaking plant noise sources.

4.4 Discharge and Receiving Water Quality Monitoring

AETV monitors the WQ of discharges from the TVPS and potential impact on the ambient receiving environment through inline probes and the collection of regular grab samples from locations as specified in the EPN and shown in **Figure 2**.

Description of the discharge and receiving environment water quality monitoring locations and sampling frequency are detailed in **Table 12**.

Table 12: Discharge and receiving environment water quality monitoring

Location	Description of Monitoring	Frequency
I1 & I2	Monitoring of water quality parameters in WWRP discharge via: ▪ I1 on the outlet of the WWRP ▪ I2 in the discharge flume sump.	Continuous and Monthly
DP1	Monitoring of water quality parameters in WWRP wastewater emissions discharged into DB, with inclusion of additional voluntary parameters: COD; Total petroleum hydrocarbons (TPH); and Trihalomethanes (THM).	Monthly
M1-M4	Monitoring of receiving environment temperature at NS locations for comparison with that of treated wastewater discharge from DP1.	Monthly
M1-M4	Field monitoring of WQ parameters (pH, Dissolved Oxygen, temperature) at NS locations. This was originally an EPN requirement but is now undertaken on a voluntary basis. NOTE: Samples for laboratory analysis ceased in May 2022.	Monthly
D1-D4	Monitoring of WQ parameters in the receiving environment for DP1 and DP2 (via using field and laboratory analysis) at two locations within DB and two background locations for comparison within the Tamar Estuary.	Quarterly but exemption from March 2023
DB	In-faunal assemblages	Triennal
DP2	Monitoring of treated stormwater discharge water quality (DP2).	Quarterly
T1 and T2	Tamar River WQ monitoring as specified in the EPN has not been triggered, so is not currently required.	Not applicable

In summary, the TVPS operation has two discharges into DB which have potential to impact on the receiving environment if not treated and managed effectively:

- DP1 for discharge of treated wastewater (WW)
- DP2 for discharge of treated stormwater (SW).

All samples for WQ monitoring are collected in accordance with approved Australian Standards and analysed by National Association of Testing Authorities (NATA) approved methods in a laboratory that is accredited by NATA.

The exception being free chlorine testing which the EPA has approved to be undertaken on-site in accordance with accepted methodology and trained personnel. Training record and equipment calibration records are maintained by AETV.

Field measurements are collected using appropriately calibrated equipment.

Figure 2: TVPS water quality monitoring locations

LEGEND

- DP — DISCHARGE POINT WATER QUALITY MONITORING SITE
- D — WATER QUALITY MONITORING SITES
- M — NEAR SHORE AMBIENT WATER QUALITY
- T — TAMAR RIVER MONITORING LOCATIONS T1 & T2 (NO LONGER REQUIRED TO BE MONITORED)
- T — INLINE WATER QUALITY MONITORING SITES (I1 – INLINE AT WWRP, I2 – INLINE AT SUMP)
- AMBIENT DIFFUSE & POINT SOURCES OF CONTAMINATION
- OPERATIONAL SITE BOUNDARY

COORDINATES FOR OFFICIAL DISCHARGE POINTS (OUTFALLS)			
MONITORING LOCATION	DESCRIPTION	LATITUDE	LONGITUDE
DP1	WASTE WATER DISCHARGE PIPE INTO DONOVANS BAY	41° 8" 24.8' S	146° 54" 4.6' E
DP2	STORMWATER DISCHARGE POINT INTO DONOVANS BAY	41° 8" 15.5' S	146° 54" 7' E

TAMAR VALLEY POWER STATION - BELL BAY

FIGURE 02
WATER QUALITY MONITORING LOCATIONS

COVA Stronger Together 1800 00 COVA covathinking.com ACN 117 482 814

Date: 5th APRIL 2019
Prepared by: COVA Pty Ltd
Project Number: 2946.018
Client: AETV Pty Ltd

NOT TO SCALE

N

4.5 Wastewater Monitoring (DP1)

4.5.1 Overview of WWRP Operations

The WQ of treated WW released via DP1 under normal operating conditions was typically within acceptable limits.

Similar to past reporting periods, limited operation of power generating equipment during the 2024-25 reporting period presented the following notable operational issues related to the WWRP:

- Unit 201 and associated cooling tower were offline for a significant duration of the reporting period, again resulting in limited flow throughput in the WWRP and discharge of treated WW via DP1.
- The low flow environment within the WWRP is now routinely maintained to stabilise WQ by frequent manual operation of the WWRP outlet valve and dosing with sodium hypochlorite to:
  - Rebalance DO, pH and BOD levels; and
  - Manage algal growth.

4.5.2 DP1 Wastewater Discharge Flow Rate (normal operations)

As shown in Table 13, the daily WW discharge to DB was compliant with the EPN limit of 5 ML/day and 550 ML/yr when under normal operating conditions. The low DP1 average flow rate per day is due to Unit 201 and associated CT being offline for a significant part of the reporting period. Similar to the previous 12-month period, the manual operation of the WWRP outlet valve (i.e. an atypical operation) was required to manage out-of-specification WQ.

