



EPA LICENCE 51513 ENVIRONMENT IMPROVEMENT PROGRAM

*Pursuant to requirements under the
Environment Protection Act 1993*

1. Tracking and Reference Information

Document Number	51513 EIP Version 4
Document Date	Published date – Rev C: 13 December 2023
Licensee	PORT ADELAIDE ENERGY PTY LTD
EPA Authorisation Number	EPA 51513
Site to which this EIP applies	Allotments 205, 27 and 151 Pelican Point Road, Outer Harbor SA 5018 and Allotment 502 Mersey Road North, Osbourne SA 5017 (the Site). — Allotment (A) 205 / Deposited Plan (D) 64682 of Certificate of Title (CT) 5920/564, — A 502 / D 87145 of CT6088/191 — A 27 / D 76309 of CT6012/888 — A 998 / D 128291 of CT6273/634
Document produced by	WSP Australia Pty Ltd on behalf of Port Adelaide Energy Pty Ltd

ENVIRONMENT PROTECTION AUTHORITY

THIS IS THE APPROVED Environment Improvement Programme

REFERRED TO IN CONDITION U - 1537

OF EPA AUTHORISATION NUMBER 51513

DELEGATE *K Williams* DATE 03/01/2024



2. Abbreviations

EIP	Environmental Improvement Programme
EPA Act	<i>Environment Protection Act 1993</i>
GT	Trailer-mounted GE TM2500 Gen 8 aero-derivative turbine generators
MW	Megawatts
Nexif	Nexif Ratch Energy Australia Pty Ltd
Noise Policy	<i>Environment Protection (Commercial and Industrial Noise) Policy 2023.</i>
Port Adelaide Energy	Port Adelaide Energy Pty Ltd
PPPS	Pelican Point Power Station
SA	South Australia
SA EPA	South Australian Environment Protection Authority
SCAP	State Commission Assessment Panel
SPPS	Snapper Point Power Station
WSP	WSP Australia Pty Ltd



3. Definitions

Assessment of Noise Mitigation Options	Reporting on the assessment of noise mitigation options for SPPS, as required under Condition 3.1 (U – 1524) under EPA licence no. 51513.
Development Application	Application for approval of development under the <i>Planning, Development and Infrastructure Act 2016</i> .
Environment Improvement Programme	This report, as required under Condition 2.6 (U - 1537) under EPA licence no. 51513.
Indicative Noise Levels	The indicative noise level determined for the noise source under clause 5 of the Noise Policy.
The Site	Allotments 205, 27 and 151 Pelican Point Road, Outer Harbor SA 5018 and Allotment 502 Mersey Road North, Osbourne SA 5017.

4. General Description

4.1 Brief History

Port Adelaide Energy Pty Ltd (Port Adelaide Energy), a Nexif Ratch Energy (Nexif) affiliate, is licensed under the *Environment Protection Act 1993* (EPA Act) to operate a power plant at the Site, including the following prescribed activities of environmental significance under Schedule 1 Part A of the EPA Act, subject to the conditions in EPA Licence 51513:

8(2)(a) Fuel burning not coal or wood

This facility is known as Snapper Point Power Station (SPPS) and is a fast response power peaking power station located in Outer Harbor, South Australia (SA). SPPS comprises five (5) trailer-mounted GE TM2500 Gen 8 aero-derivative turbine generators (GT) and ancillary infrastructure. Each GT has an individual rated output of approximately 30.8 megawatts (MW), and a total combined rated output of approximately 154 MW. The GTs have been converted to operate primarily from diesel to natural gas as the primary fuel, with diesel to be used as a back-up fuel.

Port Adelaide Energy has entered into an agreement with the SA Government to lease the GTs and operate them for commercial purposes for a period of 25 years.

During commissioning and early plant operations, St Kilda and North Haven residents raised concerns relating to noise generated by the SPPS. Upon being made aware of these concerns, Port Adelaide Energy temporarily limited operations pending further investigations, and engaged WSP Australia Pty Ltd (WSP) to provide technical advice as part of these investigations. During this time, Port Adelaide Energy engaged with the local community, commenced assessments to identify the source of noise and extent of noise impacts, and began investigating noise mitigation options to reduce noise emissions during turbine operation.

