ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE PROPOSED

GAS INFRASTRUCTURE

ASSOCIATED WITH THE COEGA GAS TO POWER PROJECT

EASTERN CAPE PROVINCE

SOUTH AFRICA

SPECIALIST STUDY ON NOISE IMPACTS

HWSETA
HW592A1000508

Northern Office: PO Box 80171, Doornpoort, Pretoria, 0017 Tel: +27 (0)82 411 1571 Fax: +27 (0)86 6579864

Southern Office: PO Box 27607, Greenacres, Port Elizabeth 6057 Tel: +27 (0)41 3656846 / Fax: +27 (0)41 3652123 info@safetech.co.za / www.safetech.co.za
Safetrain cc T/A Safetech Reg. No CK/92/34818/23
VAT No. 4180135461
Directors: B Williams, C Williams

DoL Approved Inspection Authority (OH0049-CI-09)

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Amendment History

Version 1	Original	08/09/2020
Version 2	Added paragraph stating the report is valid for three separate environmental authorisation applications (Introduction)	11/09/2020
Version 3	Separated reports for application of environmental authorization that pertains solely to the development of the gas infrastructure of the Gas to Power Development	16/11/2020
Version 4	Added impacts from Karpowership and Engie 200MW power plant projects under Cumulative Impacts.	10/02/2021

INFORMATION PAGE

CLIENT NAME	SRK Consulting (South Africa) Pty Ltd
PROJECT	Proposed Coega Integrated Gas to Power Project: Gas Infrastructure
CONTACT PERSON	Ms N. Rump
TYPE OF SURVEY	Noise Specialist Study as part of the Environmental Impact Assessment
DATE OF FIELD SURVEY	11th June 2020
REPORT PREPARED BY	Dr Brett Williams

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Dr B WILLIAMS

DECLARATION OF INDEPENDENCE	
Noise Impact Assessment	I, Brett Williams, declare that I am an independent consultant and have no business, financial, personal or other interest in the Proposed Coega Integrated Gas to Power Gas Infrastructure Project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.  **Brett Williams**

EXECUTIVE SUMMARY

Safetech were appointed to conduct a specialist noise impact assessment for a Gas to Power Project to be located within the CDC SEZ and Port of Ngqura in the Eastern Cape. The project includes a Liquefied Natural Gas (LNG) Terminal; three 1000 MW Gas to Power Plants; gas pipelines for the distribution and reticulation of natural gas within the SEZ; and electricity transmission lines.

This report focuses solely on the noise impacts on the surrounding environment from the Gas Infrastructure associated with the development. The main components of this infrastructure include the Liquefied Natural Gas (LNG) Hub, LNG carrier, Floating Storage Regasification Units (FSRU) and pipelines.

Baseline monitoring of the ambient noise levels at and adjacent to the proposed sites was conducted. Noise levels at the proposed site are heavily influenced by passing trucks and cars on the N2 and sea noise. The study considered the site location as described in the Scoping Report (SRK, 2020).

The results of the noise impact assessment of the proposed Gas Infrastructure indicates that noise levels during the operational phase will be below ambient noise levels and therefore be of **very low** significance.

The following is highly recommended:

a) The noise impacts are re-modelled when the final supplier of equipment and plant design is chosen. This will enable extra noise mitigation measures to be determined before the equipment is finally procured.
b) A separate study is conducted to determine the impact on the marine mammals.
c) Periodic noise measurements are taken during the construction and operational phases.
d) A long-term hydrophone system is installed in the vicinity of the FSRU and LNGC berth and the harbour entrance to determine the current underwater noise climate.

Dr Brett Williams

ABBREVIATIONS AND DEFINITIONS

Ambient Noise (NMMB Noise Control Regulations)	Means the reading on an integrating impulse sound level meter taken at a measuring point, in the absence of any alleged disturbing noise, at the end of a total period of at least 10 minutes after such meter was put into operation ***Authors Note:*** *Ambient noise excludes the noise alleged to be causing a noise nuisance or disturbing noise.*
Ambient Noise (SANS 10103)	Totally encompassing sound in each situation at a given time, and usually composed of sound from many sources, both near and far *NOTE: Ambient noise includes the noise from the noise source under investigation.*
Annoyance	General negative reaction of the community or person to a condition creating displeasure or interference with specific activities.
CDC	Coega Development Corporation. A state-owned company that develops and manages the industrial land of the SEZ. Located in the Nelson Mandela Bay Metropolitan, Eastern Cape.
dB(A)	Decibels weighted A scale - Value of the sound pressure level in decibels, determined using a frequency weighting network A (with reference to 20 µPa).
Disturbing Noise (NMMB Noise Control Regulations	Means a noise level that causes the ambient sound level to rise above the designated sound level, or if no sound level has been designated, a sound level that exceeds the ambient sound level by 7 dBA or more or that exceeds the typical rating levels for ambient noise in districts, indicated in table 2 of SANS 10103.
Equivalent Continuous Rating Level ($L_{Req, T}$)	The equivalent continuous A-weighted sound pressure level ($L_{Aeq, T}$) during a specified time interval, plus specified adjustments for tonal character and impulsiveness of the sound and derived from the applicable equation. $L_{Aeq, T} + Ci + C_t + kn$ where $L_{aeq, T}$ is the equivalent A-weighted sound pressure level in decibels Ci is the impulse correction C_t is the correction for tonal character Kn is the adjustment for day or night (0dB for day and +10dB for night measurements
FSRU	Floating Storage Regasification Unit. A ship that has been designed and built to store and transport Liquified Natural Gas (LNG).
HRSG	Heat Recovery Steam Generator.
Low Frequency Noise	Means sound which contains sound energy at frequencies predominantly below 100 Hz.
LNG	Liquified Natural Gas. An odourless, colourless and non-toxic mixture of predominantly methane with additional ethane that has been cooled to -162°C for easy of transport and increased safety of storage within non-pressurized containers.
LNGC	Liquified Natural Gas Carrier. A ship specializing in the transport of LNG.
NIA	Noise Impact Assessment
NEMA	National Environmental Management Act
NMMB Noise Control Regulations	Nelson Mandela Bay Metropolitan Municipality: Noise Control By-Law LAN 37 - GN 2322 March 2010
Noise Nuisance	Any sound which impairs or may impair the convenience or peace of a reasonable person.
Noise Rating Level	The applicable outdoor equivalent continuous rating level indicated in Table 2 of SANS 10103.
NSA	Noise Sensitive Area

Residual Noise (SANS 10103)	The all-encompassing sound in a given situation at a given time, measured as the reading on an integrated impulse sound level meter for a total period of at least 10 minutes, excluding noise alleged to be causing a noise nuisance or disturbing noise.
SANS 10103:2008	The South African national standards code of practice for the measurement and rating of environmental noise with respect to annoyance and to speech communication.
SEZ	Special Economic Zone. Refers to an area in which business and trade laws are different to the rest of the country in order to increase economic activity.
Sound Level	The equivalent continuous rating level as defined in SANS 10103, considering impulse, tone, and night-time corrections.
TPT	Transnet Port Terminal

1. INTRODUCTION AND METHODOLOGY

1.1. Scope and Objective

The Coega Development Corporation (CDC) wishes to establish an LNG Gas-to-Power project within the CDC SEZ. The full project description is described in the Final Scoping Report issued by SRK Consulting and in Section 2.1 of this report.

The objective of this study is to provide a comprehensive and detailed Noise Impact Assessment (NIA) that presents and evaluates the noise impact of the proposed project.

The scope of work of the noise study includes the following:

- Conduct a desktop study of available information that can support and inform the specialist noise study;
- Provide a brief review of noise legislation and standards applicable in South Africa as well as international standards;
- Identify relevant protocols, legal and permit requirements;
- Identify issues and potential impacts, as well as possible cumulative impacts related to the noise aspects of the project;
- Measure the existing ambient noise at the proposed site, during both the day and nighttime;
- Identify the components of the project that could generate significant noise levels;
- Identify the sensitive noise receptors in the vicinity of the proposed project;
- Conduct a noise study of the predicted (future) noise impacts during construction and operation of the proposed project; and
- Identify management and mitigation actions to enhance positive impacts and avoid/reduce negative impacts, respectively.

This report is to only be used in the application for environmental authorization of the **Gas Infrastructure related to the Gas to Power Development** in the CDC SEZ.

1.2. Approach and Methodology

The methodology used in the study consisted of two approaches to determine the noise impact from the proposed project and associated infrastructures. These are as follows:

- A desktop study to model the likely noise emissions from the operations; and
- Field measurements of the existing ambient noise at the Port of Ngqura and within the CDC SEZ where the power plant will be located.

1.3. Desktop Study Methodology

CadnaA 2020 modelling software was used to predict the noise from the proposed development. The method used is described in:

- ISO 9613-1: Attenuation of sound during propagation outdoors, Part 1: Calculation of sound by the atmosphere and
- ISO 9613-2: Attenuation of sound during propagation outdoors, Part 2: General method of calculation.

It has been assumed that the operations will run continuously. Meteorological parameters were set to 10°C and 70% relative humidity. Additional modelling using different meteorological conditions showed a negligible difference in the final noise level results.