Table 13: DP1 wastewater discharge flow rate

DP1 Wastewater Discharge	Discharge Flow Rate (1 July 2024 to 30 June 2025)	Units
Average flow rate per hour	**18.17**	kL/hr
Calculated flow rate per hour (based on EPN Limit of 5 ML/day)	208.33	kL/hr
DP1 Average flow rate per day	**0.44**	ML/day
Maximum flow rate per day	**3.63**	ML/day
EPN limit (Condition Q1 (1.2))	5	ML/day
DP1 Maximum flow rate per year	**99.43**	ML/yr
EPN limit (Condition Q1 (1.3))	550	ML/yr

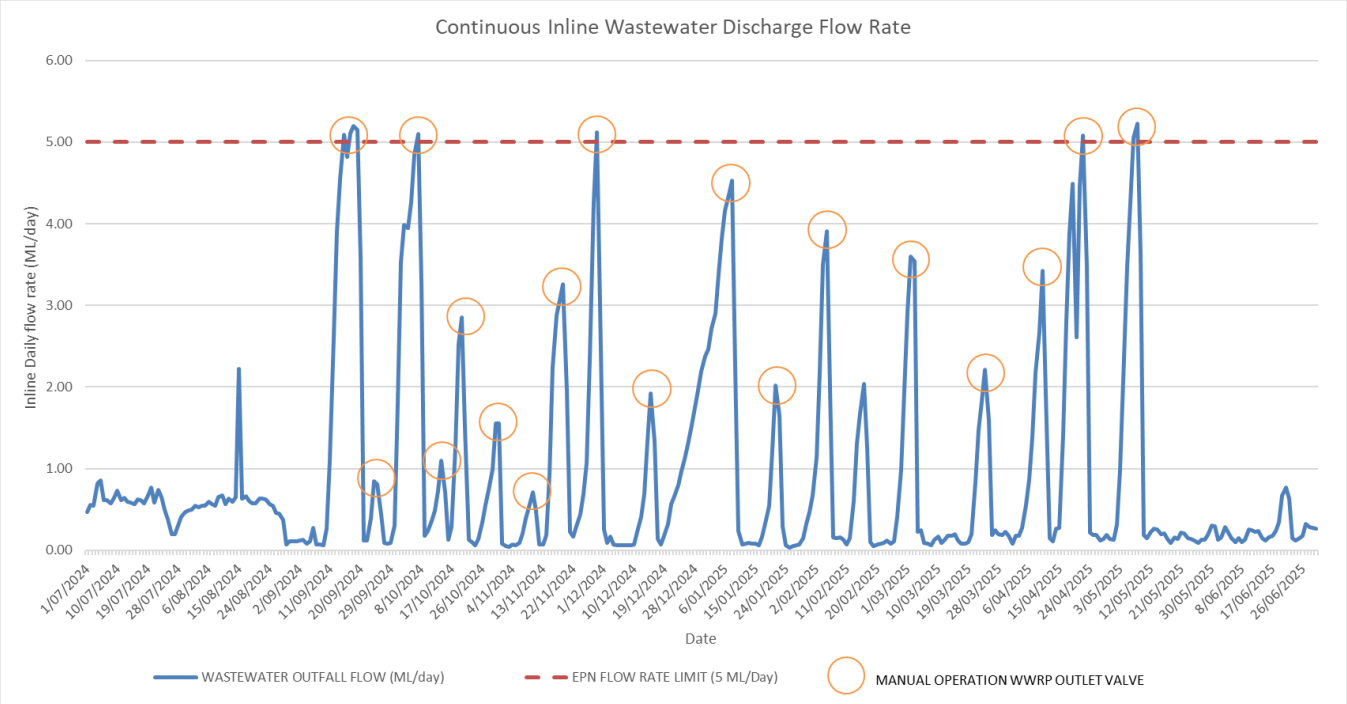
4.5.3 Influence of WWRP Outlet Closure on Discharge Flow Rate

The manual closure of the WWRP outlet valve has been previously identified to result in a false flow rate being recorded. This is due to the retention of water until conditions within the WWRP return to within EPN limits before it is released. This elevated water level on the v-notch weir is measured by a non-contact ultrasonic level sensor and is calculated as a high flow and initial surging discharge flows upon reopening of the outlet valve records as false readings ranging from greater than 208 kL/hr with a maximum of 5.22 ML/day. These readings are disregarded when calculating flow rate at DP1 against the requirements of the EPN.

There were 18 periods of manual operation of the WWRP outlet valve during the reporting period, each period typically ranging from 5 to >10 days in duration (peaks associated with these periods are shown on Figure 3 by an orange circle). Five of these peaks extend above the EPN limit of 5 ML/day.

Similar to the previous reporting period, review of the flow rates shown in Figure 3, with elimination of the false flow rate spikes (periods of atypical operation), shows low and variable flow rates during this reporting period again relates to the low WWRP water throughput associated with Unit 201 being offline and intermittent power generation during peak load demand events.

Figure 3: Wastewater discharge inline flow rate compared to EPN limit (5 ML/day)



4.5.4 Monthly DP1 Discharge Wastewater Quality

A summary of monthly treated wastewater discharge results recorded at DP1 is provided in Table 14. Water quality parameters measured in treated wastewater released from discharge point (DP1) were consistently within acceptable levels of EPN compliance during the reporting period, with the exception of two single parameter non-compliance events as reported in Table 4 (elevated Total Phosphorous results in July and August 2024).

Inline readings are an indicator that WWRP may not be operating effectively and allow AETV to promptly identify potential issues and facilitate timely implementation of management measures. It is evident from the number of occasions when manual operation of the WWRP outlet valve has occurred (18), that the current WWRP intervention strategy and dedicated equipment continues to allow for earlier identification of potential WQ imbalances and improved management.