Noise assessments undertaken by WSP include attended measurements at complainant locations, unattended measurements in the vicinity of St Kilda and North Haven, and an update to the noise modelling based on actual measured noise.

Subsequent to the outcomes of these noise assessments and other investigations undertaken by the SA Environment Protection Authority (SA EPA), the conditions of the EPA Licence (Licence No. 51513) were varied, requiring Port Adelaide Energy to undertake an Assessment of Noise Mitigation Options and to prepare an Environment Improvement Programme (EIP).

To fulfill this requirement, an Assessment of Noise Mitigation Options was submitted to and approved by the SA EPA in December 2022, and Port Adelaide Energy have further engaged WSP to prepare the EIP.

4.2 Licence Compliance

The licensee is required to develop an EIP to achieve compliance with the required Indicative Noise Levels at the nearest residential sensitive receiver locations (St Kilda and North Haven) and nearest non-residential sensitive receiver location (Pelican Point Power Station) under worst-case meteorological conditions.

The condition of the licence issued to Port Adelaide Energy Pty Ltd requiring development and compliance with an EIP (condition 2.6 (U-1537)) states:

The Licensee must:

- 2.6.1 *Develop and submit to the EPA an Environment Improvement Programme (EIP) to the satisfaction of the EPA by the compliance date listed below;*
- 2.6.2 *Undertake public consultation in the course of developing the EIP;*

- 2..6.3 *Ensure that the EIP includes, but need not be limited to:*
- a *a summary of results of public consultation undertaken in the course of developing the EIP;*
 - b *detailed actions, timeframes and milestones to be undertaken by the Licensee to fully implement the preferred noise mitigation option(s) identified pursuant to condition U-1524 of this licence;*
 - c *a methodology and framework for reporting to the EPA, including frequency, to demonstrate progression and completion of EIP actions and milestones;*
 - d *a methodology and framework to assess the effectiveness of the actions detailed in the EIP;*
 - e *a methodology and framework for providing public access to the EIP and to reports that are required pursuant to this condition.*
- 2.6.4 *Implement the EIP approved in writing by the EPA (or any revised programme approved in writing by the EPA).*

Compliance Date: 27-Jan-2023

4.3 Referenced Documentation

In developing this EIP, WSP on behalf of Port Adelaide Energy has considered the following inputs:

4.3.1 Technical reports

The following is a summary of the technical reports referenced for the development of this EIP. These reports were pivotal in the assessment of noise impacts and mitigation options, and/or provided support for the subsequent variation Development Application (under Section 131 of the *Planning, Development and Infrastructure Act 2016*) to install five (5) silencers at the SPPS. The relevant technical reports include:

- Cook, A. letter, 12 June 2020, '*Snapper Point Peaking Power Station Noise Barrier Analysis*'
- Cook, A. email, 15 September 2022, '*RE: Snapper Point – Local Noise Barrier Proposal*'
- Marshall Day Acoustics (MDA) memo, 8 November 2022, '*Snapper Point Power Station – Exhaust Silencers*', Document No. Mm 001
- Port Adelaide Energy Pty Ltd report, 20 December 2022, '*Snapper Point Power Station: Assessment of Noise Mitigation Options*', prepared by WSP Australia Pty Ltd
- WSP report, 24 June 2022, '*Snapper Point Power Station Noise Management Plan Ref: PS114349-ACO-REP-0002 RevA*'
- WSP report, July 2022, '*Snapper Point Power Station Noise Measurement Report: St Kilda May-June 2022 RevD*'
- WSP report, 2 September 2022, '*Snapper Point Power Station Noise Assessment Report*'.

4.3.2 Community consultation

Below is a summary of the community and stakeholder consultation Port Adelaide Energy conducted in December 2022, in developing the EIP. It included a community meeting and meetings with each of the relevant local authorities. Representatives of Port Adelaide Energy parent company, Nexif, and its technical consultant (noise; engagement) attended all meetings.



Port Adelaide Energy developed presentations to support these meetings (see Appendix A: Stakeholder Presentation; Appendix B: Community Presentation). The presentations included the following information:

- Snapper Point Power Station composition and operating rationale
- Port Adelaide Energy response to noise disturbance
- A summary of completed noise assessment findings
- The imminent change to operating hours, under certain weather conditions (from 7am to 6am, effective 7 December 2022)
- Port Adelaide Energy’s Long term noise mitigation options assessment, including descriptions of the considered, and the reasons for discounting them in favour of the preferred option
- Description of preferred option (exhaust stack silencers), including likely installation date.