The above meteorological conditions are conditions which will result in the worst-case sound transmission over distance. Several Noise Sensitive Areas were identified and included as receptors in the noise modelling.

1.4. Field Study

A field study was conducted in June 2020. The ambient noise monitoring points were chosen based on their proximity to the proposed project sites. These points are referred to as Noise Sensitive Areas (NSA's).

A number of measurements were taken by placing a noise meter on a tripod and ensuring that it was placed at least 1.2 m from floor level and 3.5 m from any large flat reflecting surface. For the ambient noise monitoring, two short term points and two long term points were selected. At the long-term points, 1-hour average intervals were recorded under day and night-time conditions. The noise meter was calibrated before and after the survey, the certificates of calibration can be found in appendix B. At no time was the difference more than one decibel (dB) (Note: If the difference between measurements at the same point under the same conditions is more than 1 dB, then this is an indication that the noise meter is not properly calibrated). The weighting used was on the A scale and the meter was placed on "fast", which is the preferred method as per *SANS 10103:2008: The Measurement and Rating of Environmental Noise*. The meter was fitted with a windscreen, which is supplied by the manufacturer. The windscreen is designed so as to reduce wind noise around the microphone and not bias the measurements.

The test environment contained the following noise sources:

- Vehicular traffic from current operations in and around the Coega SEZ;
- Birds;
- Wind; and
- Sea Noise.

The instrumentation that was used to conduct the study is as follows:

- **Rion Sound Level Calibrator**

Model no.: NC-73
Serial no.: 10644864
Calibrated by: M and N Acoustic Services cc on 28 October 2019 (calibration due October 2020 as per SANS 10083: 2013)
Certificate number: 2019-AS-1161
Total uncertainty of measurements: Sound level calibrator: ± 0.19 dB

- **Rion Integrating Sound Meter**

Model no.: NL-32; NH-21; UC-53A; and NX-22RT
Serial no.: 00151075; 13814; 319366 and 00150957 V2.2
Calibrated by: M and N Acoustic Services cc on 24-25 October 2019 (calibration due October 2020 as per SANS 10083: 2013)
Certificate number: 2019-AS-1162.
Total uncertainty of measurements:
Sound level meter ± 0.3 dB
½" Microphone ± 0.3 dB
1/3-Octave Filter Card ± 0.3 dB

Calibration certificates attached in Appendix B.

1.5. Assumptions and Limitations

The following assumptions and limitations are based on a worst-case scenario:

- The initial location of the project was supplied by the client.
- The Power Plants and related gas infrastructure will be be operational for 24 hours per day.
- The sound power levels for the operational equipment was chosen from similar plants. The client could not supply enough detailed information in this regard due to the final designs , suppliers and equipment not being finalised. The author therefore chose to use information from similar projects that he had access to. The author is however confident that the results fairly reflect the noise impact.

- The location of the other power plants, FSRU and LNG carrier berthing zone was supplied by the client.
- The structural details of the infrastructure is not known (building heights, cladding etc).

Furthermore, the following assumptions are made:

- Three separate power plants will be modelled based on an electrical power output of 1000MW each. The components have been plotted according to the Wartsila W18V50SG Flexicycle power plant configuration.
- A LNG supply vessel will enter the port accompanied by at least two tugs.
- It is assumed that the eastern breakwater will not provide any attenuation as the noise sources will be above the top of the breakwater wall.
- The power plant will be modelled based on an electrical power output of 1000MW and occupy an area 18ha and height of 10m. The plants are expected to operate at 100% for 80% of the time (dependant on ESKOM's dispatch needs).
- An LNG Carrier will dock for delivery every 3 days. These carriers have an assumed capacity of 140 000 m3.
- The FSRU's will be be operational for 24 hours per day. Each will have a capacity of 170 000 m3.

1.6. Sources of Information

The sources of information included a site visit and information supplied by the client. In addition, the following standards have been used to aid this study and guide the decision-making process with regards to noise pollution:

- GNR.154 of January 1992: Noise control regulations in terms of section 25 of the Environment Conservation Act (ECA), 1989 (Act No. 73 of 1989);
- South Africa - National Environmental Management Act, 107 OF 1998 - Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the Act when applying for Environmental Authorisation" – GN 320 of 20th March 2020. Page 53 – 56 Section on Noise.
- GNR.155 of 10 January 1992: Application of noise control regulations made under section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989);
- SANS 10103:2008 Version 6 - The measurement and rating of environmental noise with respect to annoyance and to speech communication;
- SANS 10357:2004 Version 2.1 - The calculation of sound propagation by the Concawe method;
- ISO 9613-1: Attenuation of sound during propagation outdoors, Part 1: Calculation of sound by the atmosphere;

- ISO 9613-2: Attenuation of sound during propagation outdoors, Part 2: General method of calculation and;
- Nelson Mandela Bay Metropolitan Municipality: Noise Control By-Law GN 2322 March 2010.

2. DESCRIPTION OF PROJECT ASPECTS RELEVANT TO NOISE IMPACTS

A detailed description of the proposed project is provided in the Draft Environmental Impact Report as well as the Scoping Report. This section provides additional information on aspects of the project specifically related to noise impacts.

2.1. Detailed Project Description

The proposed Gas to Power project will be developed in various phases depending on power demand and acquisition of suitable developers. In order to assess the worst noise impacts, the modelling assumes the development will operate 24 hours a day and produce up to 3000 MW, although the operational planning is only for an operational up-time of 80%. The project entails three power stations (two in Zone 10 and one in Zone 13), an LNG off-loading berth in the Ngqura Harbour, an LNG landside gas transport hub, and an LNG Regasification unit. This report focuses on the Gas Infrastructure related to the proposed development.

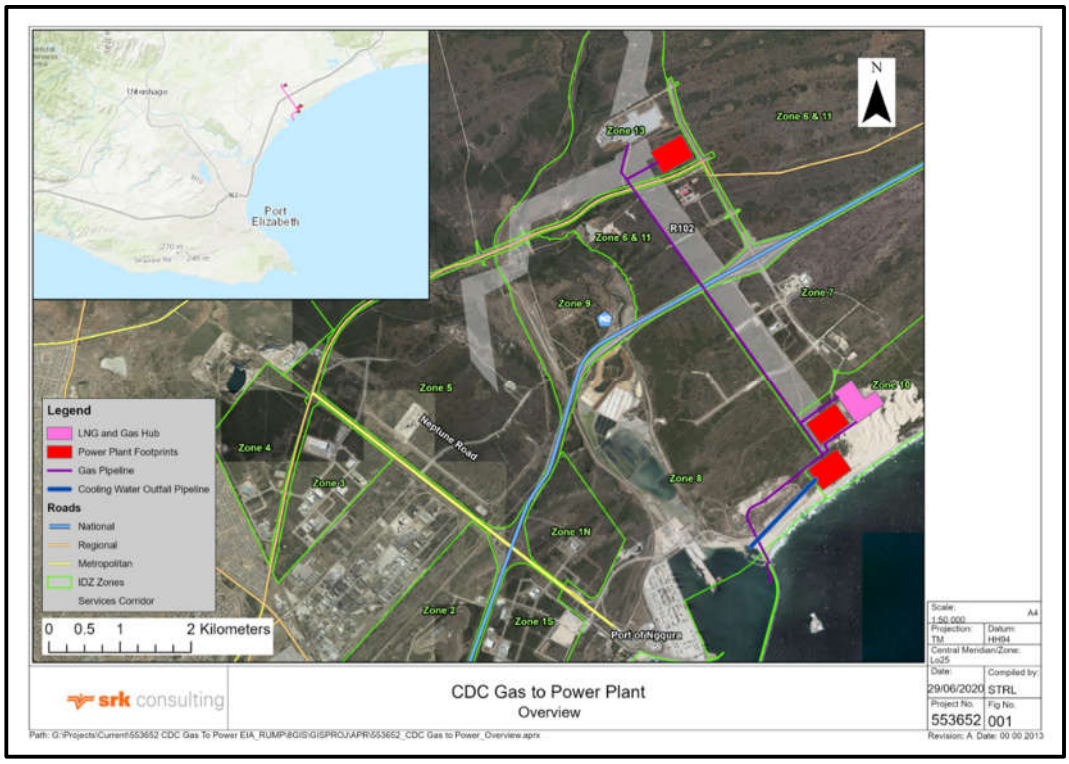

Figure 1: Location of proposed developments

The Gas Infrastructure will consist of the following main components:

- An LNG terminal constructed at the eastern breakwater of the Port of Ngqura.
- An LNG Carrier (LNGC) to deliver the LNG to the FSRU storage tanks initially. Once the land-based storage unit has been constructed, the LNG will then be delivered to this land-based unit.
- Up to two FSRUs with storage capacities of 170 000m^3 each. The FSRU will be permanently berthed at the designated terminal and the second FSRU will only be used if required at a later stage.
- Gas transmission pipelines will be installed above ground. Two types of pipelines will be used. To transport the LNG, a double cryogenic pipeline with a servitude width of 20m will be used, and a gas pipeline with a servitude width of 10m will be implemented for the natural gas.
- An LNG and gas Hub with facilities for the storage, regasification, and distribution of the LNG and natural gas will be located to the east of the Zone 10N Gas to Power Plant. The site will occupy up to 23.1ha of land.