Table 14: TVPS Wastewater Retention Pond (WWRP) & In-Line Water Quality (Monthly) Monitoring Test Results

DATE	OUTFALL DISCHARGE POINT MONTHLY GRAB SAMPLE (DP1) MONITORING								IN-LINE MONITORING [1]			
Parameter	**Total SS* (mg/L)**	**pH**	**Free Chlorine (mg/L)**	**BOD* (mg/L)**	**Total P* (mg/L)**	**Ammonia (mg/L)**	**Total N* (mg/L)**	**DO (%)**	**Flow [2] kL/hr**	**Temp [3] (deg. C)**	**pH**	**DO (%)**
EPN Limit (max)	**10**	**6.5-8.5**	**0.1**	**5**	**1**	**0.5**	**5**	**80-100%**	**208.33 kL/hr**	**+/- 7 Deg. C**	**6.5-8.5**	**80-100%**
4/07/2024	<5	7.84	0.04	<2	***1.46***	0.09	2.1	95.20	32.10	11.30	7.34	99.75
27/08/2024	<5	7.85	0.09	<2	***1.65***	0.32	1.8	98.07	12.70	12.00	7.22	98.39
24/09/2024	<5	7.9	0.03	2	0.24	0.05	0.4	97.42	9.46	12.62	9.46	108.00
23/10/2024	<5	8.15	0.01	<2	0.25	0.1	0.4	99.90	4.26	19.80	7.68	103.55
12/11/2024	7	7.69	0.02	<2	0.34	0.02	0.3	97.10	1.30	19.74	8.18	112.47
9/12/2024	<5	8.4	0.02	<2	0.2	<0.01	0.2	93.20	2.95	19.50	9.22	119.20
15/01/2025	<5	7.94	0.02	<2	0.37	0.01	0.4	95.80	2.60	24.10	9.08	115.18
11/02/2025	<5	8.16	0.05	3	0.34	<0.01	0.6	92.60	2.86	18.70	8.98	102.04
11/03/2025	<5	8.08	0.05	3	0.06	0.02	0.5	96.50	2.80	20.64	7.90	102.84
1/04/2025	<5	8.05	0.05	<2	0.03	<0.01	0.6	91.90	3.24	16.51	7.97	105.10
20/05/2025	<5	7.98	0.05	<2	0.11	<0.01	0.7	93.00	3.99	11.44	7.82	105.62
18/06/2025	<5	8.18	0.06	<2	0.05	0.02	0.5	93.00	9.28	9.04	9.28	105.60

* SS = Suspended Solids; BOD = Biochemical Oxygen Demand; P = Phosphorous; N = Nitrogen; DO = Dissolved Oxygen

1. Continuous WWRP inline data is linked to DCS investigation levels with alarms set to alert when action may be required

2. Max discharge of wastewater to Donovans Bay = 5 ML per day = 208.33 kL/hr

3. Temperature investigation criteria = +/- 7 degrees Celsius of the ambient temperature in Donovans Bay

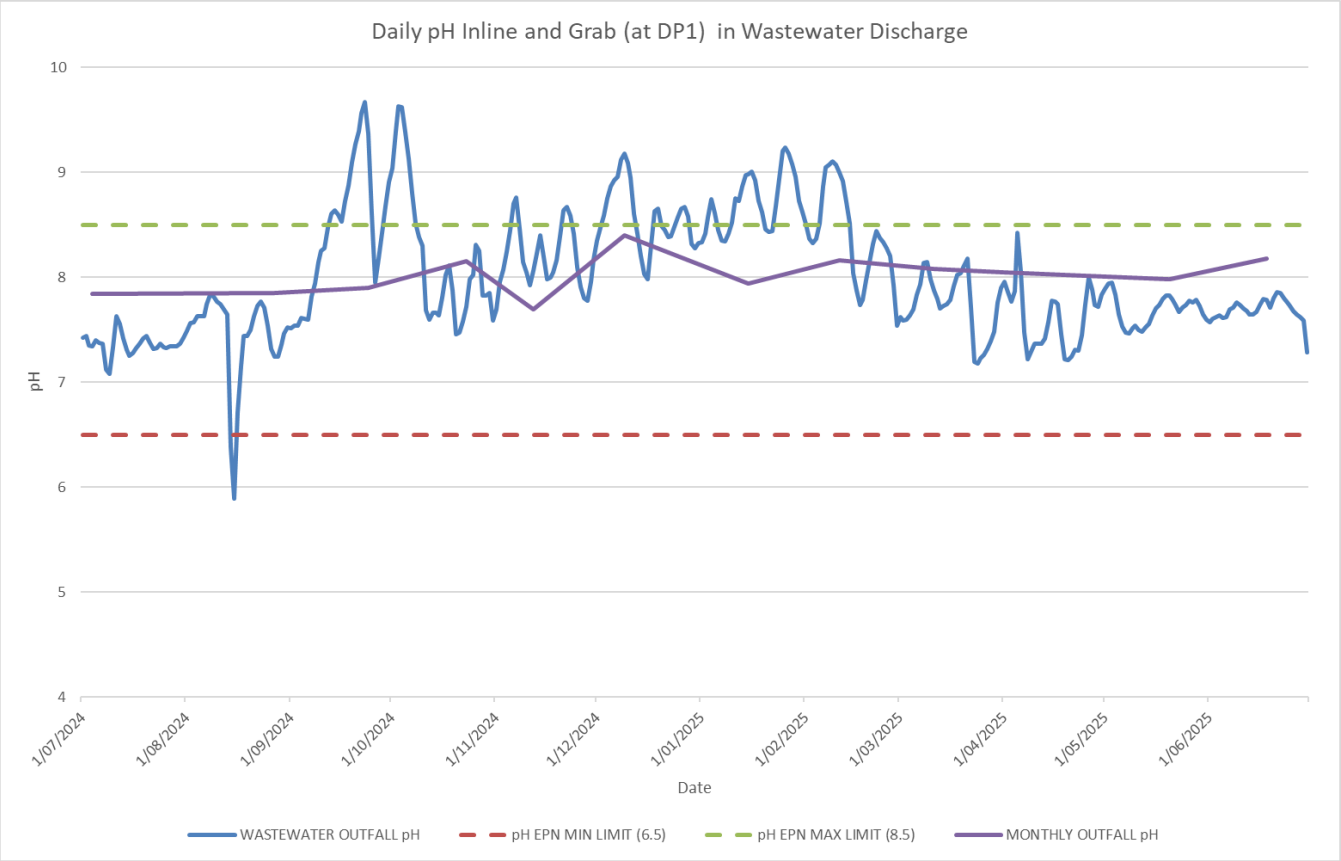
4.5.5 Daily Average Discharge Wastewater Quality (Inline I1 and I2)

Inline water quality data measured at I1 (WWRP outlet) and I2 (prior to DP1) are reviewed daily. Records are maintained of all measurements with the results used to proactively manage water quality discharged at DP1. A brief discussion on the results and the range of actions undertaken is provided in this section.

