

Updated Environmental Management Plan (EMP)
Operation and Maintenance of a 5-Megawatt (MW) Solar (Photovoltaic)
Power Plant Situated in Okatope of the Oshikoto Region, Namibia



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Prepared for: **Unisun Energy (Pty) Limited**
P O Box 3885 Windhoek, Namibia




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DOCUMENT INFORMATION

Title: Updated Environmental Management Plan (EMP) for the Operation and Maintenance of a 5-Megawatt (MW) Solar (Photovoltaic) Power Plant Situated in Okatope of the Oshikoto Region, Namibia – Renewal of Environmental Clearance Certificate (ECC)

Prepared by:

Author:	Fredrika N. Shagama (Hydrogeologist & Environmental Consultant / EAP*)
Qualifications:	<p>PhD. Student: Civil Engineering (Geotechnics & Hydrogeology), VSB - Technical University of Ostrava, Czech Republic</p> <p>MSc. Geological Engineering (<i>cum laude</i>) with primary focus in Hydrogeology, VSB - Technical University of Ostrava, Czech Republic</p> <p>BSc. Geological Engineering, VSB - Technical University of Ostrava, Czech Republic</p>
Professional Affiliations:	<p>International Association of Hydrogeologists (IAH) - Full (online) Member, Membership No.139790</p> <p>Namibian Hydrogeological Association (NHA) – Member</p> <p>Environmental Assessment Professionals of Namibia (EAPAN) - Ordinary Member Practitioner (Membership No. 183)</p>
Contact Details:	<p>Mobile: +264 81 407 5536</p> <p>Email: info@serjaconsultants.com / fshagama@gmail.com</p> <p>Postal Address: P. O. Box 27318 Windhoek, Namibia</p>
Signature:	
Date:	21 July 2023

EAP* - Environmental Assessment Practitioner

EXECUTIVE SUMMARY

Unisun Energy (Pty) Ltd (The Proponent hereafter) constructed and currently operates a 5 Megawatt (MW) solar Photovoltaic (PV) Plant in the Onandjamba Village, Okatope in the Oshikoto Region. The Solar (PV) Plant site is located about 40km southeast of Ondangwa and 44km northwest of Omuthiya. The site well located within 2km north of the existing NamPower Substation along the B1 road (about 1km from the road to site). The project site covers a surface area of 17 hectares (ha) or 170,000m². The land on which the PV Plant activities are conducted is communal, and therefore falls under the Ondonga Traditional Authority.

Electricity generation, transmission and supply is one of the listed activities that that may not be undertaken without an Environmental Clearance Certificate (ECC). Subsequently, prior to the construction activities Unisun Energy had an Environmental Impact Assessment (EIA) done for their project by GeoPollution Technologies in 2015, and an ECC was also issued the same year (11 November 2015). This ECC was renewed on the 10th of November 2020 and expires on the 10th of November 2023. To ensure that the project activities remain compliant with the national environmental legislation that also include being in possession of a valid environmental clearance, Unisun Energy requested Ms. Fredrika Shagama, of Serja HGE Consultants (independent Environmental Consultants) to apply for their ECC Renewal.

It is for this reason that this document has been compiled as a supplementary document to the ECC renewal application to enable compliance of the project activities. The new ECC has been applied for and submitted to the Ministry of Environment, Forestry and Tourism (MEFT). The date stamped copy of the ECC renewal application Form also been uploaded on the EIA online system (Portal) of MEFT and upon submission of an updated draft Environmental Management Plan (EMP), a new ECC for the project will be considered.

The Key Potential Impacts listed in 2020 and revised in 2023

Positive Impacts:

- Generation of renewable energy
- Contribution to local and national taxes and levies
- Employment opportunities and skills transfer
- Income generation from provision of goods and services by local businesses.

Negative Impacts

- Ecosystem impact.
- Birds (avifauna) impact: Birds (avifauna) impact (PV Plant impact on birds, collision of birds with the project associated powerline, electrocution of birds on the powerline, and bird nesting activity on power line structures and panels)

- Risks of fire (accidental fire outbreaks), waste generation, water usage, dust, soil and water resources contamination, impact on biodiversity (fauna and flora)
- Impact on services infrastructure (infrastructure utilities), visual (aesthetic), traffic (vehicular) safety, Health, safety & security and grievances.

The implementation of the EMP and compliance during the validity period of the current environmental clearance certificate (ECC) is provided in this document. The evaluated and updated EMP compliance status has been carried out based on the 2015 project EMP compiled by GeoPollution Technologies an updated EMP compiled in 2020. The project site status indicates that the great progress and improvement has been made on the EMP implementation from the 10th of November 2020 to date. This would be aimed at improving and ensuring environmental management and sustainability, respectively.

The EMP Implementation Monitoring (Environmental Monitoring): Environmental Audit/Compliance Reports shall be compiled for every monitoring and submitted to the DEAF at the Ministry of Environment, Forestry and Tourism for archiving. This would make ECC Renewals easy because of an in-between track record of monitoring progress prior to the expiry date of the valid ECC.

RECOMMENDATIONS AND CONCLUSIONS

The Environmental Consultant has been carrying out a site visit and observations for the implementation of the EMP on the project site as part of environmental monitoring for the past 3 years. The project is of small to medium-scale level and activities are well limited within the site boundaries. The Proponent has been fully compliant with the EMP requirements as recommended for the completed construction phase, and now in the operational phase. The components of the EMP (management measures) that were recommended for the construction activities have been fully implemented (in full compliance) and this has been observed with some biophysical and social environmental components on and around the site. The road access has been upgraded to standard for the operational phase and equipped with road safety signage.

Recommendations

Therefore, the Environmental Consultant is confident that the potential negative impacts associated with the project activities on site can continue to be mitigated by effectively implementing the recommended management action measures and with more effort and commitment put on implementation monitoring. It is therefore, recommended that the Solar (PV) Plant project and associated activities on site be granted a new Environmental Clearance Certificate, and provided that:

- All the respective management (mitigation) measures provided in the initial project EMP drafted in 2015 (also as presented for the current project phase activities) are effectively implemented

progressively per project phase and monitored as stipulated to achieve full EMP implementation compliance.

- All required permits, licenses and approvals for the project activities are obtained as required (please refer to the Permitting and Licensing).
- Where required and emphasized, improvements should be made with full commitment and effectively put in place.
- Unisun Energy, their project workers and contractors comply with the legal requirements governing their project and its associated activities.
- All the necessary environmental and social (occupational health and safety) precautions provided are adhered to.
- **To ensure that the ECC is always valid and compliant with Environmental laws, Unisun Energy should continue to effectively conduct Environmental (EMP) Compliance Monitoring and most importantly, ensure timely submission of ECC renewal applications.**

Conclusions

The Environmental Consultant acknowledges that Unisun Energy has been compliant with the ECC conditions and implementation of the EMP onsite between November 2020 to date, as well as undertaking of bi-annual environmental reporting. The Environmental Consultant recommends that the current ECC be renewed so that the Proponent can continue with the project activities (operational phase to generate electricity for the nation) and ensure timely renewal before the end of the next 3 years counting from the new ECC date.

There has not been any significant changes or activities that might compromise the environment or its components and or trigger significant changes in the management and mitigation measures initially provided.

Furthermore, based on the recent site observations, the site is generally well-kept, and the current works are well within the initial EMP requirements for the operations. The Environmental Consultant trusts that Unisun Energy will continue to maintain the same commitment towards environmental sustainability and ethics throughout the project cycle, and ensure timely renewal of ECCs.

Therefore, it is crucial for the Proponent and their workers as well as contractors (where needed) to continue with the effective implementation of the recommended management measures to protect both the biophysical and social environment. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities and structures in the host environment.

The Proponent and contractors will also be required to comply with all legal obligations governing their project activities (throughout to future decommissioning phase, if considered).