The proposed location is to the west of the Addo Elephant National Park Marine Protected Area (MPA), shown in Figure 2 below. The Marine Protected area contains three island complexes (Jahleel Island group, Brenton Island group, and St Croix Island group), within 10km of the proposed development. These islands have been proclaimed as important bird conservation areas. Jahleel Island is closest to the project (approximately 650m to the closest noise source) and is declared as part of the Addo Elephant National Park.

Figure 2: Gas to Power Development proximity to Addo MPA.

3. IDENTIFICATION OF NOISE SOURCES

3.1. Noise Sources from the Project during the Construction Phase

Most components associated with the gas infrastructure will be constructed off-site, such as the LNGC and FSRU. However, the LNG Terminal, LNG and Gas Hub and above ground LNG and gas pipelines will require construction on-site that may impact surrounding receptors, from a noise perspective. The construction phase could generate noise during different activities such as:

- Site remediation and earthworks;
- Construction of infrastructure using mobile equipment, cranes and concrete mixing equipment; and
- Vehicle use and movement

The types of vehicles and equipment that could be used on site are presented in Table 1 below.

Table 1-Types of equipment to be used on site (Construction Phase).

Type	Description	Typical Sound Power Level (dB)
Trucks	10 tonne capacity	95
Cranes	Overhead and mobile	109
Mobile Construction Vehicles	Front end loaders	100
Mobile Construction Vehicles	Excavators	108
Mobile Construction Vehicles	Bulldozer	111
Mobile Construction Vehicles	Dump Truck	107
Mobile Construction Vehicles	Grader	98
Stationary Construction Equipment	Concrete mixers	110
Compressor	Air compressor	100
Compactor	Vibratory compactor	110

3.2. Noise sources from the project during the Operational Phase

The noise data for the operational phase is subject to revision as the exact equipment has not been finalized. Major noise emitting components used in the operation of the Gas Infrastructure was sourced from previous reports issued by this author for similar projects as well as a literature survey and preliminary design information provided by the client. Table 2 illustrates the components of the power plants and their respective parameters used for the prediction of noise levels during the operational phase. The noise levels from the power plants are significant when considering the cumulative impacts of the proposed development as a whole.

Table 2- Major noise sources from one power plant.

No.	Component	Source Type	Sound Power Level (dBA) at 500Hz	Quantity	Height
1	Engine	Point	100	48	4
2	Engine Exhaust Stack	Point	115	48	40
3	Engine Air Intake	Point	95	96	3
4	Ventilation Outlet Fan	Point	90	96	15
5	Ventilation Unit($18m^3/s$)	Point	90	96	1
6	Cooling Tower	Point	100	32	15
7	Cooling Radiator	Area	100	16	15

For noise modelling of the gas infrastructure an area source with a sound power level of 105dB(A) at 500Hz was used to represent the LNG Hub. However, the LNG Hub is not expected to contribute to the overall noise levels of the area due to its close vicinity to the power plants in in Zone 10, which are expected to “mask” the noise of the LNG Hub.

An area source with a sound power level of 107dB(A) at 500Hz was used to represent the 2 FSRU’s (worst case scenario) and 115dB(A) for the moored LNGC. A value of 68dB(A) per metre of pipeline was implemented into the modelling parameters. These figures are based on knowledge gained by the author from past studies (AECOM, 2018).

The sound power levels from the sources listed above presents a worst-case scenario and is thus a conservative approach.

4. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The project is situated to the east of Port Elizabeth within the CDC SEZ and Port of Ngqura. The section below provides specific information on the receiving environment with regards to the noise impact assessment, including the results of field monitoring.

The noise sensitive areas (NSA's) have been identified and illustrated in Table 3 and Figure 4 below. The distances are calculated based on the closest noise source in relation to the noise sensitive area.

Table 3-Location of Noise Sensitive Areas.

#	Noise Sensitive Area	Latitude	Longitude	Closest distance to the Gas Infrastructure
NSA 1	TPT Offices	33°48'29.5" S	25°40'49.1" E	1 690
NSA 2	NPA Offices	33°47'27.3" S	25°41'18.2" E	1 400
NSA 3	Cerebos Offices	33°46'2.8" S	25°41'52.7" E	440
NSA 4	CDC Offices	33°47'46.7" S	25°40'37.9" E	1 920
NSA 5	Motherwell Township	33°47'58.1" S	25°37'19.5" E	6 970
NSA 6	St Georges Houses	33°49'22.1" S	25°39'25.4" E	4 410
NSA 7	Jahleel Island	33°48'21.9" S	25°42'16.5" E	650
NSA 8	St Croix Island	33°47'57.6" S	25°46'1.9" E	6 450
NSA 9	Brenton Island	33°49'3.3" S	25°45'52.4" E	6 560
NSA 10	Damara Tern Colony	33°46'59.5" S	25°42'51.8" E	510
NSA 11	Rare Butterfly Habitat 1	33°44'40.2" S	25°39'5.5" E	2 180
NSA 12	Rare Butterfly Habitat 2	33°45'26.9" S	25°39'2.5" E	2 400
NSA 13	Rare Butterfly Habitat 3	33°47'20.0" S	25°40'3.7" E	2 480

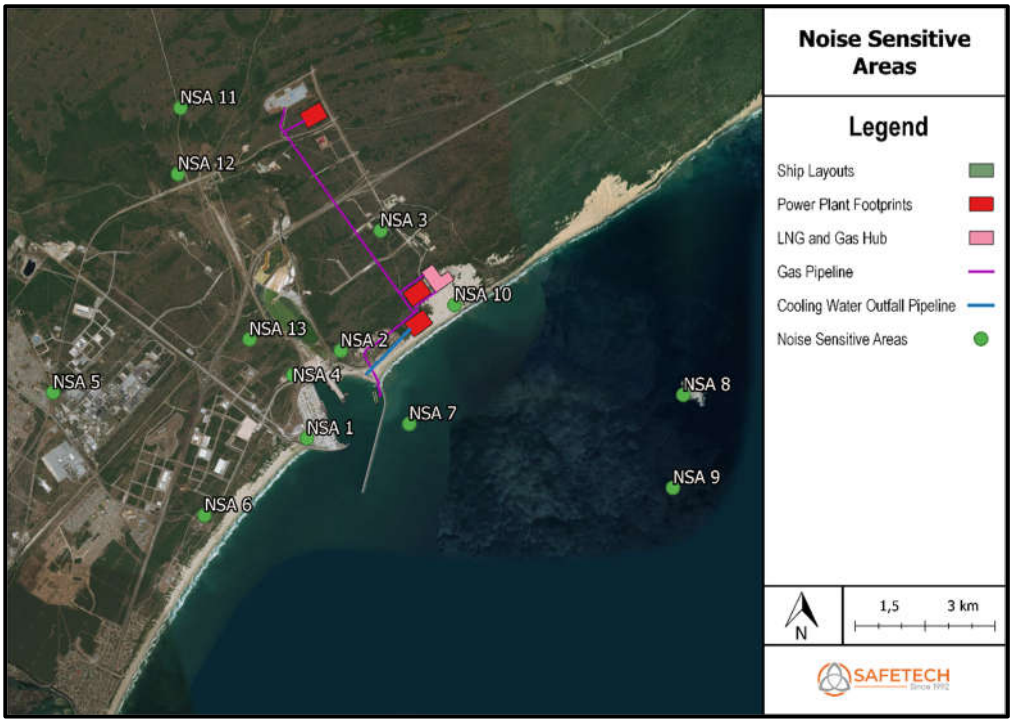

Figure 3: Noise Sensitive Areas

4.1 Ambient Noise Monitoring

A field study was conducted to determine the current ambient noise in CDC SEZ and Port of Ngqura. The most sensitive areas from a noise perspective will be Jahleel Island and the Damara Tern Colony. The other sensitive areas are too far away from the noise source to be of concern as is indicated in the results table. This is due to the attenuation of noise by distance. Access to Jahleel Island was not possible, therefore long-term measurements were taken at the harbour wall (Long Term Point Port). This point is a proxy for Jahleel Island as it is far enough from the current Port activities to gauge the ambient noise. The ambient noise monitoring points are divided into short term and long-term measurements. The long-term measurements were over 48 hours and the short-term measurement was 10 min intervals at each point.