The community and stakeholder consultation program also comprised the following elements.

– **An email to residents**

Port Adelaide Energy’s Snapper Point Community Engagement Team sent an SPPS email (Appendix C: Email to Residents) update to all known residential noise complainants in St Kilda and North Haven on Thursday, 8 December. The email included:

- A summary of Port Adelaide Energy’s noise assessment findings and notice of SA EPA approval to operate SPPS an hour earlier, in certain weather conditions, from 7 December 2022
- Preferred permanent noise mitigation measure (i.e., turbine exhaust stack silencers)
- An invitation to a Port Adelaide Energy-hosted community meeting in St Kilda Community Hall on Thursday, 15 December (3pm – 5pm), to discuss progress in assessing and mitigating SPPS noise.

– **A community meeting**

Port Adelaide Energy held a community meeting in St Kilda Community Hall on Thursday, 15 December, from 3pm to 5pm to brief residents on progress towards assessing and mitigating noise from SPPS.

The meeting included a presentation (see Appendix B: Community Presentation), discussion, and refreshments. Seventeen residents signed into the meeting. Representatives for SPPS included from Nexif and WSP. Port Adelaide Energy emailed meeting notes to attendees, after the meeting.

On finishing the presentation, Port Adelaide Energy invited comments and questions on the content, including the long-term noise mitigation options. The community asked how the silencers would work, and what difference they would make. Please see the community meeting notes in Appendix D: Community Meeting Notes for a complete summary of community questions and feedback.

– **City of Salisbury briefing**

Port Adelaide Energy visited City of Salisbury offices on Thursday, 15 December to brief the local authority about SPPS, including John Darzanos, Manager Environmental Health and Community Compliance, and Michelle English, General Manager City Development. Port Adelaide Energy supplied meeting notes (Appendix E: City of Salisbury Meeting Notes) and a copy of the presentation (see Appendix A: Stakeholder Presentation) after the briefing.

– **City of Port Adelaide Enfield briefing**

Port Adelaide Energy held an online briefing with City of Port Adelaide Enfield on Friday, 16 December, about SPPS, including Russell Fink, Team Leader, Planning, and Summa Bragg, Acting Manager, Community and Environmental Health. The City of Port Adelaide Enfield supplied meeting notes



(Appendix F: City of Port Adelaide Enfield Meeting Notes) and a copy of the presentation (see Appendix A: Stakeholder Presentation) after the briefing.

At City of Salisbury's suggestion, Port Adelaide Energy will also brief the following councillors about SPPS, in early 2023:

- Cr Chad Buchanan JP (Central Ward; Deputy Mayor)
- Cr Beau Brug (West Ward)
- Cr Sharon McKell (West Ward).

Port Adelaide Energy maintains a dedicated community contact email and phone number for residents to lodge enquiries and complaints about noise. Port Adelaide Energy will review stakeholder feedback regularly, within the context of ongoing noise monitoring data. Port Adelaide Energy expects to update community and stakeholders later in 2023 about operating conditions and noise mitigation measures.

4.4 Intent

In order to achieve the Indicative Noise Levels at the nearest residential and non-residential receiver locations and achieve compliance with the SA EPA *Environment Protection (Commercial and Industrial Noise) Policy 2023* (Noise Policy), Port Adelaide Energy intend to install exhaust silencers to each of the GTs at SPPS.

Exhaust silencers were found to be the preferred noise mitigation option, as determined in the Assessment of Noise Mitigation Options. Of four mitigation options considered in the assessment, exhaust silencers were found to be the only mitigation option available that was predicted to meet the required Indicative Noise Levels for all sensitive receivers; in particular, the sensitive night-time operation criteria of 45dB for residential sensitive receivers. Residential and non-residential sensitive receiver locations considered are shown in Figure 4.1 and Figure 4.2.



Figure 4.1 Residential Noise-Sensitive Receiver Locations.



Figure 4.2 Noise Sensitive Locations at the adjacent Pelican Point Power Station (PPPS).



