



Submitted to: Paratus Telecommunication (Pty) Ltd.
Attention: Mr. Robert Archer
P O Box 90140
102-104 Nickel Street, Prosperita
Windhoek, Namibia

REPORT:

EMP FOR THE PROPOSED CONSTRUCTION OF A PARATUS TELECOMMUNICATION (PTY) LTD BASE TRANSCEIVER STATION IN EXT. 11 (ERF 2747), HENTIES BAY, NAMIBIA

PROJECT NUMBER: ECC-45-452-REP-03-D

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ENVIRONMENTAL COMPLIANCE CONSULTANCY CONTACT DETAILS:

We welcome any enquiries regarding this document and its content. Please contact:



Environmental Compliance Consultancy
PO Box 91193, Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

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ABBREVIATIONS

Abbreviation	Description
BTS	base transceiver station
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMP	environmental management plan
EMR	electromagnetic radiation
ICNIRP	Commission of Non-Ionizing Radiation Protection
Ltd.	Limited
m	metre
MEFT	Ministry of Environment, Forestry and Tourism
Paratus	Paratus Telecommunications (Pty) Ltd.
PPE	personnel protective equipment
Pty	proprietary
SOP	standard operating procedure
ToR	terms of reference

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Environmental Compliance Consultancy (ECC) has been contracted by Paratus Telecommunication (Pty) Ltd (herein after referred to as 'the proponent') to conduct an environmental impact assessment (EIA) for the proposed construction of Paratus Telecommunication base transceiver station (BTS) in extension 11 (ERF 2747), Henties Bay, Namibia.

Paratus provides fiber, wireless, satellite and SDWAN solutions that are advanced enough to support customers, ranging from personal use to large enterprises. One of the main goals' of Paratus is to expand their footprint through building and acquiring infrastructure. The construction of the BTS and associated infrastructure will allow Paratus to continue to provide quality connection services to its customers in Namibian regions. Henties Bay is a small town along the coast with a population of approximately 10000 and expanding rapidly, showing great potential for socio-economic growth and development within the next 5 years. The proposed project will overall enhance and promote effective information and communication services through expanding network coverage and telecommunication services to Henties Bay.

The location of the proposed site is shown in Figure 1.



Figure 1: Locality map of the proposed BTS and associated infrastructure in Henties Bay

1.2 ENVIRONMENTAL REGULATORY REQUIREMENTS

The proposed project triggers listed activities as stipulated in the Environmental Management Act, No. 7 of 2007 and its Regulations, promulgated in 2012. An environmental scoping report, environmental impact assessment (EIA) and environmental management plan (EMP) are required to be submitted as part of the application to support the decision-making process for issuing an environmental clearance certificate.

This report presents the EMP and has been undertaken in terms of the requirements of the Environmental Management Act, 2007 and its Regulations.

1.3 PURPOSE AND SCOPE OF THIS REPORT

The environmental management plan (EMP) provides a logical framework, mitigation measures and management strategies for the activities associated with the proposed project. In this way ensuring that the potential environmental impacts are curbed and minimised as far as practically possible and that statutory and other legal obligations are adhered to and fulfilled. Outlined in the EMP are the protocols, procedures and roles and responsibilities to ensure the management arrangements are effectively and appropriately implemented.

The EMP forms an appendix to the environmental scoping report and is based on the findings of the assessment. The environmental scoping report should be referred to for further information on the proposed project, assessment methodology and terms of reference (ToR), applicable legislation, and assessment findings.

This EMP is a live document and shall be reviewed at predetermined intervals, and or updated during the EIA process when or if the scope of work alters, or when further data or information is added. All personnel working on the project will be legally required to comply with the requirements set out in the final EMP that is approved by the competent authorities and Ministry of Environment, Forestry and Tourism (MEFT).

1.4 MANAGEMENT OF THIS EMP

The proponent, will hold the environmental clearance certificate for the proposed project and will be responsible for the implementation and management of this EMP. The implementation and management of this EMP, and thus the monitoring of compliance, will be undertaken through daily duties and activities, as well as monthly inspections.

1.5 LIMITATIONS, UNCERTAINTIES, AND ASSUMPTIONS RELATED TO THIS EMP

This EMP does not include measures for compliance with statutory occupational health and safety requirements. This will be provided in the safety management plan to be developed by the Proponent.

Where there is any conflict between the provisions of this EMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines, and relevant laws), the contract should be amended, and statutory requirements are to take precedence.

The information contained in this EMP is based on the project description as provided in the environmental scoping report. Where the design or operation method is different, this EMP may require updating and potential further assessment may be undertaken.