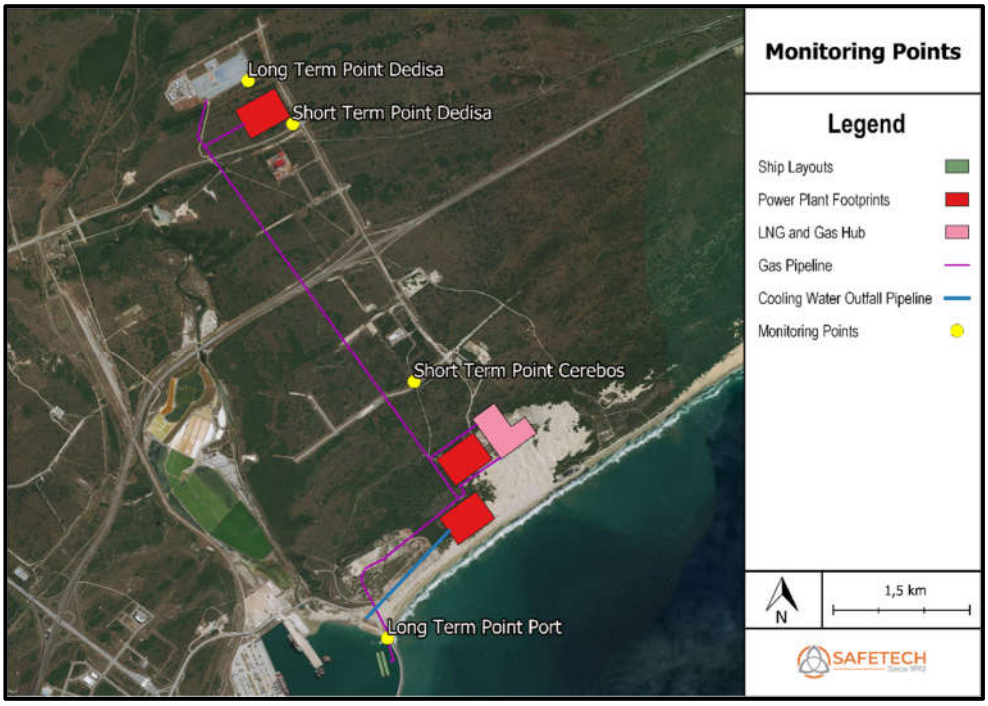

Figure 4: Ambient Noise Monitoring Points

The results of the short-term ambient noise monitoring are contained in Table 4 below.

Table 4-Short Term Ambient Noise Readings (6th June 2020)

NO	AREA	NOISE LEVEL (LReqT dBA)	L_{90} (dBA)	L_{50}	L_{10}	L_{min}	L_{max}
Short Term Point 1 Cerebos Day	33°46'28.02"S 25°41'45.33"E	49.2	46.8	48.2	51.6	42.5	54.0
Short Term Point 2 Dedisa Day	33°44'48.39"S 25°41'11.01"E	40.7	38.4	39.9	42.8	37.2	47.4

The results of the long-term readings, calculated at 1-hour average intervals, are illustrated in Figure 6 and Figure 7 below.

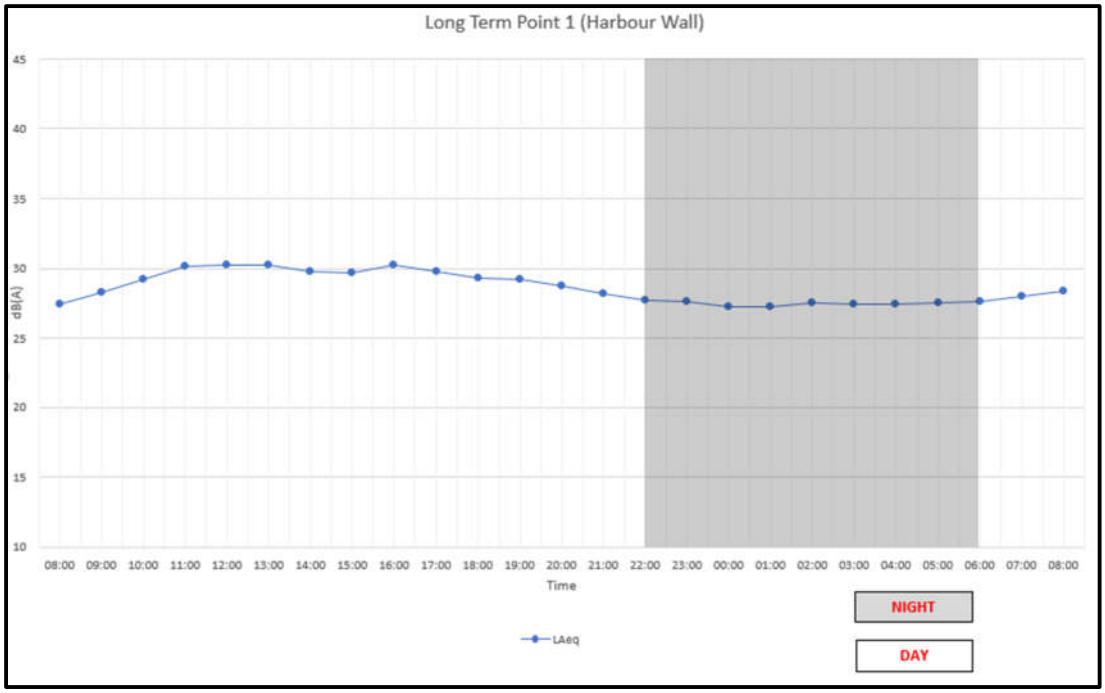

Figure 5: Long Term Point Port Readings (12th & 13th June).

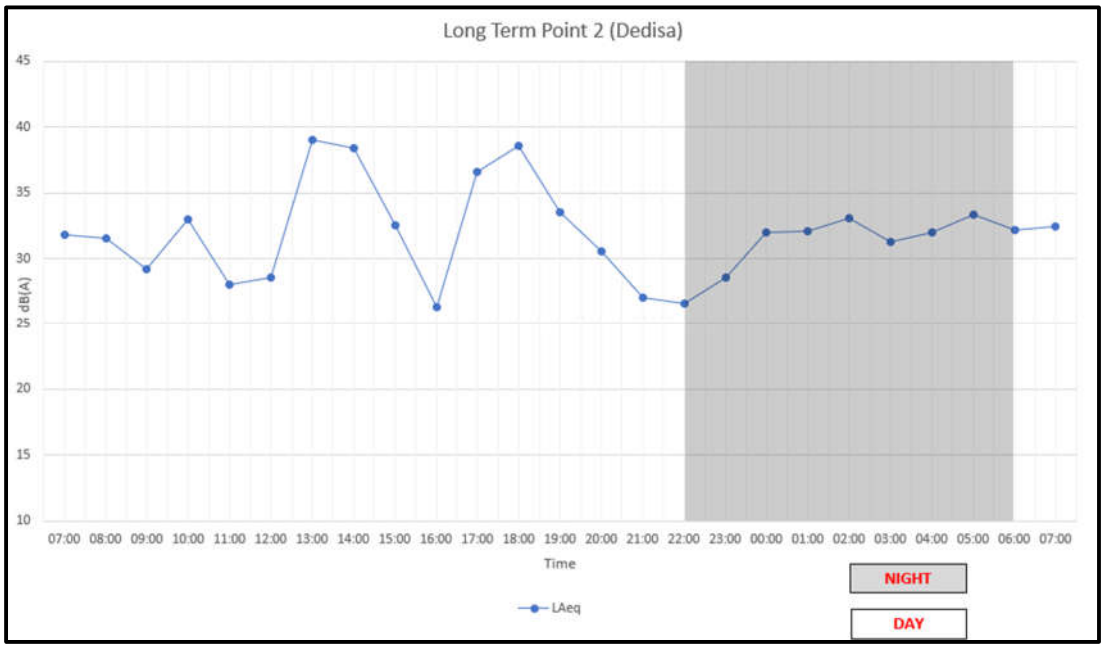

Figure 6: Long Term Point Dedisa Readings (9th & 10th June).

5. IDENTIFICATION OF KEY CONSIDERATIONS

The key considerations regarding the noise impacts that were identified are:

- Current noise profile for the proposed project area, by day and night;
- Noise impact during construction and operation of the proposed Gas to Power project;
- Location of local sensitive human receptors (e.g. closest residential areas); and
- Location of natural environment sensitive receptors

The noise sources could impact on the local residents outside the study area, tenants within the CDC SEZ as well as persons within the Port of Ngqura. Various ecological receptors have also been identified, including bird colonies and rare butterfly habitats. The noise will include audible, low frequency and infra sound.

This noise impact assessment will therefore address the following possible noise sources:

- Construction equipment and vehicle noise;
- Noise from the operation of the Gas to Power Plants and auxiliary infrastructure.

6. RELEVANT LEGISLATION AND GUIDELINES

SANS 10103:2008 provides typical rating levels for noise in various types of districts, as described in Table 5 below.

Table 5-Typical rating levels for noise in various types of districts.

Type of District	Equivalent Continuous Rating Level, LReq.T for Noise					
	Outdoors (dB(A))			Indoors, with open windows (dB(A))		
	Day-night	Daytime	Night-time	Day-night	Daytime	Night-time
Rural Districts	45	45	35	35	35	25
Suburban districts with little road traffic	50	50	40	40	40	30
Urban districts	55	55	45	45	45	35
Urban districts with one or more of the following: Workshops; business premises and main roads	60	60	50	50	50	40
Central business districts	65	65	55	55	55	45
Industrial districts	70	70	60	60	60	50

The rating levels above indicate that in industrial districts (in the CDC SEZ) the noise should not exceed 70 dB(A) during the day and 60 dB(A) at night. There are however no rating levels for protected natural environments. The Addo National Park Marine Protected Area should ideally be free of any anthropogenic noise sources.