Port Adelaide Energy will undertake the projects listed in Table 5.1 – Table of Intended Approach. The EIP project(s) are designed to reduce noise such that noise levels will meet both the daytime, and (more stringent) night-time noise criteria, of the Noise Policy at the nearby residential sensitive receiver locations.

Post-commissioning noise measurements will be undertaken by WSP (on behalf of Port Adelaide Energy) once the exhaust silencers have been installed, in accordance with Condition 3.2.1. of EPA licence no. 51513.

4.5 Reporting, Registers and Public Access

4.5.1 Reporting and Registers

Noise Measurements

Noise measurements will be undertaken upon completion of the exhaust silencer installation.

In accordance with Condition 3.2.1 of EPA licence no. 51513, Port Adelaide Energy must:

- as soon as practicable, but no later than three months after commissioning of the power generating turbines, engage an acoustic engineer to:
 - a. undertake noise measurements to determine the noise levels and the presence of noise characteristics from the operations conducted at the Premises, when measured and adjusted at sensitive receptors in accordance with the *Environment Protection (Noise) Policy 2007*;
 - b. ensure that the noise measurements are undertaken when each power generation turbine is operating under stable conditions, at a minimum of 90% of its nameplate capacity;
 - c. ensure that the noise measurements are undertaken during conditions most representative of potential worst case operational impact, between the hours of:
 - i. 7am to 10pm; and
 - ii. 10pm to 7am.
- ensure that at least seven days prior to undertaking the noise measurements, the proposed dates and time of the noise measurements are submitted to the EPA in writing.
- prepare a report which includes, but is not limited to:
 - a. the results of the noise measurements, including a comparison of the results against previously submitted noise modelling reports and the applicable noise levels in the *Environment Protection (Noise) Policy 2007*;
 - b. the local weather conditions during the noise measurement period (including wind speed, direction, temperature); and
 - c. the locations of the noise measurement locations, and a rationale for the selection of these locations.
- submit the report to the satisfaction of the EPA within 45 days of the completion of the noise measurements being undertaken.

Turbine Operation

In accordance with EPA Licence No. 51513 (U - 777), Port Adelaide Energy will maintain a written record of the operation of each turbine unit located on the premises, including but not limited to the time, date and duration of operation.



A summary of the records kept will be submitted, to the satisfaction of the EPA bi-annually, by the 31st day of July and the 31st day of January.

Complaints

All complaints concerning noise, will be recorded in the Complaints Register, as required by condition 2.3 of EPA Licence No. 51513 (S – 1). All records will include:

- a. The date and time that the complaint was made;
- b. Details of the complaint including the likely cause of events giving rise to the complaint;
- c. The contact details of the complainant (if so permitted); and
- d. Details of any action taken in response to the complaint by the Licensee.

Public Access

Within seven days of approval of this Environment Improvement Programme, the document will be made publicly available on the SPPS Website: <http://www.nexifenergy.com/project/snapper-point/>. Public access to the document will be maintained, at a minimum, until the submission of the commissioning noise measurement report to the EPA (Compliance Action 8 under Table 6.1).

4.6 Site Map

The location of SPPS is shown below in Figure 4.3. The location of turbines and indicative elevation (including the exhaust silencers) are shown below in Figure 4.4 and Figure 4.5.