TABLE OF CONTENTS

DOCUMENT INFORMATION	i
EXECUTIVE SUMMARY	ii
TABLE OF CONTENTS	v
LIST OF FIGURES	vi
LIST OF TABLES	vi
LIST OF APPENDICES	vi
LIST OF ABBREVIATIONS	vii
1 INTRODUCTION	1
1.1 Background and Project Location.....	1
1.2 Aim of the Document.....	3
1.3 Environmental Auditing and EMP Implementation Monitoring.....	3
2 DESCRIPTION OF CURRENT PROJECT ACTIVITIES (UPDATED)	4
2.1 Construction Activities (Completed).....	4
2.2 Operational Activities.....	4
2.2.1 The Solar panels and Maintenance.....	4
2.2.2 Supporting Structures and Services Infrastructure.....	6
2.2.3 Human Resources.....	7
2.2.4 Waste Management.....	7
2.2.5 Health, Safety and Security.....	8
2.2.6 Environmental Management and Requirements.....	9
3 LEGAL FRAMEWORK: OPERATIONAL PERMITTING AND LICENSES	10
3.1 Environmental Management Act No. 7 of 2007.....	10
3.2 Electricity Act No. 4 of 2007.....	11
3.1 Applicable International Standards and Policies.....	16
3.1.1 The Equator Principles.....	16
3.1.2 International Finance Corporation (IFC) Standards.....	16
3.1.3 Good International Industry Practice (GIIP).....	19
4 EMP IMPLEMENTATION ROLES AND RESPONSIBILITIES	19
4.1 Project Manager or Site Operator.....	20
4.2 Safety, Health & Environmental (SHE) Officer.....	21
4.3 Project Specialists.....	21
5 ENVIRONMENTAL MANAGEMENT ACTION PLANS	22
5.1 Key Identified Potential Environmental Impacts.....	22

5.1.1	Positive Impacts:	22
5.1.2	Negative impacts (Operational phase)	22
5.2	Updated Environmental Management and Mitigation Measures	22
5.3	Updated Environmental and Social Management Measures (If Any)	39
6	ENVIRONMENTAL MONITORING, COMPLIANCE AND AUDITING	39
6.1	Monitoring of EMP Implementation and ECC Renewal.....	39
6.2	Environmental Awareness	40
7	RECOMMENDATIONS AND CONCLUSIONS	40
7.1	Recommendations	41
7.2	Conclusions	41

LIST OF FIGURES

Figure 1-1: Location of the Okatope Solar (PV) Project between Ondangwa and Omuthiya in the Oshikoto Region.....	2
Figure 2-1: Some of the site solar panels and cleared areas (removed grass)	5
Figure 2-2: The site substation (associated infrastructure) connecting the Site to the NamPower Substation	5
Figure 2-3: The security control at the site gate with road traffic signs and potable water storage tank with a tap on site.....	6
Figure 2-4: Some of the road (traffic) signs at the PV Plant site entrance and inside the site	7
Figure 2-5: The portable toilets onsite (as reported previously).....	8
Figure 2-6: The fully furnished first aid kit at the PV Site.....	8
Figure 2-7: One of the five site fire extinguishers onsite	9
Figure 2-8: The ECC copy pasted in the office with other site documentations	9

LIST OF TABLES

Table 1-1: GPS coordinates of the Plant Site and NamPower Substation	2
Table 3-1: List of applicable legislation where required, permits or licenses for the PV Plant activities	12
Table 5-1: The Environmental and Mitigation Measures for the Operational & Maintenance Phase	23

LIST OF APPENDICES

- APPENDIX A:** Copy of the current Environmental Clearance Certificate (ECC), ECC001076
- APPENDIX B:** Proofs of Bi-Annual Environmental Monitoring for the PV Site (May 2021 - May/June 2023)
- APPENDIX C:** Site Environmental Monitoring Table

LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
DEAF	Department of Environmental Affairs and Forestry
EAP	Environmental Assessment Practitioner
ECB	Electricity Control Board of Namibia
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EHS	Environment, Health and Safety
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPs	Equator Principles
ESSs	Environmental and Social Standards
GIIP	Good International Industry Practice
IFC	International Finance Corporation
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
MW	Megawatt
NDPs	National Development Plans
PV	Photovoltaic
SHE Officer	Safety, Health & Environmental Officer

1 INTRODUCTION

1.1 Background and Project Location

To contribute to the country's developmental policies and promote the use of solar energy in Namibia, Unisun Energy (Pty) Ltd (The Proponent hereafter) constructed and currently operates a 5 Megawatt (MW) solar Photovoltaic (PV) Plant in the Onandjamba Village, Okatope in the Oshikoto Region. The Solar (PV) Plant site is located about 40km southeast of Ondangwa and 44km northwest of Omuthiya (Figure 1-1). The site well located within 2km north of the existing NamPower Substation along the B1 road (about 1km from the road to site). The site coordinates are provided in Table 1-1. The project site covers a surface area of 17 hectares (Ha) or 170,000m². The land on which the PV Plant activities are conducted is communal, and therefore falls under the Ondonga Traditional Authority. A Land Use Consent, in a form of a leasehold was issued and granted to Unisun Energy by the Traditional Authority in January 2015.

Under the Namibian Environmental Management Act (EMA) (2007) and its 2012 Environmental Impact Assessment (EIA) Regulations, the project activities (electricity generation, transmission and supply) is a listed activity that may not be undertaken without an Environmental Clearance Certificate (ECC). The proposed activity is a listed under the following Sections of the EMA and its 2012 EIA Regulations:

“ENERGY GENERATION, TRANSMISSION AND STORAGE ACTIVITIES

- *Listed Activity 1. The construction of facilities for:*
 - *(a) The generation of electricity*
 - *(b) The transmission and supply of electricity.”*

An EIA study for the project was conducted and an Environmental Management Plan (EMP) compiled by GeoPollution Technologies in 2015 in an application of the initial project ECC. The ECC was applied for and obtained in November 2015 from the Department of Environmental Affairs and Forestry (DEAF) of the Ministry of Environment, Forestry and Tourism (MEFT). The first project ECC was valid until 2018, and an application to renew the ECC was made in August 2020 on behalf of Unisun Energy by Fredrika Shagama (an Independent Environmental Assessment Practitioner). A new ECC (ECC No. 001076) was issued on the 10th of November 2020 valid until 10 November 2023 – Appendix A.