These rating levels can thus be seen as the target levels for any noise emissions from a nearby industrial facility. As can be seen from both short term (Table 4) and long term (Figures 5 and 6) ambient noise monitoring results, the ambient noise is not exceeding the recommended rating levels of industrial districts.

Furthermore, the South African noise control regulations and the local authority regulations describe a disturbing noise as any noise that exceeds the ambient noise by more than 7dB. This difference is usually measured at the complainant's location should a noise complaint arise. Once again this will not strictly apply to a protected area that has no permanent human recipients. The noise emissions primary effect in this case will be on the animals within the protected area.

7. NOISE IMPACT ASSESSMENT

7.1. Weather Conditions

The impact of the noise pollution that can be expected from the site during the construction and operational phase will largely depend on the climatic conditions at the site. The prevailing wind is from the South West and South East. The noise impact however will be the most severe during calm meteorological conditions when little wind noise masking will occur, therefore the wind speed and direction was not considered. This is due to the natural environment in the Addo MPA being the most impacted.

7.2. Construction Phase

The impact of the construction noise that can be expected at the proposed site can be extrapolated from Table 6. As an example, if several pieces of equipment are used simultaneously, the noise levels can be added logarithmically and then calculated at various distances from the site to determine the distance at which the ambient level will be reached (refer to Table 7 and Table 8).

Table 6- Combining Construction Noise Sources – Worst Case.

Description	Typical Sound Power Level (dB)
Overhead and mobile cranes	109
Front end loaders	100
Excavators	108
Bull Dozers	111
Piling machines (mobile)*	115
Total	**117.7**

**Impulse penalty not added to this value due to unknown underlying geology.*

Table 7- Combining Different Construction Noise Sources – Low Impact.

Description	Typical Sound Power Level (dB)
Front end loaders	100
Excavators	108
Truck	95
Total	**111.8**

The information in the tables above can now be used to calculate the attenuation by distance. Noise will also be attenuated by topography and atmospheric conditions such as temperature, humidity, wind speed and direction, but this is ignored for this purpose as worst-case conditions are calculated. Therefore, the distance calculated below would be representative of the maximum distance to reach ambient noise levels.

Table 8 below gives an illustration of attenuation by distance from a noise source with a sound power level of 118 dB(A). These figures do not consider terrain and other obstacle attenuation. The equipment will be situated on undulating topography and this would therefore provide an attenuation effect.

Table 8- Attenuation by distance of a 118dB(A) Noise Source

Distance from noise source (metres)	Noise level dB(A)
10	90
20	84
40	78
80	72
160	66
320	60
640	54
1280	48
2560	42
3000	40

The field study results showed that the ambient noise levels in the area of the proposed development were 49.2dB(A). NSA 3 is approximately 440m away from the nearest pipeline location. Taking this distance and Table 8 into consideration, it can be inferred that NSA 3 will experience noise levels of 58.3 dB(A). While this is above the ambient noise levels, the receptors are expected to be inside the building and thus experience lower noise levels due to the barrier of the building walls blocking the sound from propagating towards these receptors.

When considering the same approach for NSA 10, at a distance of 510m from the site, the noise levels experienced during the construction phase are expected to be 56.9 dB(A), an increase of 7.7 dB(A) above the ambient noise levels. This increase can be described as a disturbing noise and may have a negative impact on the Damara Tern Colony located at NSA 10. It is recommended that an avifauna specialist be consulted to further investigate the negative impacts that increased noise levels will have on the bird colony.

Mitigation actions for the Construction phase:

As a precautionary measure piling should not occur at night. Secondly, all staff on the construction project should receive training to mitigate the noise impacts. In summary, for the construction phase it is unlikely that the construction noise will impact on the noise sensitive areas.

In addition, it is recommended that consultation with the an avifauna specialist be conducted to further examine the impacts that will arise on the Damara Tern Colony at NSA 10.

With the effective implementation of the above recommended mitigation measures, the residual noise impact associated with construction activities are predicted to be of **very low** significance. It is recommended that the ambient noise around the project and at the closest receptors be monitored during the construction phase.

The construction environmental noise impact rating is presented in Table 9 below.

Table 9 - Noise Impact Statement for the Construction Phase

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local (1)	Medium (2)	Short-term (1)	Very Low (4)	Improbable	Very Low	-	High
Management Measures								
Measures related to the construction phase: • All construction operations should only occur during daylight hours if possible. • No construction piling should occur at night where possible. Piling should only occur during the day to take advantage of unstable atmospheric conditions. • Construction staff should receive "noise sensitivity" training such as switching off vehicles when not in use, location of NSA's etc. • An ambient noise survey should be conducted at the noise sensitive receptors during the construction phase.								
After Management	Local (1)	Low (1)	Short-term (1)	Very Low (3)	Improbable	Insignificant	-	High
No-go Option	Local (N/A)	Low (N/A)	Short-term (N/A)	Very Low (N/A)	(N/A)	(N/A)	+	High

7.3. Operational Phase

Modelling of noise levels during the operational phase was performed using CadnaA Version 2020 MR2. The parameters selected were based on conditions that represent the worst-case scenario (i.e. highest impact).

The modelling results are only for noise from the operational activities and exclude other noise sources around the site, such as road traffic on the N2 and the noise in the existing port areas, which are part of the existing ambient noise (therefore all points where negative values are computed are shown as zero as the noise is attenuated by distance). Furthermore, due to the sensitivity of the Addo MPA, the effects of wind noise have been ignored, as the highest impact will be under calm atmospheric conditions. Other weather conditions considered were a temperature of 20°C and 70% relative humidity. The infrastructure is predicted to be 100% operational 80% of the time. The projected noise levels resulting from the operations are contained in Table 10 below.

Table 10 - Noise Level at receivers during operational phase

NSA No.	Name	SANS 10103:2008 District	SANS 10103:2008 Limits dB(A)		Predicted Noise Levels dB(A)				
			Day	Night	Gas Infrastructure Only	Gas Infrastructure + Zone 10S	Gas Infrastructure + Zone 10N	Gas Infrastructure + Zone 13	Cumulative Levels/All Phases
1	TPT Offices	Industrial	70	60	32.2	32,2	32.2	32.2	32,2
2	NPA Offices	Industrial	70	60	37.3	50,7	37.3	37.3	50,7
3	Cerebos Offices	Industrial	70	60	20.9	20,9	57.3	20.9	57,3
4	CDC Offices	Industrial	70	60	0,0	0,0	0,0	0,0	0,0
5	Motherwell	Residential	50	40	0,0	0,0	0,0	0,0	0,0
6	St George's Houses	Residential	50	40	0,0	0,0	0,0	0,0	0,0
7	Jahleel Island	-	-	-	35.4	35,4	35.4	35.4	35,4
8	St Croix Island	-	-	-	0,0	0,0	0,0	0,0	0,0
9	Brenton Island	-	-	-	0,0	0,0	0,0	0,0	0,0
10	Damara Tern Colony	-	-	-	34.5	66,7	67.4	34.5	70,1
11	Butterfly Area 1	-	-	-	0,0	0,0	0,0	0,0	0,0
12	Butterfly Area 2	-	-	-	0,0	0,0	0,0	0,0	0,0
13	Butterfly Area 3	-	-	-	0,0	0,0	0,0	0,0	0,0

Table 10 above shows the results of the noise modelling based on different scenarios with regards to the operational phase of all components of the proposed development. The table shows no NSAs will be impacted from the noise levels emitted during the operational phase. This is because the noise levels will be below the ambient noise levels and thus be masked. The cumulative impacts may have an impact on the NSAs. This will be discussed in further detail in section 7.5.