Comparison of inline and monthly outfall pH levels

Daily and monthly inline pH levels were compliant with the prescribed EPN pH range (6.5 to 8.5 pH units) when under normal operating conditions. Increasing pH readings at the WWRP outlet provide the means to identify when it is necessary to verify the water quality at outfall DP1. Depending on pH results at DP1, as determined through a grab sample, this leads to action taken at the WWRP which is usually closure of WWRP outlet valve. This action facilitates manual dosing of the pond with sodium hypochlorite to bring the out of specification WQ back to within acceptable limits (Figure 4). Dosing of sodium hypochlorite also elevates the pH for a short period.

Figure 4: Comparison of daily inline and monthly outfall (DP1) pH levels



DO in wastewater discharge

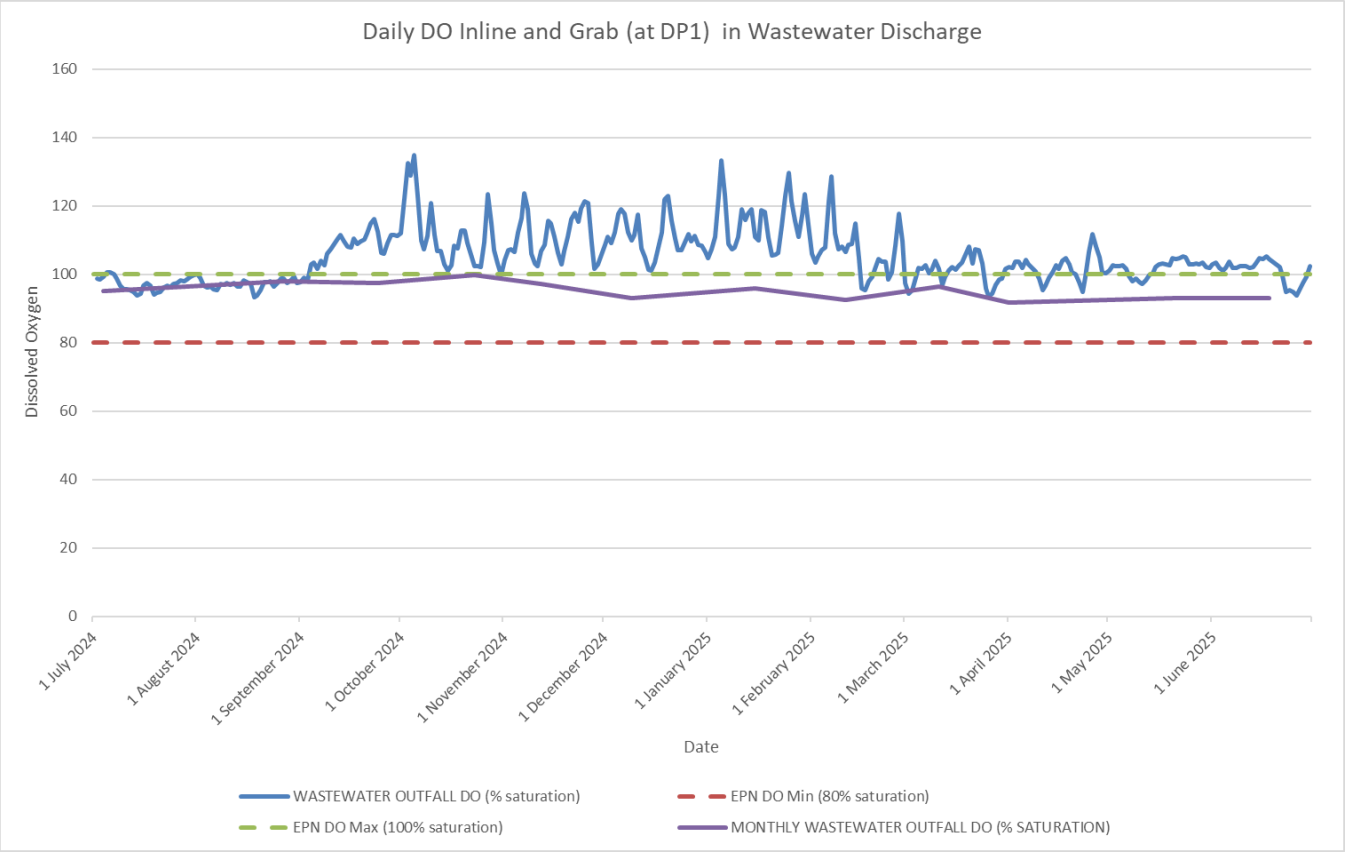
As observed in previous reporting periods, the DO measured inline within the WW discharge pipe was frequently recorded at levels above the EPN upper limit of 100% saturation (**Figure 5**). This is due to turbulence within the pipe, aeration caused by wind over the surface of the pond, aquatic photosynthesis and the temperature of the pond water. When measured at the end of pipe discharge point (DP1) during monthly grab sampling however, the DO level of WW discharge was consistently recorded at levels within the EPN DO range of 80 to 100% saturation.