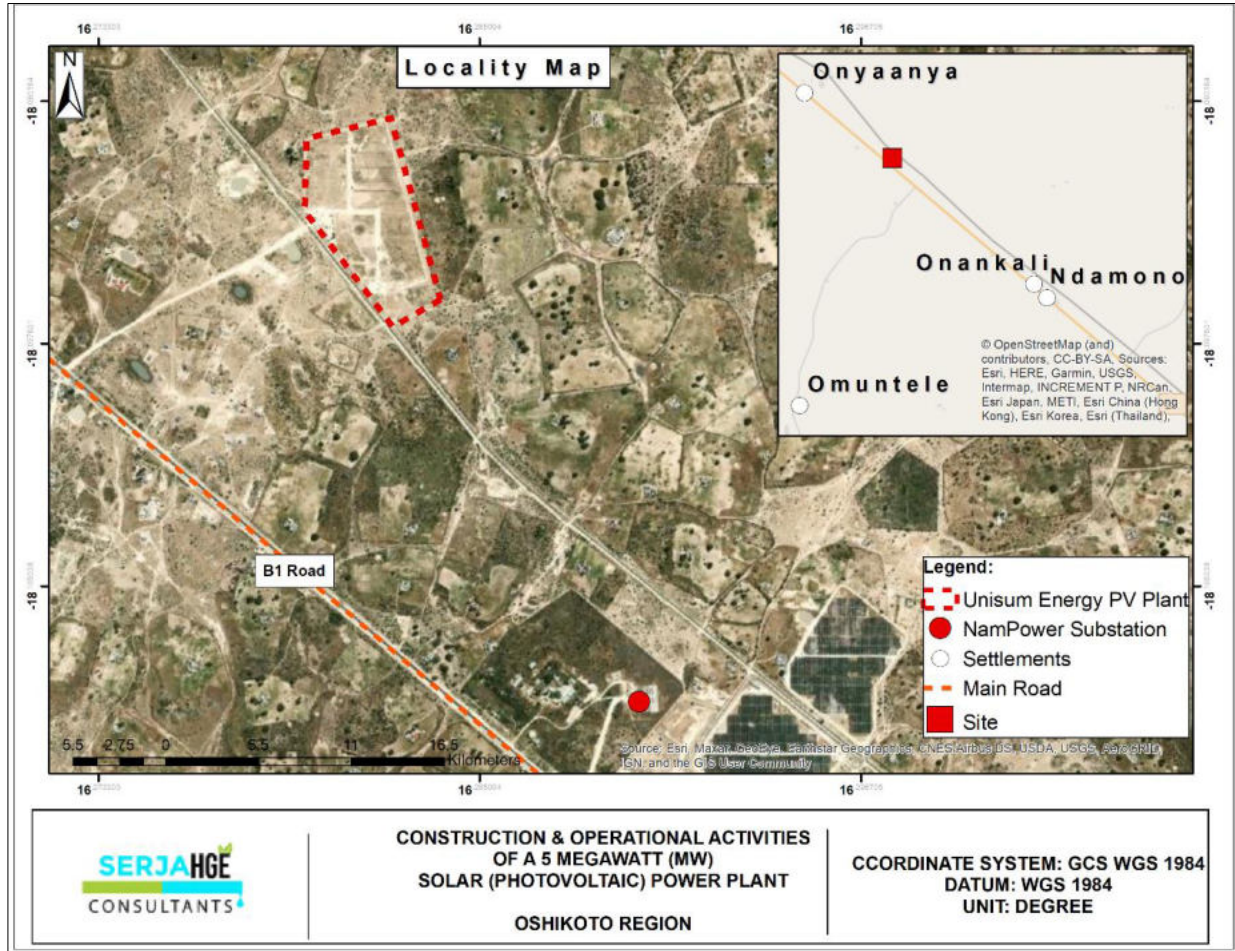


Figure 1-1: Location of the Okatope Solar (PV) Project between Ondangwa and Omuthiya in the Oshikoto Region

Table 1-1: GPS coordinates of the Plant Site and NamPower Substation

Site Feature	GPS Coordinates
Unisun Energy PV Plant (Point A)	-18.093553 16.279636
Unisun Energy PV Plant (Point B)	-18.091386 16.279697
Unisun Energy PV Plant (Point C)	-18.090772 16.282192
Unisun Energy PV Plant (Point D)	-18.096317 16.283667
Unisun Energy PV Plant (Point E)	-18.096861 16.282292
NamPower Substation	-18.108583 16.289897

1.2 Aim of the Document

This Report is aimed at updating the MEFT on the status of the project to enable the renewal of the current ECC due to expire in November 2023. The aim is also to report on the progress of actual work done on site, implementation of the updated Environmental Management Plan (EMP) prepared in August 2020 and new changes that may have arisen between issuance date (10 November 2020) of the current ECC to date.

For the project to remain compliant to the environmental legislation and ensure sustainability, the ECC should be valid and timely renewed every 3 years. The ECC Renewal Report (updated EMP) is submitted to the DEAF at the MEFT for evaluation and consideration of the new ECC (renewal).

The purpose of renewing an ECC is to ensure that the ongoing project activities are undertaken in an environmentally friendly and sustainably manner, by effectively implementing the environmental management measures recommended in the EMP documents. The aim is to minimize the adverse identified impacts while maximizing the positive impacts. The EMP is only merely implemented, but also requires monitoring of this implementation through environmental audits and compliance exercises on site throughout the project life cycle and validity of the ECC over time.

1.3 Environmental Auditing and EMP Implementation Monitoring

As mentioned above, the project has a valid ECC (ECC001076) issued by the Environmental Commissioner on the 10th of November 2020 upon submission and approval of an updated EMP / ECC Renewal Report submitted in August 2020. The ECC is due to expire on the 10th of November 2023. Therefore, an application for ECC renewal is prepared for submission, evaluation and consideration by the Environmental Commissioner.

The issued ECC (in November 2020) was accompanied by conditions, of which among these the requirement for the Proponent to conduct Bi-Annual Environmental Reporting for submission to the Environmental Commissioner. These bi-annual monitoring reports were compiled and submitted to the DEAF between May 2021 and May 2023 – please refer to the proofs under Appendix B and summarized below:

- Following the series of audits done onsite since the ECC issuance (May 2021, November 2021, May 2022, and November 2022), Bi-Annual Environmental Reports were compiled, and submitted to the Environmental Commissioner in compliance with the ECC conditions.
- The recent environmental monitoring/audit was done in May 2023, whereby a Site Audit was done on the 02nd May 2023 to check the site progress and compliance following the last Audit conducted in November 2022. This document was compiled to update on the progress of the site activities and checklist the site performance against the recommended environmental management and mitigation measures of potential adverse impacts.

All the Bi-annual/environmental monitoring report were submitted to the Environmental Commissioner as a demonstration of compliance and commitment to environmental management, protection, and sustainability.

Subsequently, to comply with the EMA and its 2012 EIA Regulations, Unisun Energy contracted Ms. Fredrika Shagama, an independent Environmental Consultant from Serja Hydrogeo-Environmental Consultants CC to apply for the ECC renewal before its expiry date on 10 November 2023.

The description of the updated and current site activities is presented under the next chapter.

2 DESCRIPTION OF CURRENT PROJECT ACTIVITIES (UPDATED)

The description of the project activities undertaken by Unisun Energy, particularly operations and maintenance works of the PV Plant to is presented under the following subsections of this chapter. The description of the project activities chapter focuses on the current works on site, project requirements in terms of inputs and resources, processes and outputs.

2.1 Construction Activities (Completed)

The construction works were completed end of 2022 which involved the erection and installation of project structures, supporting services and infrastructures.

2.2 Operational Activities

The operational phase of the Solar (PV) Plant commenced in December 2022. The Plant with associated/supporting infrastructure currently generate electricity and supply to the nearby NamPower Substation. The maintenance and repair of the Plant infrastructures is conducted by Unisun Energy's maintenance team.

2.2.1 The Solar panels and Maintenance

The solar modules have been installed onsite and operational. The panels are usually tilted horizontally into a safe mode to prevent damage to the solar panels. There are three inverters and transformers cabinets constructed onsite. The site and surroundings usually experience an overgrowing grass during rainy seasons between January and May, however, the grass is cut/trimmed (removed) for safety reasons, as part of maintenance. Some of the solar panels onsite are shown in Figure 2-1.



Figure 2-1: Some of the site solar panels and cleared areas (removed grass)

Some of the Plant infrastructure and structures such as the site substation that connects the site to the NamPower substation located on the immediate southern side of the site as shown in Figure 2-2 below.



Figure 2-2: The site substation (associated infrastructure) connecting the Site to the NamPower Substation

The operational activities include preventative and corrective maintenance of panels; and Intermittent cleaning of panels.

2.2.2 Supporting Structures and Services Infrastructure

- A. Supporting structures: To support the operational phase, the site is equipped with site security control, water tank, and shadowed collection area, water tank, offloading area, internal roads and conversion cabins. Figure 2-3 shows the site access control (security) gate with some traffic signs and the water storage tank.



Figure 2-3: The security control at the site gate with road traffic signs and potable water storage tank with a tap on site

- B. Power Supply: The current source of power supply at the site are generators.
- C. Fuel and vehicles maintenance: There is no fuel tank on site, as the project vehicles are refuelled at the service station in Onyaanya Settlement along the B1 near the site. The vehicles are not serviced nor washed/cleaned onsite, but no longer in operation as this was utilized during the early stages of the construction phase when there were many vehicles onsite. The washing station is well constructed (concrete lined) to prevent car wash water (wastewater) infiltration into the ground.
- A. Water: for operational activities, water is supplied through the existing connection from NamWater. The water connection has been approved for long-term use and has been installed at the site for operations. The operational activities do not require nor use a significant amount of water. An insignificant amount of water is used for intermittent cleaning of the solar panels (once or twice a year) and human consumption (drinking and ablution facilities). The potable water is available from an installed water storage tank through a tap as shown above.
- B. Site accessibility (Road) and Vehicular Traffic signage: A turn off (junction) from the B1 main road provides access to the PV Site. To ensure vehicular traffic safety throughout the project implementation, there are visible and clear road and safety signs along the site access road, at the site entrance and inside the site (Figure 2-4).