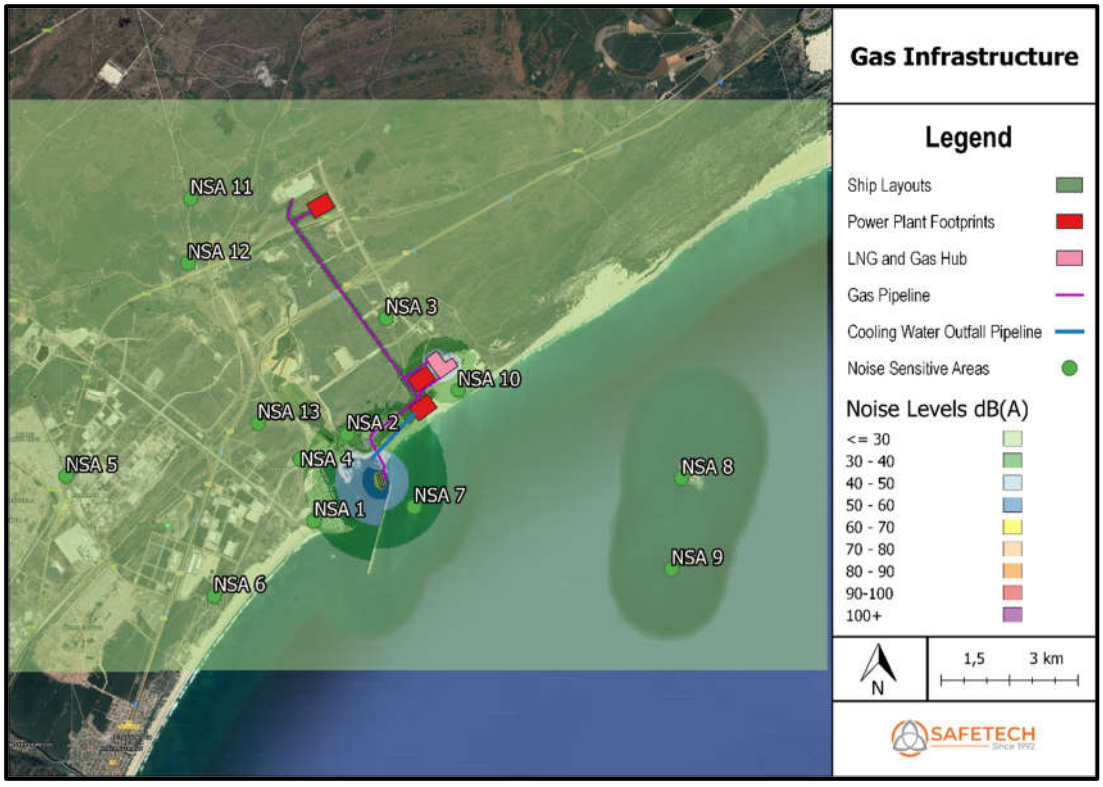

Figure 7: Predicted noise levels during the operational phase of the Gas Infrastructure.

The operational noise levels of the proposed project are below the SANS 10103 recommended levels for the human receptors within the CDC SEZ and at the SEZ boundary.

The noise impact associated with the operational activities of Gas Infrastructure is predicted to be of **very low** significance before mitigation on the Port of Ngqura and CDC tenants.

The environmental noise statement for the operational phase rating is presented in Table 11 below.

Table 11 - Noise Impact Statement for the Operational Phase

	Spatial Extent	Intensity	Duration	Consequence	Probability	Significance	+ -	Confidence
Before Management	Local (1)	Low (1)	Long-term (3)	Very Low (6)	Improbable	Very Low	-	High
Management Measures								
Measures related to the operational phase: • The noise impact from the Gas Infrastructure should be measured during the operational phase, to ensure that the impact is within the required legal limit. • An avifauna specialist should be consulted to determine the effects that an increase in noise levels will have on the Damara Tern Colony								
After Management	Local (1)	Low (1)	Short-term (1)	Very Low (3)	Improbable	Very Low	-	High
No-go Option	Local (N/A)	Low (N/A)	Short-term (N/A)	Very Low (N/A)	(N/A)	(N/A)	+	High

7.4. Decommissioning Phase

The decommissioning phase noise impacts will be the same as the construction phase impacts and will be of a short duration.

Therefore, noise impacts associated with the decommissioning phase are anticipated to be of **low** significance after mitigation.

7.5. Cumulative impacts

Sections 7.2 and 7.3 show that the noise impacts from the construction and operation of the Gas Infrastructure will have an insignificant impact on the NSAs. However, when considering the cumulative impacts arising from the construction and operation of all components of the proposed development, several NSAs may be impacted. NSA 10 – the Damara Tern Colony - is of particular concern as the cumulative noise levels during the operational phase are predicted to reach up to 70.1 dB(A). It is therefore highly recommended that an avifauna specialist be consulted, as mentioned in previous sections, in order to further investigate how these increased noise levels will affect the behaviour of the colony.

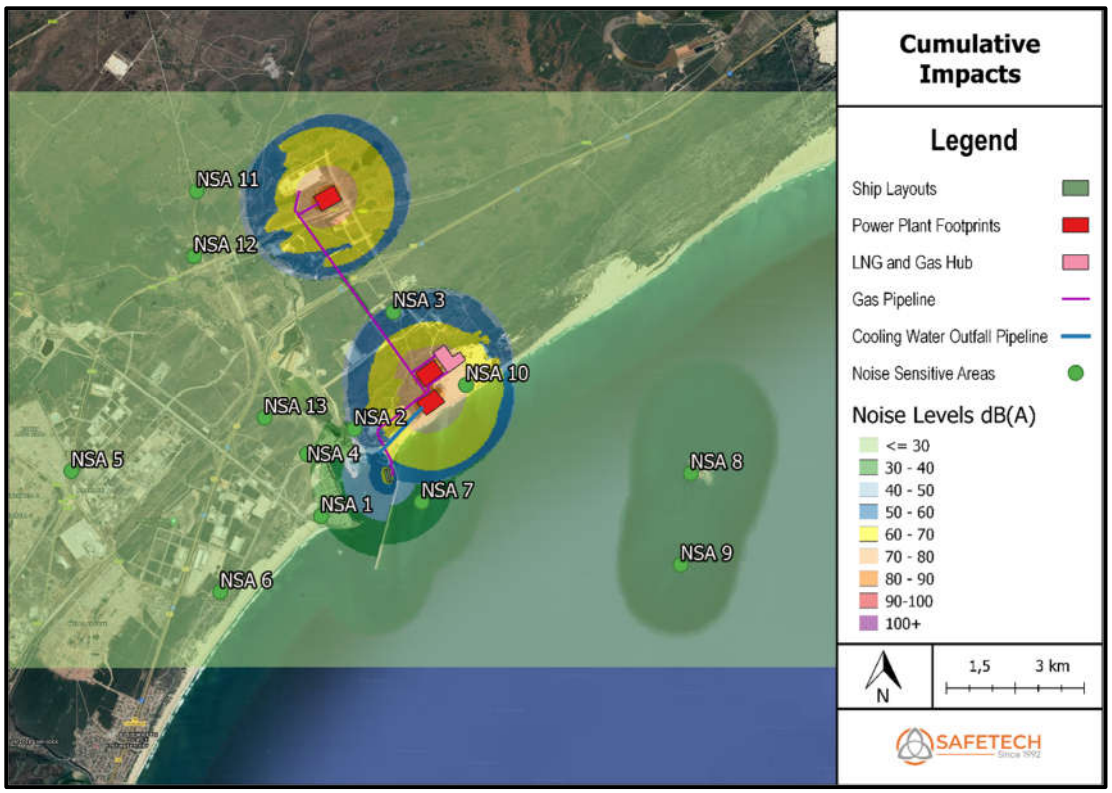

Figure 8: Cumulative Noise Impacts

Other projects in the area that may contribute to the cumulative noise impacts include the proposed ENGIE Risk Mitigation Power Project and the Karpowership Gas to Power Powership project in the Port of Ngqura. Figure 9 below illustrates the noise levels of these proposed developments.

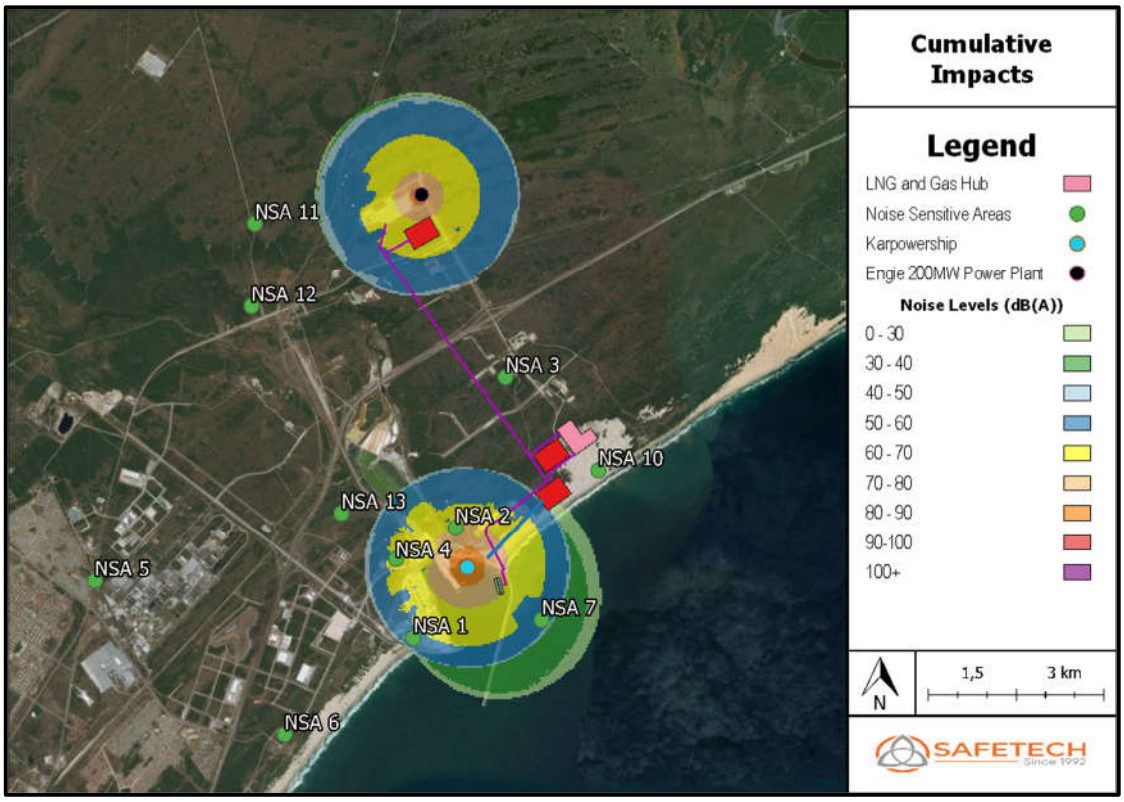

Figure 9: Impacts arising from operation of Engie and Karpowership Projects

As illustrated, the proposed ENGIE 200MW power plant project is in close proximity to the larger operation of the Zone 13 power plant. The noise from the Zone 13 power plant will be louder and therefore mask the noise emitted by the ENGIE project. Hence, the proposed ENGIE 200MW power plant project will have no impact on the NSAs.