Ongoing Investigation of WWRP stability and improved operation

Manual operation of the WWRP outlet valve under low flow / out-of-specification WQ conditions has been the primary means during the reporting period of managing ongoing instability in DP1 outflow due to low flow conditions (caused by the non-operational status of Unit 201). However, AETV are proactive in managing WWRP stability in other ways, including:

- Monthly inspections of the WWRP and associated monitoring equipment
- Scheduled maintenance activities such as desludging the pond
- Maintaining the performance of the silt boom
- Ensuring operational issues that influence WQ conditions are quickly resolved, ie coagulant dosing.

Figure 5: Daily DO inline and grab (at DP1) in wastewater discharge (% saturation)



4.6 Stormwater Monitoring (DP2)

Treated stormwater discharged from the SW pond via DP2 was sampled on a quarterly basis. Laboratory analysis of SW discharge samples showed all parameters to be within EPN limits during the reporting period.

A summary of quarterly SW WQ results for the reporting period is provided in Table 15.

Table 15: TVPS Stormwater Water Quality (Quarterly) Monitoring Test Results

DATE / Parameter	Total SS* (mg/L)	Oil and Grease (mg/L)	BOD* (mg/L)	Total Petroleum Hydrocarbons					COMMENTS
				C6 -C9 Fraction	C10 - C14 Fraction	C15 - C28 Fraction	C29 - C36 Fraction	C10-C36 Fraction (sum)	
EPN Limit (max)	**20**	**5**	**15**	**0.5 mg/L**					
27/08/2024	<5	<5	<2	<20	<50	<100	<50	<50	Quarterly sample
9/12/2024	<5	<5	<2	<20	<50	<100	<50	<50	Quarterly sample
11/03/2025	No sample as no discharge								Quarterly sample
20/05/2025	18	<5	9	<20	<50	<100	<50	<50	No discharge ongoing hence sample from pond
18/06/2025	<5	<5	<2	<20	<50	<100	<50	<50	Quarterly sample

* SS = Suspended Solids; BOD = Biochemical Oxygen Demand

4.7 Tamar River Monitoring

4.7.1 Water Temperature Comparison

The discharge water temperature at DP1 (and inline at I1 and I2) were consistently within the prescribed +/- 7 degrees Celsius of the ambient water temperature (EPN Condition E4) measured at nearshore locations within Donovans Bay. Figure 6 indicates there is no significant variation between temperature results at the WWRP and DP1 compared with near shore results. Temperature results during the warmer months (October to February) again show some slight difference when comparing internal TVPS monitoring sites to the near-shore monitoring sites during in this reporting period. It is noted similar differences have been recorded in previous years hence, the results are consistent with seasonal and long-term trends as shown in Figure 7.

Figure 6: Water temperature comparison (near shore, inline and outfall DP1)