1.6 ENVIRONMENTAL ASSESSMENT PRACTITIONER

The report has been prepared by Environmental Compliance Consultancy (Pty) Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent. Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

All compliance and regulatory requirements regarding this report should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy
PO Box 91193, Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

2 ENVIRONMENTAL MANAGEMENT FRAMEWORK

2.1 OBJECTIVES AND TARGETS

Environmental objectives and targets have been developed so that exploration activities can minimise potential impacts on the environment, as far as reasonably practicable.

Environmental objectives for the project are as follows:

- Zero pollution incidents.
- Minimal vegetation clearing and earthworks.
- Minimal impact on regional groundwater users.
- Protect local flora and fauna, and
- Use natural resources effectively and efficiently.

2.2 ORGANISATIONAL STRUCTURE, ROLES, AND RESPONSIBILITIES

The Proponent shall be responsible for:

- Ensuring all members of the project team, including contractors, comply with the procedures set out in this EMP
- Ensuring that all persons are provided with sufficient training, supervision, and instruction to fulfil this requirement
- Ensuring that any persons allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood
- Contractors shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this EMP, and meet the responsibilities listed above.

Table 1 lists the roles and responsibilities allocated to different management levels in the company and specific personnel.

Table 1 – Roles and responsibilities

ROLE	RESPONSIBILITIES AND DUTIES
Proponent	<ul style="list-style-type: none"> - Responsible for the overall management and implementation of the EMP. - Ensure environmental policies are drafted/updated and communicated to all personnel throughout the company. - Responsible for providing the resources required to effectively run operations and comply with the EMP. - Appoint all managers needed to ensure effective running of operations, and - Ensure systems for proper induction and training of personnel and contractors are in place.
Project manager	<ul style="list-style-type: none"> - Responsible for ensuring compliance with this EMP including overseeing the construction work, day to day activities during operations, and routine and non-routine maintenance work during operations, as well as the decommissioning of the infrastructure - Ensure all personnel are aware of the commitments made in the EMP and any other relevant regulatory requirements applicable to the project - Responsible for the management, maintenance and revision of the EMP - Ensure adequate resources are made available for implementation of this EMP - Maintain the community issues and concern register, and keep records of complaints - Ensure all employees and contractors participate in a site induction process before commencing work on the project and maintain an up-to-date register - Provisioning of environmental awareness/management training and inductions for all employees, including impacts of the BTS on human health - Ensure that the best environmental practice is undertaken throughout the project, and - Report any non-compliance or accidents to the regulatory authority.
Site manager	<ul style="list-style-type: none"> - Appointed to manage the performance of the construction and operational maintenance activities - Ensure that all contract workers, sub-contractors, and visitors to the site are aware of the requirements of this EMP, relevant to their roles and always adhere to this EMP. - Report any non-compliance or accidents. - Receive, recording and responding to complaints.

ROLE	RESPONSIBILITIES AND DUTIES
	<ul style="list-style-type: none"> - Ensure adequate resources are available for the implementation of the EMP. - Ensure safe and environmentally sound operations. - Responsible for the management, maintenance, and revisions of this EMP.
Employees	<ul style="list-style-type: none"> - Adhere to measures set out in the EMP. - Ensure they have undertaken a site induction. - Report any operations or conditions which deviate from the EMP as well as any non-compliant issues or accidents to the environmental manager.

2.3 CONTRACTORS

Any contractors hired during the construction work or maintenance activities in the operational phase shall be compliant with this EMP and shall be responsible for the following:

- Undertaking activities in accordance with this EMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements.
- Implementing appropriate environmental and safety management measures.
- Reporting of environmental issues, including actual or potential environmental incidents and hazards, to the site manager.
- Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported by employees and subcontractors.

2.4 EMPLOYMENT

The Proponent and all contractors shall comply with the requirements of the Republic of Namibia's regulations for Labour, Health and Safety, and any amendments to these regulations. The following shall be complied with:

- In liaison with local government and community authorities, the Proponent shall ensure that local people have access to information about job opportunities and are considered first for construction/maintenance contract employment positions.
- The number of job opportunities shall be made known together with the associated skills and qualifications.
- The maximum length of time the job is likely to last for shall be indicated.
- Foreign workers with no proof of permanent legal residence shall not be hired.
- Every effort shall be made to recruit from the group of unemployed workers living in the surrounding area.

2.5 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES

An environmental review of the project has been completed to identify all the commitments and agreements made. A list of environmental commitments and risks has been produced, which details

including measures identified for the prevention of pollution or damage to the environment during the construction and operational phase.

Table 2 provides a list of environmental risks and issues, as well as associated mitigation (as derived from the EIA) and monitoring measures, and the roles responsible for compliance. It will be subject to regular review by the project manager and updated when necessary. The project manager and site manager will use this register to undertake monthly inspections (see next section) to ensure the project is compliant with this EMP.