Figure 4.3 SPPS Site Map

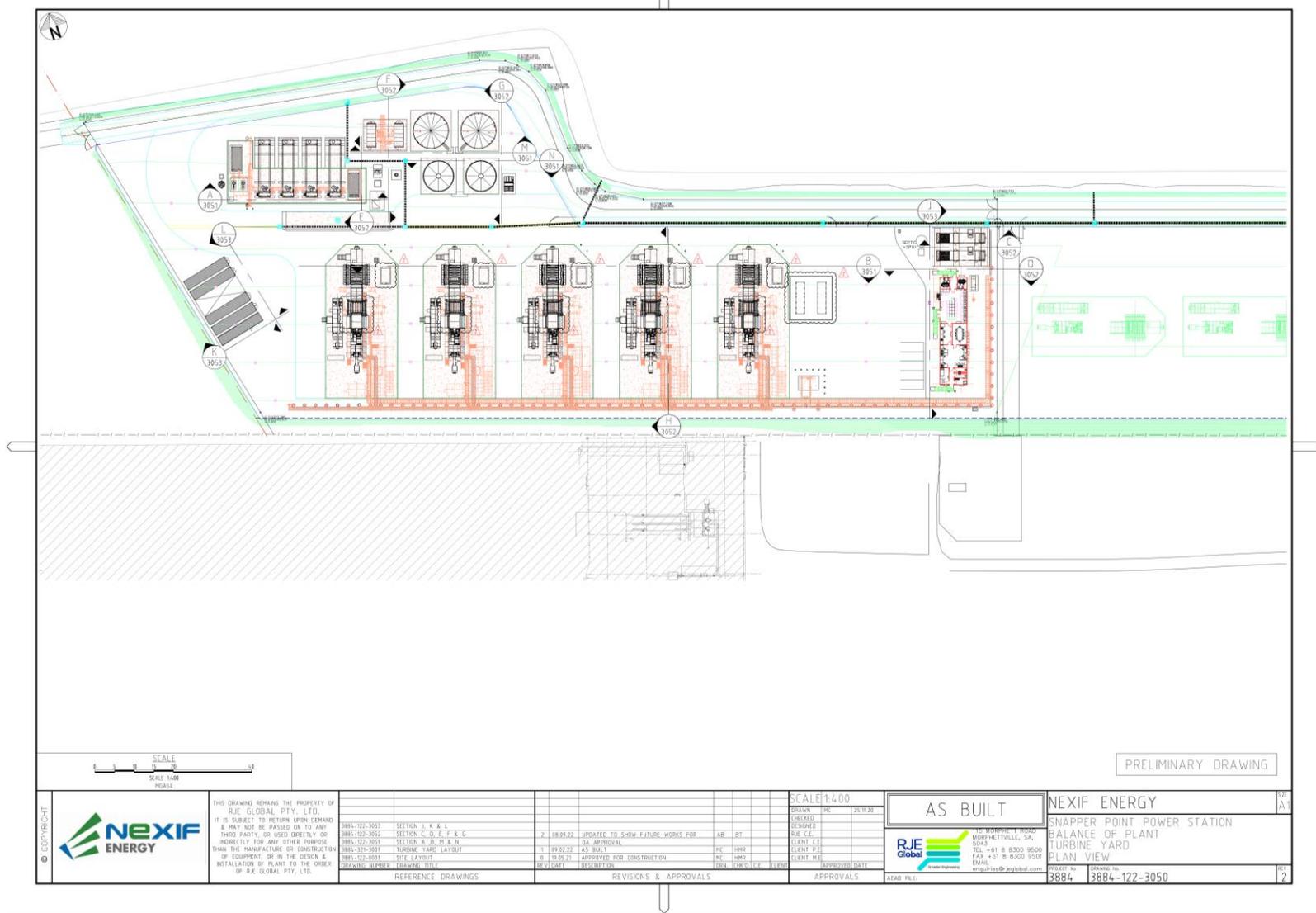


Figure 4.4 SPPS location of gas turbines.