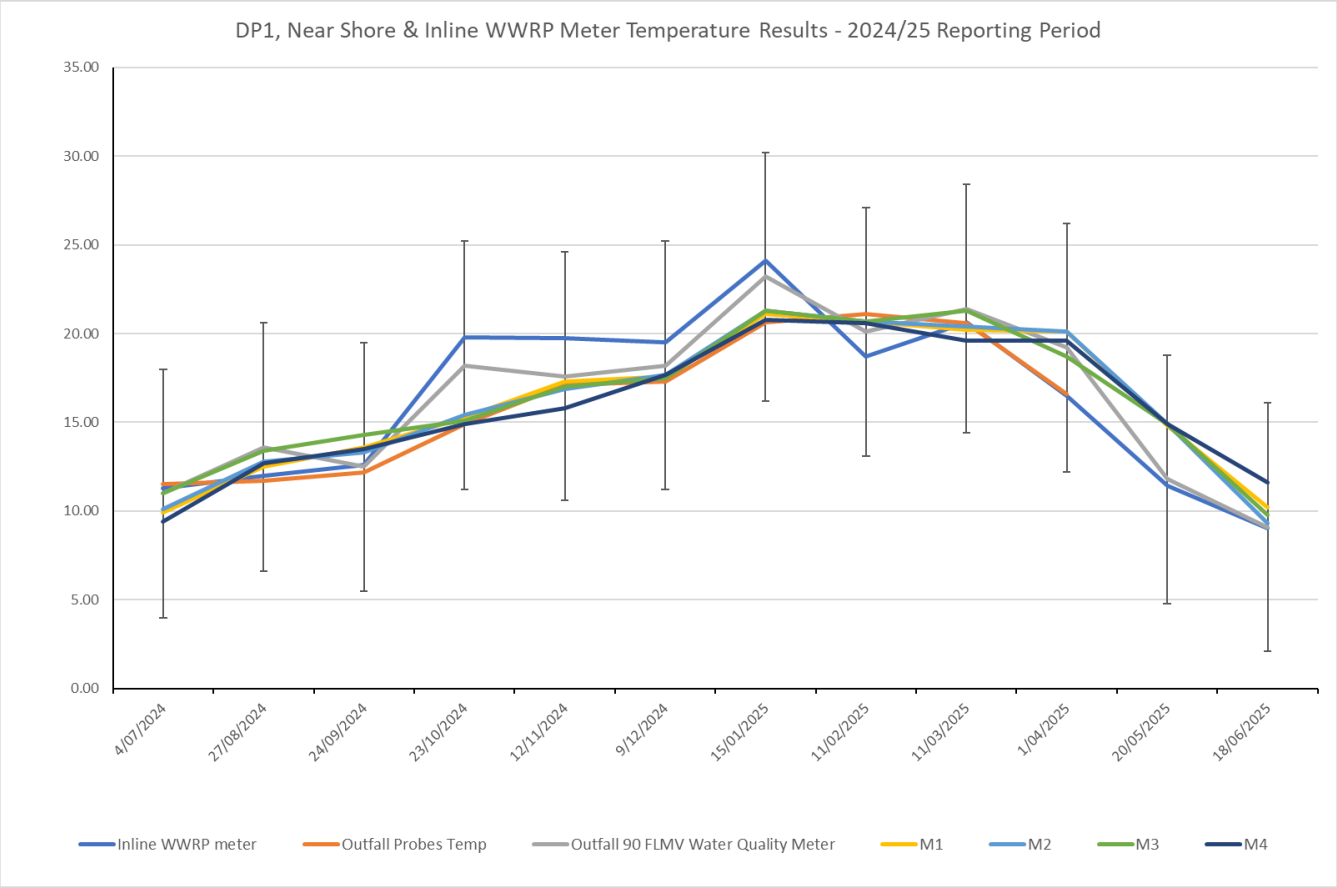
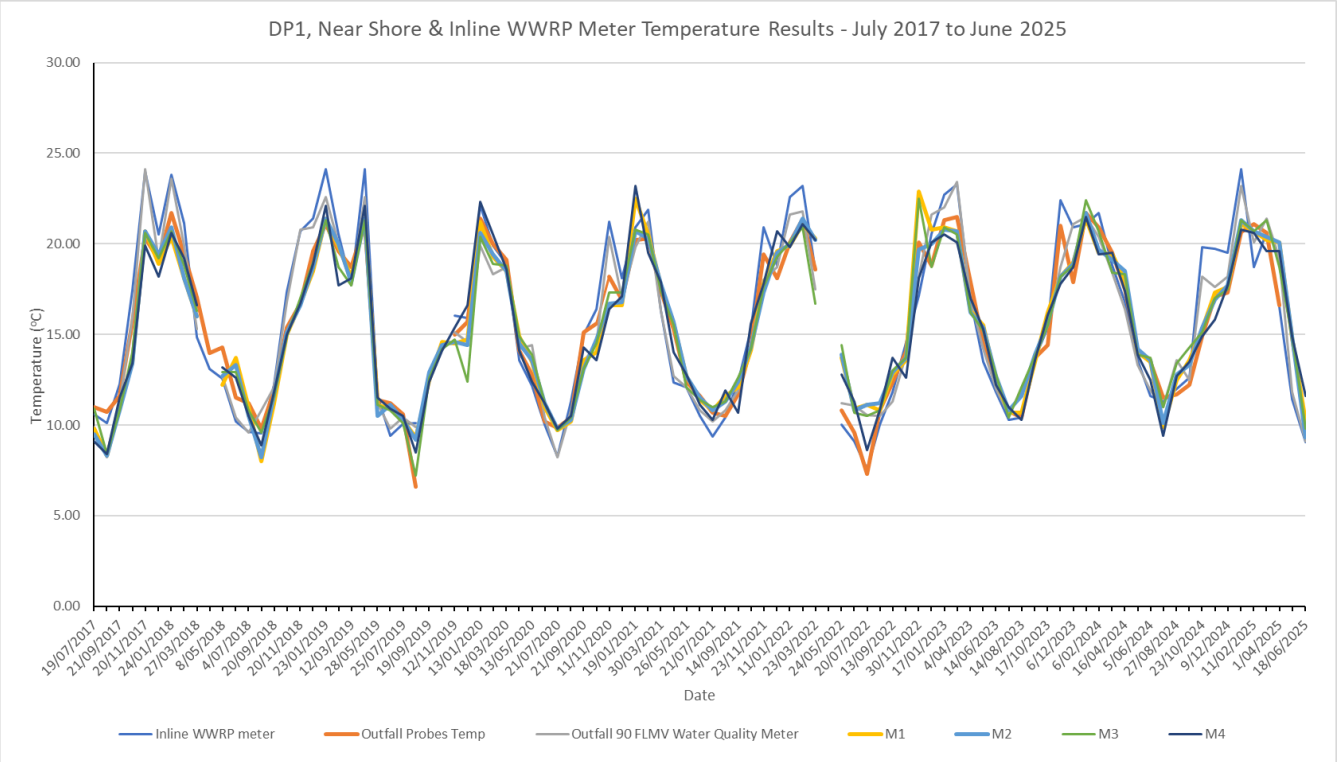


Figure 7: Long-term water temperature comparison (July 2017 to June 2024)



4.7.2 Donovans Bay Monitoring

Both the treated WW from the TVPS operation (DP1) and treated SW (DP2) discharge into DB. The Bay has a wide opening onto the well flushed Tamar Estuary.

The EPA granted approval in May 2023 to discontinue the routine ambient monitoring while the activity is operating at reduced operational capacity. The suspension of the quarterly and biological monitoring of Donvan's Bay required by Condition M6 is due to monitoring data demonstrating that there has been no impact to the biological communities or water quality of the nearfield ambient environment. However, this suspension only applies during low utilisation of the plant and as such, the operation of the plant must be monitored for any change including increase in utilisation of power generating equipment and/or discharge of wastewater.

4.7.3 Voluntary Near Shore Water Quality Monitoring

AETV continues to voluntarily monitor WQ within the near shore (NS) environment on a monthly basis. The NS WQ monitoring locations are shown on **Figure 1**.

This monitoring has been undertaken to date as an additional precautionary measure to facilitate early detection of potential issues within the Bay should they arise (prior to 2015, this monitoring was a requirement of the EPN). However, given the ongoing reduced and intermittent operation of the site, this monitoring is predominantly useful for ambient water temperature data (refer to Section 4.7.1).