Table 2 – A list of environmental risks and issues, as well as associated mitigation and monitoring measures

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
Avifauna	Possible bird collision due to the BTS construction	<ul style="list-style-type: none"> - Eliminating non-flashing lights and use flash lights - The BTS will be no more than 30 m, to prevent obstruction against flying birds - Monitor to help provide more scientific confirmation of collision data (rates, sites and associated weather conditions) and thereby increase the future predictability of such occurrences as a basis for marking - Mitigation should take place during the construction phase, rather than the operational phase; regular monitoring would be important during the operational phase. 	<ul style="list-style-type: none"> - Daily - Weekly and - Annual observations 	<ul style="list-style-type: none"> - Project manager - Site manager
	Birds may be impacted by EMR emissions from the constructed BTS	<ul style="list-style-type: none"> - Ensure that the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines, and precautionary principles, as well as other applicable legal frameworks and regulations, are adhered to - The BTS will be no more than 30 m, with EMR reducing with distance it is unlikely to affect flying patterns. 		
Community	Construction and commissioning of the BTS may increase the probability of bird dropping and waste complaints/ social discomfort or anxiety	<ul style="list-style-type: none"> - Engage with the surrounding communities and/ or all stakeholders, especially the nearest neighbours about the construction activities. - Monthly clean up agreement between the proponent and surrounding residents - Bird deterrents to prevent nesting - Fencing around the facility 	<ul style="list-style-type: none"> - Daily - Weekly - Annually 	<ul style="list-style-type: none"> - Project manager - Site manager - Employees

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
	Possible adverse health effect of non-ionising EMR to the local community/workers	<ul style="list-style-type: none"> - Abiding by the Non-ionising Radiation Regulations to prevent harmful radiation - Ensuring radiation is within the international standards of the Atomic Energy and Radiation Protection Act, 2005 (Act No. 5 of 2005) - Involving the National Radiation Protection Agency and their expertise of EMR emissions 		
	Occupational health and safety of construction workers and nearby community	<ul style="list-style-type: none"> - Use the appropriate PPE, - Complying with SOP - Complying with all applicable national regulations and laws to minimise risks at the workplace - Comply with all applicable supervision of activities - Proper use and storage of material and equipment - Any accidents or incidents should immediately be reported to the project manager, and - All incidents should be recorded in an incidental register 		
Waste management	Waste pollution	<ul style="list-style-type: none"> - Training and toolbox talks - Good housekeeping - Remove construction waste including general waste daily - Marked bins should be provided across the site, if necessary, and - Littering by the construction workers will not be allowed 	<ul style="list-style-type: none"> - Daily observations - Weekly checks 	<ul style="list-style-type: none"> - Project manager - Employees

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
Visual	Visual disturbance	<ul style="list-style-type: none"> - Engage with the surrounding neighbours about the construction activities - Good housekeeping 	<ul style="list-style-type: none"> - Weekly - Monthly 	<ul style="list-style-type: none"> - Site Manager - Employees
Noise	Possible noise during construction phase	<p>Noise should be minimised during construction work. The following measures should apply:</p> <ul style="list-style-type: none"> - Limit working hours to 7 am to 5pm weekdays and 7 am until 1 pm on Saturday - Regular maintenance of equipment - All equipment to be shut down or throttled back between periods of use, and - Hearing protection should be provided to employees operating equipment which produces excessive noise 	<ul style="list-style-type: none"> - Daily observations 	<ul style="list-style-type: none"> - Project manager - Employees
Air quality	Possible dust emissions from construction vehicles and equipment	<ul style="list-style-type: none"> - Apply dust suppression where possible - Restrict speed of vehicles (<30 km/h) - Specific activities that may generate dust and impact nearby residents. - Dust generating activities should be avoided during strong wind events - All vehicles and machinery / equipment to be shut down or throttled back between periods of use 	<ul style="list-style-type: none"> - Daily observations 	<ul style="list-style-type: none"> - Project manager - Site Manager - Employees

3 COMMUNICATION AND TRAINING

To ensure potential risks and impacts are minimised it is vital that personnel are appropriately informed and trained on how to properly implement the EMP. It is also important that regular communications are maintained with stakeholders (if applicable) and made aware of potential impacts and how to minimise or avoid them. This section sets out the framework for communication and training in relation to the EMP.

3.1 COMMUNICATIONS

During construction, the project manager and site manager shall communicate site-wide environmental issues to the project team through the following means (as and when required):

- Site induction
- Audits and site inspections
- Toolbox talks, including instruction on incident response procedure, and
- Briefings on key project-specific environmental issues, like feedback on complaints.

This EMP shall be distributed to the construction team including any contractors and to ensure that the environmental requirements are adequately communicated. Key activities and environmentally sensitive operations will be highlighted to workers and contractors.