Cumulative impacts when considering the Karpowership Project are more complex. Modelling of the Karpowership project shows that the TPT offices (NSA 1), NPA Offices (NSA 2), CDC Offices (NSA 4), Jahleel Island (NSA 7) will be impacted more severely than in a scenario that only considers the Gas Infrastructure. In this scenario, the noise emitted from the Gas Infrastructure will be negligible as the Karpowership will create a masking effect.

With the exception of the Damara Tern Colony (NSA 10), the cumulative impacts present if all proposed developments were fully operational would be within the SANS 10103 limits.

7.6. Underwater Noise Impacts

The underwater noise impacts need to be considered in a project of this nature. The underwater noise sources that could possibly affect the marine life include:

- Piling to construct an access jetty to the barges as well as mooring structures such as mooring dolphins.
- Noise from the suction and release of cooling water.
- Noise from the transmission of sound through the FSRU barge or LNGC hull when offloading
- Noise from the engine and propellers of fuel supply vessels and tugs.
- Noise from wave action against the vessel's hulls.

A separate marine mammal noise specialist study should be conducted to determine the noise impacts on the marine fauna.

8. CONCLUSION & RECOMMENDATIONS

The results of the noise impact assessment of the proposed Gas Infrastructure related to the proposed Gas to Power development within the CDC SEZ show that at all the terrestrial receptors the SANS 10103:2008 rating limits will not be exceeded. However, when considering the cumulative impacts of all components of the proposed development, the limits may be exceeded at the Damara Tern Colony at NSA 10.

The following is highly recommended:

a) The noise impacts are re-modelled when the final supplier of equipment and plant design is chosen. This will enable extra noise mitigation measures to be determined before the equipment is finally procured.
b) A separate study is conducted to determine the impact on the marine mammals.
c) Periodic noise measurements are taken during the construction and operational phases.
d) A long-term hydrophone system is installed in the vicinity of the FSRU and LNGC berth and the harbour entrance to determine the current underwater noise climate.

Dr Brett Williams

REFERENCES

1)	SRK Consulting, 2020: **Scoping Report – Coega Gas to Power Project**
2)	General Electric Aero Energy Products (2004) - LM6000 Product Specification Sheet
3)	International Finance Corporation – 2007 **General EHS Guidelines: Environmental Noise.**
4)	ISO 9613-1: **Attenuation of sound during propagation outdoors, Part 1: Calculation of sound by the atmosphere**
5)	ISO 9613-2: **Attenuation of sound during propagation outdoors, Part 2: General method of calculation**
6)	Nelson Mandela Bay Metropolitan Municipality: **Noise Control By-Law** GN 2322 March 2010
7)	South Africa - GNR.154 of January 1992: **Noise control regulations** in terms of section 25 of the Environment Conservation Act (ECA), 1989 (Act No. 73 of 1989)
8)	South Africa - GNR.155 of 10 January 1992: **Application of noise control regulations** made under section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989)
9)	South Africa - SANS 10357:2004 Version 2.1 - **The calculation of sound propagation by the Concawe method**
10)	South Africa - SANS 10103:2008 Version 6 - **The measurement and rating of environmental noise with respect to annoyance and to speech communication**.
11)	AECOM, 2018: Crib Point Pakenham Pipeline Project, Acoustic Assessment. Prepared by AECOM for APA Group.
12)	South Africa - National Environmental Management Act, 107 OF 1998 - **Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes** in terms of Sections 24(5)(a) and (h) and 44 of the Act when applying for Environmental Authorisation" – GN 320 of 20th March 2020. Page 53 – 56 Section on Noise.

APPENDICES

APPENDIX A - AIA Certificate

labour

Department:
Labour
REPUBLIC OF SOUTH AFRICA

National Department of Labour
Republic of South Africa

APPROVED INSPECTION AUTHORITY

Registered in accordance with the provisions of the Occupational Health and Safety Act, Act 85 of 1993, as amended.

This is to certify that:

SAFETRAIN CC

has been approved by the Department of Labour as a Type A, Approved Inspection Authority: Occupational Health and Hygiene under the following regulations:

- Asbestos Regulations 8, 18 & 21.
- Hazardous Chemical Substances Regulations 6 & 12.
- Lead Regulations 7 & 14.
- Noise Induced Hearing Loss Regulation 7

CHIEF INSPECTOR

Valid from: **26 September 2018**
Expires: **25 September 2022**
Certificate Number: OH0049-CI 09

APPENDIX B Calibration Certificates

a) Sound Level Meter

sanas
Calibration Laboratory
148
1362

M AND N ACOUSTIC SERVICES (Pty) Ltd

P.O. Box 81113, Pierre van Ryneveld, 0045

No. 15, ... Avenue
Pierre van Ryneveld, 0045

Tel: 012 689 2007/8 • Fax: ...
E-mail: calservice@mweb.co.za

CERTIFICATE OF CALIBRATION

CERTIFICATE NUMBER	2019-AS-1162
ORGANISATION	SAFETRAIN T/A SAFETECH
ORGANISATION ADRESS	P.O. BOX 27697, GREENACRES, PORT ELIZABETH, 6057
CALIBRATION OF	INTEGRATING SOUND LEVEL METER complete with ½" PRE-AMPLIFIER, ½" MICROPHONE and ⅓-OCTAVE/OCTAVE FILTER CARD
MANUFACTURERS	RION
MODEL NUMBERS	NL-32, NH-21, UC-53A and NX-22RT
SERIAL NUMBERS	00151075, 13814, 319366 and 00150957 V2.2
DATE OF CALIBRATION	24-25 OCTOBER 2019
RECOMMENDED DUE DATE	----------------------------
PAGE NUMBER	PAGE 1 OF 5

This certificate is issued in accordance with the conditions of approval granted by the South African National Accreditation System (SANAS). This Certificate may not be reproduced without the written approval of SANAS and M and N Acoustic Services.

The measurement results recorded in this certificate were correct at the time of calibration. The subsequent accuracy will depend on factors such as care, handling, frequency of use and the number of different users. It is recommended that re-calibration should be performed at an interval, which will ensure that the instrument remains within the desired limits and/or manufacturer's specifications.

The South African National Accreditation System (SANAS) is member of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). This arrangement allows for mutual recognition of technical test and calibration data by member accreditation bodies worldwide. For more information on the arrangement please consult www.ilac.org

Authorized/Calibrated by:	Checked by:	Date of Issue:
M. NAUDE (SANAS TECHNICAL SIGNATORY)	M.E. SIBANYONI (CALIBRATION TECHNICIAN)	28 OCTOBER 2019

Director: Marianka Naudé

b) Sound Level Calibrator

sanas
Calibration Laboratory

M AND N ACOUSTIC SERVICES (Pty) Ltd

P.O. Box 61113, Pierre van Ryneveld, 8045

No. 15, Sharpe Avenue
Pierre van Ryneveld, 8045

Tel: 012 689 2007/8 • Fax: 086 211 4007
E-mail: calservice@mweb.co.za

CERTIFICATE OF CALIBRATION

CERTIFICATE NUMBER	2019-AS-1161
ORGANISATION	SAFETRAIN T/A SAFETECH
ORGANISATION ADRESS	P.O. BOX 27697, GREENACRES, PORT ELIZABETH, 6057
CALIBRATION OF	SOUND LEVEL CALIBRATOR (complete with ½" adaptor)
MANUFACTURER	RION
MODEL NUMBER	NC-73
SERIAL NUMBER	10644864
DATE OF CALIBRATION	28 OCTOBER 2019
RECOMMENDED DUE DATE	----------
PAGE NUMBER	PAGE 1 OF 3

This certificate is issued in accordance with the conditions of approval granted by the South African National Accreditation System (SANAS). This Certificate may not be reproduced without the written approval of SANAS and M and N Acoustic Services.

Calibrations performed by this laboratory are in terms of standards, the accuracies of which are traceable to national measuring standards as maintained by NMISA.

The measurement results recorded in this certificate were correct at the time of calibration. The subsequent accuracy will depend on factors such as care, handling, frequency of use and the amount of different users. It is recommended that re-calibration should be performed at an interval, which will ensure that the instrument remains within the desired limits and/or manufacturer's specifications.