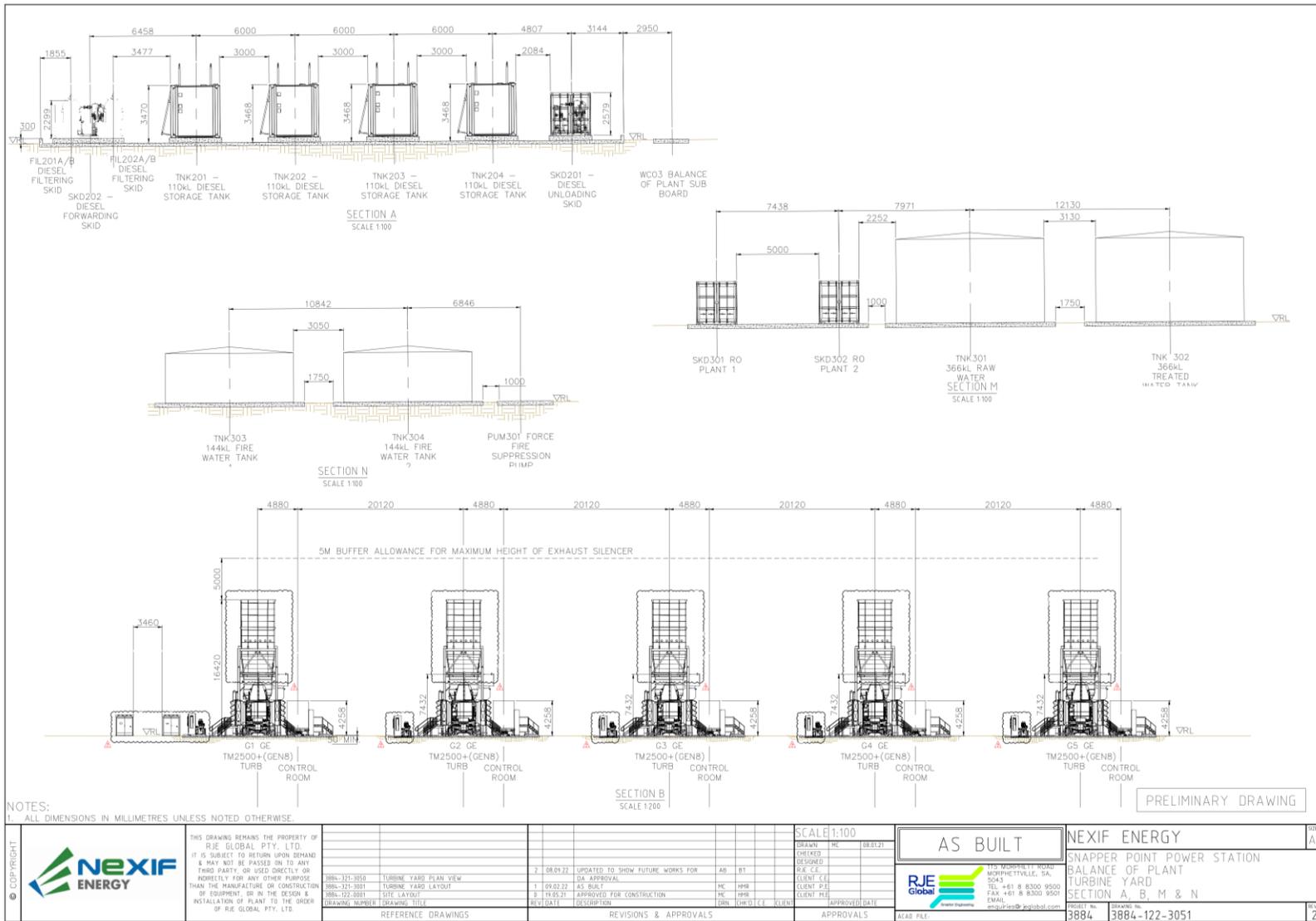


Figure 4.5 SPPS indicative elevation of turbines, including exhaust silencers.



5. Table of Intended Approach

Table 5.1 outlines the stages of implementation of the EIP and provides a general indication of the focus of activities at the Site during the period of the EIP. Table 5.1 is intended as a guide and does not include the compliance actions required to be completed by Port Adelaide Energy. Compliance actions are included in the Section 6.

Table 5.1 Table of Intended Approach

Intended stages for implementing EIP	January 2023	February 2023	March 2023	April 2023	May 2023	June 2023	July 2023	August 2023	September 2023	October 2023	November 2023	December 2023	January 2024	February 2024	March 2024
Design and procurement															
Lodgment of development application															
Development assessment															
Site works															
Nearfield acoustic testing															
Commissioning phase noise measurements															
Submission of noise measurement report to the EPA															
Turbine operation recording															
Turbine operation reporting															



6. EIP Compliance Actions

Port Adelaide Energy has committed to undertaking the compliance actions listed in Table 6.1. to demonstrate compliance with the conditions of EPA licence no. 51514.

If a compliance action cannot be implemented, a variation to a compliance action or timeframe will be sought from the SA EPA with justification and, where applicable, an alternate proposed response.

Changes will be communicated to the City of Salisbury, the City of Port Adelaide Enfield and the residential community, where relevant.