Figure 2-4: Some of the road (traffic) signs at the PV Plant site entrance and inside the site

- C. Power Supply: the site is connected to the nearby NamPower grid (NamPower's Okatope Substation) which provides the required power supply. In the case of primary power shut down, there site is equipped with an uninterruptible power supply (UPS) with 2 hours autonomy to provide backup power supply to site operations.

2.2.3 Human Resources

There are currently five (5) employees onsite as part of the operational phase, i.e. one (1) site personnel (operator) and four security guards who work on shifts.

2.2.4 Waste Management

- A. Site waste: The waste generated at the site is minimal. This solid waste comprising domestic and office refuse, scrap metal and old solar panels in future. These are sorted and temporary stored in different waste bins (drums) on a designated waste storage area onsite. The waste is removed by a local contractor for recycling or disposal to Ondangwa Town's waste management site when the onsite waste containment drums are full. The solar panel operations do not produce a significant amount of waste. However, waste from panel cleaning and maintenance is also sorted and transported to Ondangwa Town's waste management facility. No effluent or wastewater from the actual project activities (solar panels) is anticipated.

There is continued excellent housekeeping on. No littering nor oil spills nor leaks on the site soils.

- B. Sanitation: The site is equipped with four portable toilets for site workers and visitors alike. The toilets are serviced thrice (three times) a week. The toilets are equipped with hand washing facilities for after toilet use. The four toilets (1 light brown, 2 green and 1 blue) are shown in Figure 2-5.



Figure 2-5: The portable toilets onsite (as reported previously)

2.2.5 Health, Safety and Security

- A. Health and safety: Project workers are well equipped with personal protective equipment (PPE) while performing tasks on site.
- B. First aid kit and treatment: Since the beginning of the Environmental Monitoring in 2020, the site has been having one fully furnished first aid kit that is frequently refurbished as needed – please refer to photos of the site first aid kit in Figure 2-6 below.



Figure 2-6: The fully furnished first aid kit at the PV Site

- C. Fire management: There are five fire extinguishers on site at the offices and they are well-serviced. The recent service date is July 2023 and the next service is scheduled for July 2024. Photos of some of these fire extinguishers onsite (with clear service date) are shown in Figure 2-7 below.



Figure 2-7: One of the five site fire extinguishers onsite

- D. Site fencing and security: The site area has been fenced off to ensure controlled access in and out of the site. A security company has been contracted and their personnel are on site 24/7. There are currently four security personnel assigned to the site for day and night shifts.
- E. Dust Management: The construction activities that were emanating dust had been completed. Therefore, the only dust that may be experienced from time to time onsite, is from the access road connecting the site to the B1. This might be aggravated during periods of strong winds which occurs regularly in Namibia during the winter months. However, this is very minimal as few vehicles travel to and onsite during operations, therefore, negligible.

2.2.6 Environmental Management and Requirements

The site activities are all environmentally cleared, and the Environmental clearance certificate (ECC) was renewed in November 2020 and valid until November 2023. The copy of the ECC is pasted onsite in one of the offices as shown in Figure 2-8.

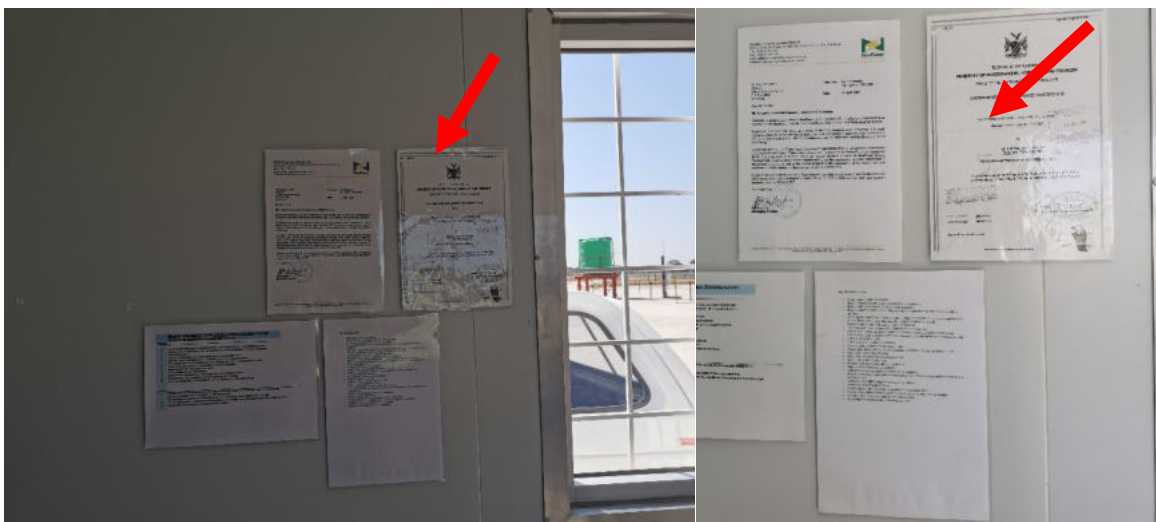


Figure 2-8: The ECC copy pasted in the office with other site documentations

The following chapter presents the national and international legal requirements that are applicable and relevant to the project.

3 LEGAL FRAMEWORK: OPERATIONAL PERMITTING AND LICENSES

The project's activities are undertaken in a biophysical and social environment. These activities or some of them may even at minimum impact some of these environmental components. It is therefore necessary to consider the legislations and legal requirements governing the project and its associated activities.

The main legal framework presented herein is that of Namibia for the relevant project component under the scope of this document – detailed legislation that are applicable to the project are given in the EIA Report. The chapter also presents a summary of the relevant international legislations that are considered for the financing of such projects, specifically the International Finance Corporation (IFC) Performance Standards and the Equator Principles (EPs).

3.1 Environmental Management Act No. 7 of 2007

The Environmental Management Act No.7 of 2007 and its 2012 EIA Regulations aims to ensure that the potential impacts of the development on the environment are considered carefully and in good time; that all interested and affected parties have a chance to participate in the environmental assessments and that the findings of the environmental assessments are fully considered before any decisions are made about activities which might affect the environment.

The Act aims at promoting sustainable management of the environment and use of natural resources. The Environmental Management Act (EMA) is broad; it regulates land use development through environmental clearance certification and/or Environmental Impact Assessments. The Act provides for the clearance certification for “ (1) The construction of facilities for (a) the generation of electricity and (b) transmission and supply of electricity”.

3.2 Electricity Act No. 4 of 2007

The Act provides information on the requirements for electricity generation, trading, transmission, supply, distribution, importation, and export. The Electricity Control Board (ECB) under the Ministry of Mines & Energy exercises control over the provision, use and consumption of electricity in Namibia; ensures efficiency and security of electricity provision; ensures a competitive environment in the electricity industry in Namibia; and promotes private sector investment in the electricity industry. The board provides for the requirements and conditions for obtaining licenses for the provision of electricity and to provide for other incidental matters.

Implication for the proposed project: The project involves the generation, supply, and transmission of electricity. If required, Unisun Energy will need to apply for the relevant license (for electricity transmission) prior to commencing with the operational activities.

Apart from the presented Namibian legislation in Table 3-1 and the fact that the project is funded by foreign investors, the proposed project will be obliged to comply with certain International Standards. These Standards are the:

- Equator Principles,
- IFC Performance Standards, and
- Good International Industry Practice (GIIP).

For the purpose of this EMP, Table 3-1 presents the information on the legal obligations (legislations, policies and guidelines) in terms of legislation where permitting and/or licensing that may be required from different applicable regulatory authorities as a requirement to the ECC.