5.0 Other Important Environmental Matters

5.1 Engagement with Regulators and Other Stakeholders

AETV maintains correspondence with the regulators as required to ensure transparency in operational aspects and environmental management practices. One meeting was hosted by AETV with the EPA during the reporting period, including:

- 7 March 2025 – Meeting held at TVPS with site's regulatory officer to discuss the final draft of the revised EPN and complete the annual EPA site inspection.

AETV completed other regulatory reporting requirements including:

- National Pollutant Inventory (NPI) report
- National Greenhouse and Energy Reporting (NGER Scheme).

5.2 AETV Site Inspections and Internal Audits

During the reporting period, AETV continued to conduct routine daily inspections of the TVPS plant, with monthly inspections conducted concurrently with monthly WQ sampling. The monthly site inspections during the reporting period noted:

- WWRP and outfall WQ meter readings (inline, portable and outfall sample)
- WWRP and outfall access, general operational issues and tide status
- NS portable WQ meter readings
- Periodic (monthly) site walkover daily inspection observations
- SW pond and outflow conditions.

In addition to recording the daily operation of the TVPS, the site inspections monitored the following issues during the reporting period to identify the need for any required remedial works:

- WWRP maintenance
- Waste management issues
- Areas of vegetation and weeds requiring management and/or control.

Proactive internal auditing (non-regulatory) included:

- Environmental audit conducted by HT in December 2024 and May 2025. Main findings included:
    - The TVPS site is very well maintained by the team and controls around hydrocarbon risk is exemplary, with customised spill response equipment (oil recovery trailer) and built-in redundancy for oil capture at FT8s both fantastic examples of good practice environmental management.
    - Continuous monitoring at discharge points mitigates risks of releasing contaminants into the environment.
    - Opportunity for improvement included contractor availability and timing issues for weed management on site.
    - Noted that the new draft EPN (7898/2) had been shared with Manager Environment for review and discussed the roadmap for adoption of HT EMS at TVPS. The draft EPN represents a huge amount of work by the TVPS team and is testament to the positive relationship between TVPS and the EPA.

6.0 Summary of Commitments

The commitments in Table 16 below are in addition to those prescribed in the EPN. These commitments relate to ongoing measures, specific environmental and maintenance improvement works for implementation during the 2024-25 AER reporting period and works for implementation in the future which will be reported in the next AER.

In addition to these commitments, the following notable maintenance activities are proposed for implementation over the next twelve (12) month reporting period: Routine outages for each of the power generating units including:

- Unit 101 – 19/10/2025 to 13/11/2025
- Unit 102 – 14/09/2025 to 29/09/2025
- Unit 103 – Remains on extended outage since 25/9/2023
- Unit 104 – 01/09/2025 to 15/09/2025
- Unit 201 – May 2026

TVPS operational notes:

- Mitsubishi CCGT Unit 201 was temporarily operational from early June 2024 until end of August 2024 before once again being placed in dry layup with a maintenance schedule for a 10 day return to service.
- The peaking plant units will remain available and on standby to meet generation demands and capacity needs as required.

Table 16: Summary of additional commitments for implementation

Ref	Issue / Opportunity for Improvement	Commitments	Status of Implementation in 2024/25	Actions for 2025/26
Noise Control				
1	Ongoing operation of (and recalibration as needed) of a permanent noise monitoring station next to the site to provide ongoing noise emission monitoring data for the operation and assist with trouble shooting any noise issues or complaints. Further investigation may be required if noise complaints are received.	AETV will continue to operate (and recalibrate as needed) the permanent noise monitoring station.	Actions continued to be undertaken as described, they are ongoing. No noise issues required implementation of additional management measures.	Implementation of commitment is ongoing.
EMS Roadmap				
2	As a subsidiary of Hydro, TVPS operations are integrated into relevant management systems developed for the wider organisation. Hydro implements a third-party certified ISO 14001:2015 environmental management system (EMS) which to date, has been broadly applied to TVPS.	An EMS roadmap will be developed to convey how the existing environmental management approach at TVPS aligns with the overarching Hydro EMS framework. Once complete, an action plan will be developed to enhance the existing effective and proactive approach undertaken at TVPS.	Completed a thorough review of Hydro's EMS and current uplift program to update and improve the EMS. Identification of actions to fully integrate TVPS into the EMS was completed with involvement from a range of internal stakeholders.	Continue to develop the TVPS EMS Roadmap and associated action plan in consultation with Hydro representatives.