Table 6.1 EPA Compliance Actions for SPPS

Compliance Action and Milestone	Compliance Date
<p>Compliance Action 1</p> <p>By 4 May 2023, Port Adelaide Energy will commence site works for installation of the exhaust silencers.</p> <p>Note the following:</p> <ul style="list-style-type: none">— Site works may commence as early as 14 April 2023.— Design and procurement for the exhaust silencers have commenced.— The Development Application for the exhaust silencers will be lodged with the State Commission Assessment Panel by 20 January 2023.— Installation will occur in succession for GTs 1 through 5; with the duration of construction anticipated to last between 20 to 35 days.	4 May 2023
<p>Compliance Action 2</p> <p>By 5 May 2023, Port Adelaide Energy will report to the EPA on the commencement of site works for installation of the exhaust silencers.</p>	5 May 2023
<p>Compliance Action 3</p> <p>By 31 August 2023, Port Adelaide energy will complete site works and commissioning of the exhaust silencers.</p> <p>The Compliance Date for Compliance Action 3 has been extended to 31 August 2023 under 51513 EIP Version 3, to accommodate for unforeseen manufacturing and construction delays. No amendment has been made to extend subsequent acoustic testing and reporting.</p>	31 August 2023

Compliance Action and Milestone	Compliance Date
<p>Compliance Action 4</p> <p>By 1 September 2023, Port Adelaide Energy will report to the EPA to advise of completion of the commissioning of the exhaust silencers.</p> <p>The Compliance Date for Compliance Action 4 has been extended to 1 September 2023 under 51513 EIP Version 3, to accommodate for unforeseen manufacturing and construction delays. No amendment has been made to extend subsequent acoustic testing and reporting.</p>	1 September 2023
<p>Compliance Action 5</p> <p>By 28 August 2023, Port Adelaide Energy will commence nearfield acoustic testing to validate the acoustic performance of the silencers by measurement of the resultant sound power levels of the turbine exhaust stacks with silencers fitted.</p> <p>Note the following:</p> <ul style="list-style-type: none"> — Compliance action relates to EPA reference U-1537 2.6.3 (d). — Nearfield exhaust stack testing will be commenced within two weeks of installation of the silencers, noting that the specific timing of this testing is subject to suitable weather and ability for the plant to be generating at full load. 	28 August 2023
<p>Compliance Action 6</p> <p>By 29 August 2023, Port Adelaide Energy will report to the EPA to advise of commencement of nearfield acoustic testing of the exhaust silencers.</p>	29 August 2023
<p>Compliance Action 7</p> <p>By 22 December 2023, Port Adelaide Energy will complete commissioning noise measurements for the exhaust silencers, in accordance with the <i>Environment Protection (Commercial and Industrial Noise) Policy 2023</i>.</p> <p>Note the following:</p> <ul style="list-style-type: none"> — Compliance action relates to EPA reference U-1404 and U-1537 2.6.3 (d) of Licence No. 51513. — The EPA licence condition requires that noise measurements are undertaken as soon as practicable, but no later than three months after commissioning of the exhaust silencers. 	22 December 2023

Compliance Action and Milestone	Compliance Date
<ul style="list-style-type: none"> — Ability to complete noise measurements within the specified timeframe is subject to appropriate meteorological conditions occurring. — Port Adelaide Energy will notify the EPA of intended timing for noise measurements, at least seven days prior to the commencement of undertaking noise measurements. 	
<p>Compliance Action 8</p> <p>By 23 February 2024, Port Adelaide Energy will submit a report on the outcomes of commissioning noise measurements to the satisfaction of the EPA.</p> <p>Note the following:</p> <ul style="list-style-type: none"> — Compliance action relates to EPA reference U-1404 of Licence No. 51513. — The EPA licence condition requires that the report is submitted to the EPA within 45 days of completion of the noise measurements. — Ability to complete noise measurements and subsequent reporting within the specified timeframe is subject to appropriate meteorological conditions occurring. 	<p>23 February 2024</p>
<p>Compliance Action 9</p> <p>By the 31st day of July and 31st day of January each year, Port Adelaide Energy will submit six-monthly records of turbine operations to the satisfaction of the EPA.</p> <p>Note that compliance action relates to EPA reference U-777 of Licence No. 51513</p>	<p>Bi-annual – until expiry of licence (31 Oct 2026), unless extended.</p> <ul style="list-style-type: none"> — 31st day of July — 31st day of January