Table 3-1: List of applicable legislation where required, permits or licenses for the PV Plant activities

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Environmental Management Act EMA (No 7 of 2007)	Requires that projects with significant environmental impacts are subject to an environmental assessment process (Section 27). Details principles which are to guide all EIAs.	ECC Renewal (and amendment, if the need arises): An ECC should be renewed every 3 years prior to its expiry date (as indicated on the new ECC format). The contact details at the Department of Environmental Affairs and Forestry (DEAF) are as follows:
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	The EMA and its regulations should inform and guide this EA process. Details requirements for public consultation within a given environmental assessment process (GN No 30 S21). The details the requirements for what should be included in an Environmental Scoping Report (GN No 30 S8) and an EIA report (GN No 30 S15) were already incorporated in the initial reports submitted for the expired ECC in 2015.	Contact: Mr. Timoteus Mufeti: Environmental Commissioner Tel.: +264 61 284 2701 The project is already in its operational phase. Regardless, if necessary and required, constant consultations and engagements with the interested and affected parties (stakeholders) should be continued. In case of grievances raised by the neighbouring community to the Proponent, this should be addressed and resolved amicably.
Civil Aviation Act No. 6 of 2016	The height of the proposed masts that might be a threat to the nearest aerodrome site. Therefore, the Proponent should verify these with the Namibia Civil Aviation Authority (NCAA).	The contact details at the NCAA to verify and advice on possible solar panel glare in the area with regards to the aviation sector are as follow: Contact: Ms. Toska Sem: Executive Director of the Namibia Civil Aviation Authority Tel.: +264 83 235 2100

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Convention on International Civil Aviation, Annex 14	<ul style="list-style-type: none"> • Annex 14 to the Convention on International Civil Aviation. • Chapter 4: Obstacle restrictions and removal • Chapter 6: Visual aids and donating of obstacles 	The proposed new structures may be obstacles to some aerodromes in Namibia. Those that are close to existing aerodromes need to be assessed in accordance with the document. Visual aids to the new structures to make them visible to aircraft need to be applied in accordance with this Convention.
Soil Conservation Act (No 76 of 1969)	The Act provides for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources/resources, through directives declared by the Minister.	Duty of care must be applied to soil conservation and management measures must be included in the EMP.
Petroleum Products and Energy Act (No. 13 of 1990) Regulations (2001)	Regulation 3(2)(b) states that “No person shall possess or store any fuel except under authority of a licence or a certificate, excluding a person who possesses or stores such fuel in a quantity of 600 litres or less in any container kept at a place outside a local authority area”	<p>If there is fuel stored or is intended to be stored on site, the relevant petroleum products storage licenses/permits should be applied for from the Petroleum Affairs at the Ministry of Mines and Energy</p> <p>Contact: Mr. Carlo Mcleod: Acting Deputy Director of Petroleum Affairs & Deputy Director: Compliance, Regulations and Economics</p> <p>Tel: +264 61 284 8291</p>
Communal Land Reform Act 5 of 2002	To provide for the allocation of rights in respect of communal land; to establish Communal Land Boards; to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land; and to make provision for incidental matters	<p>The project site is in a communal area, therefore future changes on the site (that may overlie communal or even private lands), the Proponent should ensure proper consultations with the relevant authorities, property owners and that the project activities comply with the regulations provided in the Act.</p> <p>If required, the relevant authorisation should be obtained.</p>

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
The National Heritage Act (No. 27 of 2004)	The Act extends the protection of archaeological and historical sites to private and communal land and defines permit procedures regarding activities at such sites.	If heritage resources (e.g. human remains, etc.) are discovered at some point on and or around the site, these should be reported to the National Heritage Council (NHC) of Namibia for relocation. Contact: Mrs. Erica Ndalikokule (Director: NHC)
The National Monuments Act (No. 28 of 1969)	The Act enables the proclamation of national monuments and protects archaeological sites.	Tel: +264 61 301 903
Pollution Control and Waste Management Bill	The bill aims to “prevent and regulate the discharge of pollutants to the air, water and land” Of particular reference to the Project is: Section 21 “(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse.” Section 55 “(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment.”	The Project should make it mandatory that all their site waste produced as a result of their activities, directly or indirectly is managed in a manner that do not cause environmental threat and risk both to the surroundings and the local communities. No permit or license required.
Public Health Act (No. 36 of 1919)	Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”	The Proponent and all its employees should ensure compliance with the provisions of these legal instruments. No permit or license required.
Health and Safety Regulations GN 156/1997 (GG 1617)	Details various requirements regarding health and safety of labourers.	

Legislation/Policy/ Guideline	Relevant Provisions	Implications for this project
Public and Environmental Health Act No. 1 of 2015	To provide a framework for a structured uniform public and environmental health system in Namibia; and to provide for incidental matters.	
Forestry Act 12 of 2001	Section 10 (1) set out the aim of the forest management as to: The purpose for which forest resources are managed and developed, including the planting of trees where necessary in Namibia is to conserve soil and water resources, maintain biological diversity and to use forest produce in a way which is compatible with the forest's primary role as the protector and enhancer of the natural environment.	To remove protected plant species such as Camelthorn trees, which are known to occur within the project sites, a permit should be obtained from the nearest Forestry office (MEFT) prior to removing them. Contact: Mr. Johnson Ndokosho (Director: Forestry) Tel: +264 61 208 7663
Soil Conservation Act 76 of 1969	The Act established to consolidate and amend the law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources.	Site soils should be conserved and prevent or minimize erosion and pollution during operations should be implemented. No permit or license required.
Road Traffic and Transport Act, No. 22 of 1999	Should the Proponent wish to undertake activities involving road transportation or access onto existing roads, the relevant permits will be required. Mitigation measures should be provided for if the roads and traffic impact cannot be avoided.	The relevant access road permits must therefore be applied for from the Ministry of Works and Transport's Roads Authority. Contact: Mr. Eugene de Paauw (Specialist Road Legislation, Advice & Compliance) Tel: +264 61 284 7027
Labour Act (No. 6 of 1992)	The effective implementation of the Labour Act No. 6 of 1992, specifically its Regulations, No. 156 Labour Act, 1992: Regulations relating to the health and safety of employees at work.	The Proponent should ensure that the project operations, and maintenance works, do not compromise the safety and welfare of workers. No permit or license required.

3.1 Applicable International Standards and Policies

In addition to the Namibian environmental and social legal requirements detailed above, compliance with various International Standards will be required for the Unisun Energy Project. These are described in Subsections below.

3.1.1 The Equator Principles

A financial industry benchmark for determining, assessing, and managing environmental and social risk in projects (August 2013). The Equator Principles have been developed in conjunction with the International Finance Corporation (IFC), in an attempt to establish an International Standard with which companies must comply with in order to apply for approved funding by Equator Principles Financial Institutions (EPFIs). The Principles apply to all new project financings globally across all sectors. These principles are an attempt to: '...encourage the development of socially responsible projects, which subscribe to appropriately responsible environmental management practices with a minimum negative impact on project-affected ecosystems and community-based upliftment and empowering interactions.'

The ten (10) Equator Principles governing the projects are listed below:

- Principle 1: Review and Categorization
- Principle 2: Environmental and Social Assessment
- Principle 3: Applicable Environmental and Social Standards
- Principle 4: Environmental and Social Management System and Equator Principles Action Plan
- Principle 5: Stakeholder Engagement
- Principle 6: Grievance Mechanism
- Principle 7: Independent Review
- Principle 8: Covenants
- Principle 9: Independent Monitoring and Reporting
- Principle 10: Reporting and Transparency

3.1.2 International Finance Corporation (IFC) Standards

The International Finance Corporation's (IFC) Sustainability Framework articulates the Corporation's strategic commitment to sustainable development and is an integral part of IFC's approach to risk management. The Sustainability Framework comprises IFC's Policy and Performance Standards on Environmental and Social Sustainability, and IFC's Access to Information Policy.

As of 28 October 2018, there are ten (10) Performance Standards (Performance Standards on Environmental and Social Sustainability) that the IFC requires a project Proponent to meet throughout the life of an investment. These standard requirements are briefly described below.

- **Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts**

This Standards sets out the Borrower's (Proponent's) responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing (IPF), in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).