During the construction phase, communications between the management team shall include discussing any complaints received and actions to resolve them, - any inspections, audits, or non-conformance with this EMP, and any objectives or target achievements.

3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE

An emergency is any abnormal event, which demands immediate attention. It is any unplanned event, which results in the temporary loss of management control at site, but where functional resources can manage the response. An emergency response plan document will be put in place that manages the response in relation to emergencies including environmental emergencies. Table 3 contains a list of numbers to be contacted in case of an emergency.

Table 3 - Emergency contact details

Town	Ambulance	Police	Fire brigade
Henties Bay	+264 (0) 64 500 346	+264 (0) 64 500 201	+264 (0) 81 241 1299

3.3 COMPLAINTS HANDLING AND RECORDING

Any complaints received verbally by any personnel on the project site shall be recorded by the receiver including:

- The name of the complainant
- The contact details of the complainant
- Date and time of the complaint
- The nature of the complaint

The information shall be given to the project manager who is overall responsible for the management of complaints. The project manager shall do the following:

- Inform the site manager of issues, concerns, or complaints.
- Maintain a complaint register that required details of the complaint
- Provide a written response to the complainant of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The workforce shall be informed about the complaints register, its location and the person responsible, to refer residents or the public who wish to lodge a complaint. The complaints register shall be kept for the duration of the Project and will be available for government or public review upon request.

3.4 TRAINING AND AWARENESS

All personnel working on the project shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training, and experience.

3.5 SITE INDUCTION

All personnel involved in the project shall be inducted to the site with specific environmental and social awareness training, and health and safety issues. The environmental and social awareness training shall ensure that personnel are familiar with the principles of this EMP, and the environmental impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures. The project manager shall ensure a register of completed training is maintained.

The site induction should include, but is not limited to the following:

A general site-specific induction that outlines:

- What is meant by “environment” and “social”?
- Why the environment needs to be protected and conserved?
- How can construction activities impact the environment?
- What can be done to mitigate against impacts?

The inductee's role and responsibilities concerning implementing the EMP:

- The site's environmental rules
- Details of how to deal with, and who to contact should any environmental problems occur
- The potential consequences of non-compliance with this EMP and relevant statutory requirements, and
- The role of responsible people working on the project.

4 REPORTING, COMPLIANCE AND ENFORCEMENT

4.1 ENVIRONMENTAL PERFORMANCE MANAGEMENT

The current summary of a register of environmental risks and issues identifies mitigation and monitoring measures, as well as the roles responsible for execution. The project manager and site manager will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

4.2 CONSTRUCTION: ENVIRONMENTAL INSPECTION & COMPLIANCE MONITORING

4.2.1 DAILY COMPLIANCE MONITORING

A copy of this EMP will be on-site throughout the construction work and will be available upon request. It is the responsibility of the project manager and site manager to ensure this EMP is complied with through their daily roles. Daily inspections will be undertaken by the site manager (or nominated site supervisor). Any environmental problems or risks identified will be reported to the project manager and actioned as soon as is reasonably practicable.

4.2.2 MONTHLY COMPLIANCE MONITORING

Monthly inspections will be undertaken by the site manager to check that the standards and procedures set out in this EMP are being complied with and environmental control measures are in place and working correctly. Any non-conformance will be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.3 OPERATIONS: ENVIRONMENTAL INSPECTIONS & COMPLIANCE MONITORING

Annual inspections of the associated infrastructure will be managed and undertaken by the project manager. All infrastructure will be inspected to ensure that the equipment is operating as per specification, no damage has been caused, and no leaks or spills or rust have occurred. Any non-conformance will be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.4 REPORTING

There will be a requirement to ensure that any incident or non-compliance, including any environmental issue, failure of equipment or accident, is reported to the project manager.

4.5 NON-COMPLIANCE

Where it has been identified that works are not compliant with this EMP, the project manager will implement corrective action to the extent that the works return to being compliant as soon as possible. In instances where the requirements of the EMP are not upheld, a non-conformance and corrective action notice will be produced. The notice will be generated during the inspections and the project manager will be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT

5.1 OBJECTIVES AND TARGETS

Environmental objectives for the project are as follows:

- Less than 10 grievances of complaints per year due to the construction and operation of the BTS structure
- At least one (1) awareness campaign conducted locally or regionally about the possible impacts of non-ionising electromagnetic fields on human health, and
- Increase in the number of telecommunication service users with zero complaints.

6 IMPLEMENTATION OF THE EMP

This environmental management plan:

- A. Has been prepared according to a contract with the proponent
- B. Has been prepared based on information provided to ECC up to July 2023
- C. Is for the sole use of the proponent, for the sole purpose of an EMP
- D. Must not be used (1) by any person other than the proponent or (2) for any purpose other than an EMP
- E. Must not be copied without the prior written permission of ECC.