The South African National Accreditation System (SANAS) is member of the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA). This arrangement allows for mutual recognition of technical test and calibration data by member accreditation bodies worldwide. For more information on the arrangement please consult www.ilac.org

Calibrated by:	Authorized/Checked by:	Date of Issue:
W.S. SIBANYONI (CALIBRATION TECHNICIAN)	M. NAUDE (SANAS TECHNICAL SIGNATORY)	28 OCTOBER 2019

Director: Mananka Naudé

APPENDIX C Typical Sound Power and Sound Pressure Levels

Acoustic Power	Degree		Pressure Level	Source
32 GW	Deafening		225 dB	12” Cannon @ 12ft in front and below
25 to 40 MW			195 dB	Saturn Rocket
100 Kw			170 dB	Turbojet engine with afterburner
10 Kw			160 dB	Turbojet engine, 7000lb thrust
1 kW			150 dB	4 Propeller Airliner
100 W			140 dB	Artillery Fire
10 W	Threshold of pain		130 dB	Pneumatic Rock Drill
				130 dB causes immediate ear damage
3 W			125 dB	Small aircraft engine
1.0 W			120 dB	Thunder
100 Mw			110 dB	Close to train
10 mW	Very Loud		100 dB	Home lawn mower
1 mW			90 dB	Symphony or a Band
				85 dB regularly can cause ear damage
100 uW	Loud		80 dB	Police whistle
10 uW			70 dB	Average radio
1 uW	Moderate		60 dB	Normal conversational voice
100 nW			50 dB	Quiet stream
10 nW	Faint		40 dB	Quiet conversation
1 nW			30 dB	Very soft whisper
100 pW	Very faint		20 dB	Ticking of a watch
10 pW	Threshold of hearing		10 dB	
1 pW			0 dB	Absolute silence

Sound Perception

Change in Sound Level	Perception
3 dB	Barely perceptible
5 dB	Clearly perceptible
10 dB	Twice as loud

APPENDIX D Compliance checklist

Compliance with Specialist Noise Impact Assessment as per GNR 320 of the EIA Regulations March 2020	
Requirement	**Section**
Baseline Description	
Current ambient sound levels over 2 nights	4.1
Records of approximate wind speed	Appendix F
Mapped Distance of the receiver from the proposed source	4.
Discussion of temporal aspects of ambient conditions	4.1
Assessment in accordance with SANS 10103:2008 & 10328:2008	
Characterization of noise (e.g. frequency, temporal, content, vibration)	7
Projected noise during construction, commissioning, and operation	7
Desired noise levels for the area	7
Noise Specialist Report Requirements	
CV of Specialist	Appendix E
Signed statement of independence	page 5
Duration and date of field study and weather conditions	4.1 & Appendix F
Description of methodology (equipment used & results of noise study)	1.2 – 1.4
Map of proposed development with buffer	2.1
Confirmation that all reasonable mitigation measure has been considered	8.
Substantiated statement of acceptability (or not) and recommendation of approval	8.
Any conditions to which statement is objected	8.
Identify alternative development footprints within the preferred site that would be "low"	N/A
Motivation if alternatives found	N/A
Mitigation measure input into EMPr	7.
Assumptions and limitations	1.5

APPENDIX E Specialist Credentials

Dr Brett Williams

Name of Organization:	Safetech
Position in Firm:	Owner
Date of Birth:	21/04/1963
Years with Firm:	25
Nationality:	South African

MEMBERSHIP OF PROFESSIONAL BODIES

- Southern African Institute of Occupational Hygienists
- Institute of Safety Management
- Mine Ventilation Society
- National Clean Air Association

BIOGRAPHICAL SKETCH

Brett Williams has been involved in Health, Safety and Environmental Management since 1987. He has been measuring noise related impacts since 1996. Brett is the owner of Safetech who have offices in Pretoria and Port Elizabeth. He has consulted to many different industries including, mining, chemical, automotive, food production etc. He is registered with the Department of Labour and Chamber of Mines to measure environmental stressors, which include chemical monitoring, noise, and other physical stresses.

PROJECT EXPERIENCE

Dr Williams has been assigned to various projects to assess environmental noise impacts. The list below presents a selection of Brett Williams' project experience, relevant to noise:

- Arcus Gibb – Kouga Wind Energy Project
- CSIR – Umgeni Water Desalination Plant
- CSIR – Saldanha Desalination Plant
- CSIR – Atlantis Gas to Power Project (current)
- CSIR – Walvis Bay Port Extension
- CSIR – Noise Impact Study of Namwater Desalination Plant
- CSIR – Kouga Wind Energy Project – Background Noise Measurements
- CSIR – Kouga Wind Energy Project
- CSIR – Wind Current Wind Energy Project
- CSIR – Langefontein Wind Energy Project
- CSIR – Mossel Bay Wind Energy Project
- CSIR – Coega IDZ Wind Energy Project
- CSIR – Baakenskop Wind Energy Project
- CSIR – Biotherm Wind Energy Project
- CSIR – Innowind Mossel Bay

- CSIR – Langefontein Wind Energy Project
- CSIR – Bulk Manganese Terminal (Port of Ngqura)
- CSIR – Phyto Amandla Biodiesel Project
- CSIR – Vleesbaai Wind Energy Project
- CSIR - Kudusberg Wind Energy Project
- CES – Coega IDZ Gas to Power Project (Current)
- CES – Coega IDZ Wind Energy Project
- CES – Middleton Wind Energy Project
- CES – Waainek Wind Energy Project
- CES – Ncora Wind Energy Project
- CES – Qunu Wind Energy Project
- CES – Nqamakwe Wind Energy Project
- CES – Plan 8 Wind Energy Project
- CES – Qumbu Wind Energy Project
- CES – Peddie Wind Energy Project
- CES – Cookhouse Wind Energy Project
- CES – Madagascar Heavy Minerals
- CES – Richards Bay Wind Energy Project
- CES – Hluhluwe Wind Energy Project
- CEN – Kwandwe Airport Development Project
- CEN – Swartkops Manganese Project
- CEN – N2 Petro Port Project
- SiVest - Rondekop Wind Energy Project
- SRK – Roodeplaat Wind Energy Project
- Savannah - Witberg Wind Energy Project
- Savannah - Kareebosch Wind Energy Project

TERTIARY EDUCATION

- PhD - University of Pretoria (Environmental Management)
- Various Health & Safety Courses.
- National Diploma Health & Safety Management
- Harvard University – Applications of Industrial Hygiene Principles – including noise
- United States EPA Pollution Measurement course conducted at the University Of Cincinnati (EPA Training Centre)
- US EPA Air Dispersion Modelling Training Course
- Master of Business Administration (University of Wales) with dissertation on environmental reporting in South Africa.
- Environmental Auditor (ISO 14001:2004)

APPENDIX F Weather Data

Date (dd/mm/yyyy)	Temperature (°C)	Max Wind Speed (km/h)	Relative Humidity (%)
06/06/2020	21.0	22.0	78.0
09/06/2020	30.0	14.0	52.0
10/06/2020	28.0	31.0	46.0
11/06/2020	17.0	47.0	49.0
12/06/2020	16.0	35.0	74.0

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

COEGA GAS TO POWER PLANT
GAS INFRASTRUCTURE

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

1. SPECIALIST INFORMATION

Specialist Company Name:	SAFETECH			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	NON-COMPLIANT	Percentage Procurement recognition	0%
Specialist name:	DR BRETT WILLIAMS			
Specialist Qualifications:	PHD ENVIRONMENTAL MANAGEMENT – OCCUPTAIONAL HYGIENIST			
Professional affiliation/registration:	MEMBER SA INSTITUTE OF OCCUPATIONAL HYGIENISTS			
Physical address:	64 WORRAKER STREET, NEWTON PARK, PORT ELIZABETH			
Postal address:	PO BOX 27607, GREENACRES			
Postal code:	6057	Cell:	0825502137	
Telephone:	041-3656846	Fax:	041-3652123	
E-mail:	Brett.williams@safetech.co.za			

2. DECLARATION BY THE SPECIALIST

I, ___BRETT WILLIAMS_____, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist

SAFETECH

Name of Company:

28 - 01 - 2021

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, ___BRETT WILLIAMS_____, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

Safetech

Name of Company

28-01-2021

Date

Signature of the Commissioner of Oaths

28/01/2021

Date

I hereby certify that this document is a true copy of the original.

COMMISSIONER OF OATHS
STIAAN KOTZE
CONTROL BIODIVERSITY OFFICER:
COMPETENT AUTHORITY
REGULATORY COMPLIANCE AND SECTOR MONITORING
DEPARTMENT OF ENVIRONMENT FORESTRY & FISHERIES
14 Loop Street, Cape Town

STIAAN KOTZE CONTROL BIODIVERSITY OFFICER: COMPETENT AUTHORITY REGULATORY COMPLIANCE AND SECTOR MONITORING
14 Loop Street, Cape Town

Signature:.....

Date: 28/01/2021