- **Performance Standard 2: Labor and Working Conditions**

ESS2 recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Borrowers can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.

- **Performance Standard 3: Resource Efficient and Pollution Prevention and Management**

The Standard recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle.

- **Performance Standard 4: Community Health and Safety**

ESS4 addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of Borrowers to avoid or minimize such risks and impacts, with particular attention to people who, because of their particular circumstances, may be vulnerable.

- **Performance Standard 5: Land Acquisition, Restrictions on Land Use, and Involuntary Resettlement**

Involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it will be minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) will be carefully planned and implemented

- **Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources**

This Standard recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources, and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples whose access to, or use of, biodiversity or living natural resources may be affected by a project.

- **Performance Standard 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities**

It ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. ESS7 is also meant to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.

- **Performance Standard 8: Cultural Heritage**

The ESS8 recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

- **Performance Standard 9: Financial Intermediaries (FIs)**

ESS9 recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth, and poverty reduction. FIs are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on several considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.

- **Performance Standard 10: Stakeholder Engagement and Information**

ESS10 recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

3.1.3 Good International Industry Practice (GIIP)

In addition to legislation provided by local Government bodies, the World Bank Group and IFC have provided a range of technical reference documents with general and industry-specific examples of Good International Industry Practice ('GIIP'). The Environmental, Health, and Safety (EHS) Guidelines are technical reference documents with general and industry specific examples of GIIP 1. These industry sector EHS guidelines are designed to be used together with the General EHS Guidelines document, which provides guidance to users on common EHS issues potentially applicable to all industry sectors. These EHS guidelines can be considered relevant to the proposed project in terms of local transmission and distribution to the adjacent Nampower Substation. These general Guidelines, as applicable to the proposed project, have been incorporated into the Unisun Energy Draft Environmental Management Plan (EMP).

The legal requirements above have been listed and explained as per their relevance to the project. The project is being carried in an environment that is sensitive in terms of its biophysical and social features. The potential and known impacts that have been assessed in the initial environmental report of the project were identified based on these environmental components/features in terms of their sensitivities to the project activities.

To continued effective implementation of the EMP and subsequent environmental protection and management, the EMP implementation responsibilities need to be assigned to all vital parties that are involved in the project. This is to ensure that all onsite personnel are aware of what is required of them throughout the project phases. These roles and responsibilities are presented under Chapter 5.

4 EMP IMPLEMENTATION ROLES AND RESPONSIBILITIES

The chapter gives a presentation of the roles of different parties involved in the project cycle and their respective responsibilities towards the implementation of the EMP.

This EMP informs all relevant parties listed below and everyone employed at the site as to their duties in the fulfilment of the legal requirements for the operation of the quarry. This is done with reference to the prevention and mitigation of anticipated potential negative environmental impacts. All parties should note that obligations imposed by the EMP are legally binding in terms of the Environmental Clearance granted by the relevant environmental permitting authority, to:

- Ensure compliance with regulatory authority stipulations and guidelines which may be local, provincial, national, and/or international.

- Verify environmental performance through information on impacts as they occur.
- Provide feedback for continual improvement in environmental performance.
- Identify a range of mitigation measures which could reduce and mitigate the potential impacts to minimal or insignificant levels.
- Detail specific actions deemed necessary to assist in mitigating the environmental impact of the project.
- Create management structures that addresses the concerns and complaints of interested and affected parties (I&APs) with regards to the development/project; and
- Establish a method of monitoring and auditing environmental management practices during all phases of the activity.

4.1 Project Manager or Site Operator

The Proponent is ultimately responsible for the implementation of the project EMP during all project's phases (activities referred to in the initial project EMP and herein). In the case that the Proponent may not be able to undertake this responsibility themselves, they should assign this responsibility to a suitably qualified individual to act as their Representative (Project Manager/Site Operator) or Safety, Health and Environmental (SHE) Officer / Environmental Control Officer (ECO). The delegated responsibility for the effective implementation of the EMP will rest on the following key individual who may be fulfilled by the same person referred to as the ECO. The Proponent/Project Manager's responsibilities include:

- Managing the implementation of the EMP and updating and maintaining it when necessary.
- Management and monitoring of individuals and/or equipment on-site in terms of compliance with the EMP.
- The implementation of and compliance with the environmental management measures proposed in this document.
- Ensuring compliance with relevant environmental and related authorisations and license conditions.
- Identifying and appointing of appropriately qualified specialists (were necessary) to undertake the programmes in a timeous manner and to acceptable standards.

Alternatively, the Proponent may delegate an SHE Officer or they may appoint an external ECO/SHE Officer to ensure EMP compliance throughout the project life cycle.

4.2 Safety, Health & Environmental (SHE) Officer

The Proponent should assign the responsibility of overseeing the implementation of the whole EMP on the ground for the operations to a designated member of staff or external qualified and experienced person, referred to in this EMP as the Environmental Control Officer (ECO)/ Safety, Health and Environmental (SHE) Officer. The ECO will have the following responsibilities:

- Make sure that the provisions of the EMP as well as the environmental authorization are complied with throughout the project cycle. The ECO must be fully conversant with the Environmental Impact Assessment, EMP/Programme and environmental legislations, specifically the EMA No. 7 of 2007 and its Regulations.
- Issue instructions to the Proponent where environmental considerations call for action to be taken.
- Submit regular written reports, ensuring that activities on site comply with all relevant environmental legislation, monitoring and verifying that adverse environmental impacts are kept to a minimum.
- Management and facilitation of communication between Unisun Energy and Interested and Affected Parties (I&APs).
- Conducting Environmental bi-annually site inspections for the operation and maintenance of all areas with respect to the implementation of the EMP (monitor/audit the implementation of the EMP).
- Advising the Proponent on the removal of person(s) and/or equipment not complying with the provisions of the EMP.
- Making recommendations to the Proponent with respect to the issuing of fines for contraventions of the EMP.
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.
- Maintain records of all relevant environmental documentation.

4.3 Project Specialists

Specialized skills that may be required on an ad-hoc basis or in terms of environmental support services and independent compliance monitoring and auditing or maintenance, the Unisun Energy will need to contract or appoint suitable/relevant professionals, as and when required.

The above-listed environmental management parties on site will be required to implement the respective management (action plans) measures given under the next chapter.

5 ENVIRONMENTAL MANAGEMENT ACTION PLANS

This chapter presents the potential impacts that were identified at the time the expired environmental clearance was issued, the environmental management actions (measures) recommended and the implementation checklist (status of EMP implementation). It is under this chapter that the new or updated EMP implementation roles and responsibilities and updated and additional environmental management measures going forward are also covered.

5.1 Key Identified Potential Environmental Impacts

The potential impacts anticipated for the operations onsite are listed below. Mitigation measures or management action plans were also made for the negative covered impacts to maximize the positive ones. The impacts that had been identified and managed on site are as follows (per project phase):

5.1.1 Positive Impacts:

- Generation of renewable energy
- Contribution to local and national taxes and levies
- Employment opportunities and skills transfer
- Income generation from provision of goods and services by local businesses.

5.1.2 Negative impacts (Operational phase)

- Ecosystem impact
- Birds (avifauna) impact (PV Plant impact on birds, collision of birds with the project associated powerline, electrocution of birds on the powerline, and bird nesting activity on power line structures and panels)
- Risks of fire (accidental fire outbreaks), waste generation, water usage, dust, soil and water resources contamination, impact on biodiversity (fauna and flora)
- Impact on services infrastructure (infrastructure utilities), visual (aesthetic), traffic (vehicular) safety, Health, safety & security and grievances.

5.2 Updated Environmental Management and Mitigation Measures

The implementation of the EMP and compliance during the validity period of the ECC has been monitored from May 2021 to date. However, for the renewal of the ECC which requires an updated EMP, the updated management and mitigation measures to mainly reflect the current project phase (operations and maintenance) are provided in Table 5-1. Where necessary, the environmental management measures have been updated based on the initial 2015 EMP and 2020 updated EMP compiled by GeoPollution Technologies and Fredrika Shagama, respectively.