Ref	Issue / Opportunity for Improvement	Commitments	Status of Implementation in 2024/25	Actions for 2025/26
Implementation of New EPN (once finalised)				
3	A review of EPN No. 7898/1 was undertaken between April 2023 and March 2025. The key objective of the review was to refine the EPN to be reflective of TVPS current operations and flexible to the potentially changing nature of those operations while continuing to build on the existing best practice environmental management currently undertaken at the site.	AETV will progress the EPN review in consultation with the EPA until final agreement is reached. Environmental documents will be updated in accordance with agreed conditions in the updated EPN. Systems will be developed where necessary and maintained to comply with all updated EPN conditions.	Draft updated EPN was finalised in consultation with the EPA by March 2025. Updated EPN progressed through the statutory period for formal authorisation of the changes.	Update TVPS EMP and prepare water quality and noise management plans once updated EPN is issued.
WWRP Wastewater Quality Management				
4	Elevated levels of suspended solids have been occasionally recorded in WWRP discharge in the past, leading to non-compliance with the EPN limit. This is largely attributed to the water supplied from Curries River (untreated water) to the site which naturally contains higher levels of suspended solids.	AETV will continue to: - Communicate with TasWater regarding the need for prior notice of change to raw water source supplied to the site; - Use a proprietary polymer (added to the CT water) to flocculate and enable skimming of particulates from the wastewater stream when operating on Curries River water; and - Operate and maintain the silt boom on the surface of the WWRP.	Actions continued to be undertaken as described, as they are ongoing.	Implementation of commitment is ongoing.
5	The current low flow conditions through the WWRP (due to the intermittent operation of the plant) lead to elevated levels of pH and DO which would exceed EPN limits at DP1 if actions are not promptly undertaken (e.g. manual closure of the WWRP outlet valve and manual hypochlorite dosing). To allow for timely response to atypical operating conditions, AETV operate a number of WQ meters [inline (I1 and I2), outfall (DP1), SWAN AMI SAC254 analyser] to measure WQ in treated WW being discharged to DB. Use of the WQ meters is critical to compliance as they enable improved monitoring of a wide range of parameters, providing the means to better predict issues within the WWRP as they happen.	AETV will continue to: - Monitor WQ of the treated WW from WWRP being released for discharge via DP1 to DB using the inline and outfall meters; - Regularly inspect and re-calibrate these monitoring devices to ensure effective operation of equipment, with replacements provided as needed; and - Undertake scheduled monthly cleaning of probes and re-calibration with a hand-held meter.	Investigation and relocation of pH and DO probes in WWRP was completed during the reporting period to improve monitoring performance. Other actions continued to be undertaken as described, and they are ongoing.	Implementation of commitment is ongoing.
Wastewater Retention Pond Desludging Operations				
6	Sludge accumulates in the WWRP and requires regular removal to ensure continued effective operation of the WW treatment system.	When routinely removing sludge from the WWRP, AETV will:	Due to low flow, WWRP sludge volume slowly accumulates hence is	AETV is preparing a scope of works for the potential construction of a

Ref	Issue / Opportunity for Improvement	Commitments	Status of Implementation in 2024/25	Actions for 2025/26
	This sludge needs to be tested to ascertain its suitability for reuse and/or approved method of disposal based on the level of contaminants it contains.	- Test the concentrations (totals and TCLP) of metals in the sludge; - Manage the dewatering and reuse of sludge; and - Obtain relevant approvals to manage the material.	typically desludged on an as needed basis. Routine monitoring of the pond sludge level enables this work to be scheduled appropriately.	dedicated sludge dewatering facility on-site.
Hazardous Chemicals Management				
7	The CCGT must be maintained in 'dry layup' if not operated for extended periods. This is due to corrosion issues that are likely to occur if the CCGT is retained in a state of 'wet layup'. The application of film forming substances are being investigated for use in the CCGT to improve corrosion protection and flexibility of operation.	AETV will: Undertake modelling to establish the potential environmental impact of using these types of substances; and Liaise with the EPA regarding the introduction of a film forming substance for use at the site in the event a suitable product is identified.	Preliminary investigation of substances has been undertaken. An educational workshop on film forming substances was presented by David Addison to key Hydro employees in Hobart in March 2025. Internal approval to complete ecotoxicity testing on the preferred product when CCGT was next restarted.	Progress investigation and establish potential environmental impacts of film forming substances being used in the operation of the CCGT.
8	Sulphuric acid pump skid bunding – It has been determined if there were a major leak/pipe failure within the sulphuric acid pump skid, the bunding is not sized adequately to contain the full volume of the sulphuric acid tank.	AETV will: - Identify and review feasible options to address the issue, such as raise the bund wall; - Implement preferred option; and - Ensure the system will return any spillage to the acid tank bunding which is the correct capacity to hold 5 kL.	Key works have been completed including installation of a valve on the bulk tank which remains closed when not in operation. While the above action has significantly reduced the risk, further works are planned and may include actions such as raising the bund wall.	Review completed works to re-evaluate the risk and develop plan to undertake any remaining work required.
9	Hazardous chemical manifest update and compliance	AETV will: - Maintain an accurate Schedule 12 Manifest based on keeping ChemAlert up to date; - Maintain compliant hazardous chemical storages; - Promote personnel awareness.	Developed draft Schedule 12 Manifest.	Finalise Schedule 12 Manifest. Complete placarding audit. Provide awareness training on labelling and decanting.
Stormwater Management – Discharge Quality				
10	Elevated levels of oil and grease have been occasionally recorded in SW discharge in the past, leading to non-compliance with the EPN limit. These elevated results have been attributed to issues such as minor oil spills on site, and maintenance of oily-water separators located before the SW pond.	AETV will continue to: - Monitor WQ of the SW being released for discharge via DP2; - Maintain oily-water separators and containment equipment at the SW pond; and - Raise awareness regarding spill management on site.	BAU actions continued to be undertaken including: - Operation of oil soak booms on the surface of SW pond. - Oil spill response trailer has been deployed on the site. Proposed improvements to existing oil containment were delayed due to desludging requirement prior to installation.	Installation of an oil containment boom to complement existing boom.

Ref	Issue / Opportunity for Improvement	Commitments	Status of Implementation in 2024/25	Actions for 2025/26
11	Desludging the SW pond to return the volume to full capacity. An analysis of the sludge is required prior to any work to determine how it should be managed.	Following completion of necessary project planning steps, AETV will progress the following work: - Obtain necessary approvals; and - Complete sludge removal works when practicable.	The following work was completed during the reporting period: - Advice sought from EPA regarding approval requirements. - Adjusting plan to clean out the pond based on sludge testing. - Draft project description prepared. Observations and monitoring of the SW pond continued throughout the reporting period to inform timing of this work.	Finalise project description as soon as practicable. Obtain approval from relevant authority to progress cleaning out the pond.

7.0 References

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Appendix 1 – EPN 7898/1 (r1)

Appendix 2 – TVPS Incident Response Plan