Table 5-1: The Environmental and Mitigation Measures for the Operational & Maintenance Phase

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
OPERATIONAL AND MAINTENANCE PHASE				
EMP and training Implementation	EMP required licenses, agreements and permits	<ul style="list-style-type: none"> -Apply for the necessary permits or licenses from the various ministries, local authorities, and any other bodies that govern the operations of the project. -Ensure that the contents of the EMP are understood by the contractor, subcontractors, employees (workers), and all personnel who will be present on site. 	-Proponent	<ul style="list-style-type: none"> -All contracts, permits, certificates and other legal documents obtained and on file. -The Electricity Generation License has been issued by Electricity Control Board (ECB). -The Power Purchase Agreement (PPA) has been entered to with NamPower and on file and Contracts on file
ECC Renewal every three years	Environmental Clearance Certificate (ECC) Renewal	-Appoint an Independent Environmental Consultant to update the EMP and apply for renewal of the Environmental Clearance Certificate prior to expiry of the valid ECC.	<ul style="list-style-type: none"> -Proponent -Project Manager 	<ul style="list-style-type: none"> -The Environmental Clearance Certificate is renewed with the Environmental Commissioner on time. -The ECC is valid and Bi-annual Environmental audits are conducted by an independent Environmental Consultant.
Labour and Recruitments	Appointments of site workers and necessary maintenance contractors such as grass clearing and waste removal	<ul style="list-style-type: none"> -Appointment of contractors and employees and enter into an agreement which includes the EMP. -Ensure that the contents of the EMP are understood by the employees, contractors, and all personnel present on site. -For operational and maintenance activities, ensure the employment of local workers and maintenance contactors. 	-Proponent	-The contractors and employees are aware of the EMP and understand its contents.

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Management system in Safety, Health and Environment (SHE)	Provision and effective implementation of SHE management systems	<ul style="list-style-type: none"> -Make provisions to have an SHE Coordinator to implement the EMP and oversee occupational health and safety onsite. -Risk Management / Mitigation / Emergency Response Plan and SHE Manuals such as Induction pamphlets should be in place and updated as deemed necessary. -There should be adequate protection and liability insurance cover for incidents. -Ensure compliance with the provisions of all relevant safety standards. -There should be procedures, equipment, and materials required for emergencies. 	-Proponent	<ul style="list-style-type: none"> -There Safety and Environmental Officers conduct respective audits onsite -Documentation on file -Personal Protection Equipment (PPE) on site and appropriately worn by site workers -Signage related to restricted areas, dangerous areas, and PPE requirements are on site. -Emergency response material on site
Stormwater Management	<p>The site like any other surrounding areas is prone to flood during heavy rains. Therefore, there is a known risk of flood and if not managed, the panels and offices would be flooded.</p> <p>According to the onsite personnel, the site gets flooded during heavy seasons.</p>	-The stormwater drainage or diversion system is put in place through a site installed small pump station that pump water from site areas and divert it to the nearby community excavated rainwater storage area (earth dam) located to the immediate west side of the PV Site.	<ul style="list-style-type: none"> -Project Manager -Site Operator 	<ul style="list-style-type: none"> -There are stormwater management systems in place and maintained regularly. -The stormwater maintenance: pump station and drainage system to avoid water clogging along the system.

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Community Liaison	Expectations and general / possible grievances of surrounding and community members regarding the project implementation	-A Community/Stakeholder Communication plan be drafted which will include a register for public and community grievances and including remediation action proposed. -A grievance register is kept as well as minutes of all meeting which are held with community members or the traditional authority. -Communication regarding the project progress and maintenance should be provided to surrounding and local communities.	-Project Manager -Site Operator	-Raised grievances are resolved amicably and recorded for auditing. -A grievance register should be kept as well as minute of all meeting which are held with community members or the traditional authority/stakeholders.
Environmental restoration or pollution remediation if ever required in the future	Restoration Fund / Insurance	-To establish a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned, and environmental restoration or pollution remediation is required	-Proponent -Project Manager	-Financial statements of restoration fund/insurance
Reporting system on monitoring aspects of operations and maintenance as outlined herein	Reporting	-Establish a reporting system to report on aspects of operation and maintenance. -Keep monitoring reports (Bi-annual reporting) on file for submission with ECC renewal applications where needed.	-Project Manager	-Bi-Annual Monitoring Reports are prepared and submitted to the Office of the Environmental Commissioner
Employment	Employment and hiring of local and skilled people to run the Plant and local contractors for specialized Site operational and maintenance	-Where skills exist, local Namibian contractors and employees must be contracted and employed, respectively. Deviations from this must be justified.	-Proponent -Project Manager	-Proof of appointment of local contractors and employees on file

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
		<p>-The tenders for the provision of locally available goods and services should be given to local small-medium business.</p>		
<p>Vehicular Traffic use and Safety</p>	<p>The site is located off the main B1 road and operational activities are may potentially have some impact on the movement of traffic to the site (on the B1 and site access roads) when transporting material, supplies and equipment.</p>	<p>-The project activities and vehicles should only make use of the existing access road to the site and avoid creation of new tracks.</p> <p>-The vehicle drivers should be in possession of valid and appropriate driver’s licenses.</p> <p>-No person shall drive or use any vehicle on site whilst under the influence of alcohol or any other narcotic substance or in such a way that is dangerous to human life or that may cause damage to any property or the environment.</p> <p>-Proper traffic management systems in place.</p> <p>-Adherence to speed limit to avoid running over reptiles and amphibians.</p> <p>-Appropriate road signage and warnings should be erected or put up at the site access roads.</p> <p>-Existing tracks leading to the site should be used and unnecessary new tracks or roads should not be created.</p> <p>-Traffic management plans on and around the site should be developed when necessary.</p>	<p>-Project Manager</p>	<p>-A register of trucks arriving and leaving the site is kept.</p> <p>-A report is compiled every month of the daily number of trucks accessing the sites.</p> <p>-Access road permit is issued by the Roads Authority.</p> <p>-Any complaints received regarding traffic issues should be recorded in the report together with steps taken to mitigate the impacts.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Water Resources Use	<p>Over-utilization and wastage of water resources</p> <p>The project activities utilize water supplied from the site connections to NamWater supply scheme. Therefore, sustainable use of water resources is crucial.</p> <p>The water is stored in an onsite tank. Water is currently used for drinking, ablution and when required, cleaning of solar panels.</p>	<p>-Water should be used efficiently, and recycling and re-using of water onsite should be encouraged.</p> <p>-Water conservation awareness and saving measures training should be provided to all the Site Personnel so that they understand the importance of conserving water and become accountable.</p> <p>-The monthly water usage from the site water meters should be recorded in an Excel Sheet. These records should be kept onsite and updated monthly.</p>	<p>-Project Manager</p> <p>-Plant Operator and Environmental Officer</p>	<p>-Office and restroom taps are turned off when not in use (not left running)</p> <p>-The solar panel cleaning taps are only turned on when cleaning is done.</p> <p>-There is no sign of water wastage nor tank or pipeline leaks onsite.</p>
Accidental Fires	<p>Outbreak of uncontrolled or accidental fires due to the use of machinery or presence of open fires made by workers onsite.</p>	<p>-Firefighting measures as per the Material Safety Data should be provided, implemented, and adhered to.</p> <p>-The Site should be equipped with sufficient firefighting resources. Regular surveys of the fire-fighting equipment should be carried out.</p> <p>-The fire extinguishers should be properly serviced, service date plans clearly indicated.</p> <p>-Open fires are strictly prohibited onsite.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Safety Officer</p>	<p>-Supervision of work and reports of safe and unsafe practice brought to the attention of the health safety and environmental officer.</p> <p>-Any incidents reported recorded together with steps taken to mitigate the impacts.</p> <p>-Fire extinguisher serviced as recommended by the Supplier / Manufacturer, the next service plans clearly indicated and provided to the Plant Operator for record keeping.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
		<p>-All personnel must be sensitised about responsible fire protection measures and good housekeeping such as the removal of flammable materials including waste, dry wood and hydrocarbon-soaked soil from the vicinity of the site. Regular inspections should be carried out to check and remove these materials at the site.</p> <p>-A responsive fire prevention plan does not solely include the availability of firefighting equipment, but more importantly, it involves premeditated measures and activities to timeously prevent, curb and avoid conditions that may result in fires.</p>		
Overgrown grass cover onsite	The overgrown grass around and under the solar panels may pose a risk of damage to the panels in cases of accidental fire outbreaks on and around the site. The thick grass may also attract reptiles such as snakes to stay onsite which is also a potential safety risk to site employees.	-The grass is overgrown onsite, including under the solar panels and has not been removed. However, the site personnel was informed to act on this as soon as possible.	-Project Manager -Plant Operator	The overgrown grass onsite under and around the solar panels is cleared/removed frequently and these areas are be kept clean.

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Health, Safety and Security	Mishandling of different operational equipment, materials and tools may lead to injuries and health or life-threatening risks	<p>-All Health and Safety standards specified in the Labour Act should be complied with. The responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site.</p> <p>-Appropriate signage and warnings should be erected or put up at risky or danger prone site areas, if any.</p> <p>-Ensure all workers are issued with protective eyewear and applicable PPE when working with photovoltaic panels or handling other materials and equipment on site.</p> <p>-Adhere to Health and Safety Regulations pertaining to personal protective clothing, first aid kits, warning signs, etc.</p> <p>-Ensure that adequate emergency facilities, including first aid kits, are available on site and knowledge of administering it is provided to workers. <u>A SHE Induction should be provided to every new person entering the Site.</u></p> <p>-Equipment that must be locked away on site and must be placed in a way that does not encourage criminal activities.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Safety Officer</p>	<p>-A register of all incidents must be maintained daily. This should include measures taken to ensure that such incidents do not re-occur.</p> <p>-Inventory of all safety and health stock to be reported on a weekly basis.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
		<p>-Security personnel should prohibit unauthorised entry to Site.</p>		
	<p>The fact that the site gets overgrown grass cover during the first half of the year (after rainy seasons), this would attract snakes onsite and may bite site workers or visitors moving onsite.</p> <p>Site workers may be exposed to health and safety risks such as falling objects, vehicle movements, and other health & safety threatening materials onsite that may increase the possibility of injuries.</p> <p>Damage to eyesight may occur during operational phase associated with the glare from the panels.</p>	<p>-A register of all incidents is maintained daily. This includes measures taken to prevent incidents reoccurrence.</p> <p>-All site personnel are equipped with appropriate personal protective equipment (PPE).</p>	<p>-Project Manager</p> <p>-Plant Operator</p>	<p>-All health and safety reports are submitted to Management.</p> <p>-The site area is secured with a mesh wire and there an access control gate for security reasons</p> <p>-The solar panels are well designed to minimize the glare issue.</p> <p>-The site is equipped with a first aid kit and the safety officer knows how to administer first aid.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Soils	Physical disturbance of sensitive desert land (soils) by the movement of operational vehicles and machinery and physical site works	<p>-Adjacent areas to the project site and unused areas within the site areas should not be disturbed.</p> <p>-The use of existing tracks such as access roads is essential to minimize the footprints on the already sensitive desert soils over time.</p> <p>-Ensure that when areas outside the project site boundaries are disturbed by project related activities, rehabilitation should be conducted immediately once the activity has been completed.</p> <p>-Maintain the channel that act as a diversion of runoff (rainwater flowing down the panels) to the drainage point where the water can freely flow elsewhere in the area to recharge groundwater resources and without eroding a significant amount of site soils.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Environmental Officer</p>	<p>-Little to no visible unnecessary soil disturbance on site.</p> <p>-Vehicles making use of provided access roads to and within the site</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Dust and gaseous emissions	Dust may be generated due to increased traffic to and from the site for deliveries and removals. This might be aggravated during periods of strong winds which occurs regularly in Namibia during the winter months.	<ul style="list-style-type: none"> -Site Personnel are to be issued with dust masks for health reasons when needed. -The vehicle speed should be limited to 40km/hr when driving on and around the site to prevent dust generation. 	<ul style="list-style-type: none"> -Project Manager -Plant Operator -Safety Officer 	<ul style="list-style-type: none"> -Regular visual inspection. -Complaint related to dust emissions (poor air quality owing to the project) register kept on site.
Waste generation and management	<p>There is a generation of both general, and human waste on site.</p> <p>Potential soil polluted by hydrocarbons that may be handled on site especially from accidental oil or fuel leaks from vehicles or equipment should be treated as hazardous waste.</p>	<ul style="list-style-type: none"> -The waste should continue to be disposed of at approved and appropriate waste site. -Temporary waste disposal facilities should be present on site. This should include separate containers for products that can be re-used or recycled. -Recycling of solid waste should be encouraged to minimise the amount of waste that goes to landfill. -The Site Personnel and visitors should continue using the provided ablution facilities to ensure continued better sewage management. 	<ul style="list-style-type: none"> -Proponent -Project Manager -Environmental Officer 	<ul style="list-style-type: none"> -Regular visual inspection. -A register of waste produced, and disposal methods should be maintained. -Regular disposal of waste from site to approved disposal /management sites.

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
		<p>-Solid waste removal from the Plant: Waste falling and blown off the garbage trucks during transportation from Site should be avoided to secure the waste and improve on this, thus preventing further environmental pollution.</p> <p>-For solar panels that will be unfit for the project or damaged, the Proponent should control and manage the storage and disposal of these, by ensuring that they end up at an approved waste site.</p>		
	<p>Management of old and damaged solar panels</p>	<p>-Full installation inspection should be conducted monthly, and results of inspection will be included in the Operational Maintenance Report. If any of them is found to be faulty and beyond repair, they should be removed, handled with care, and disposed at the approved nearest waste management facility, or any waste disposal or storage facility preferred by the Proponent.</p> <p>-Old solar panels should be stored separately on site, i.e., in their own secured space until such a time that they can be safely transported away to the approved waste management facility off site.</p> <p>-No written off/damaged or project unfit solar panels should be disposed of at any other waste facility other than the designated waste facility.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Environmental Officer</p>	<p>-Solar panels are well-kept and maintained</p> <p>-Old and damaged panels are removed and disposed of at the waste facility (site) at the approved waste management facility such as in Ondangwa (upon reaching an agreement with the Ondangwa Town Council to disposed of old or damaged solar panels).</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Water resources (groundwater) and soil contamination	<p>Porous surface substrate can allow unwanted hazardous and ecologically detrimental substances to seep down to the water table either at the site of spill or after being washed away by surface flow during heavy rainy seasons (flash floods).</p> <p>Accidental spills of fuel, and other chemicals that may be used on site might occur.</p>	<p>-All precautions are to be taken to prevent contamination of the soil as this could enter the ecosystem.</p> <p>-Proper training of project personnel should be done to reduce the possibility of the impact occurring, especially with onsite soil contamination.</p> <p>-Any fuel spills must be reported, and remediation action taken.</p> <p>-Contaminated soil must be transported away from the site to an approved, appropriately classified waste disposal site. Contaminated soil should be remediated.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Environmental Officer</p>	<p>-Report for all spills or leaks on site are completed by the Plant Operator (as assisted by the Environmental Officer) and submitted to Project Manager for reporting</p> <p>-Potential soil pollutants/waste carried away to disposal sites</p>
Heritage Impact	<p>Sites with archaeologically or culturally important significance might be uncovered during excavations.</p>	<p>-Upon discovery of such sites or objects at some point on site or surroundings, it must be reported to the National Heritage Council of Namibia for further action/handling and permit issuance for possible conservation.</p> <p>-The destruction, damage or displacement of such sites is not allowed but should be reported to the National Heritage Council of Namibia.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Environmental Officer</p>	<p>-Record of any discoveries and proof of notifications to authorities (National Heritage Council) on file.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
	<p>These can include graves, stone walls, or cultural artefacts. It was recorded during the Audit that the site was a well-known war zone that war bombs and ammunitions were unearthed through geophysical surveys conducted to detect and remove all metal objects in the subsurface.</p>			
Visual Impact	<p>This is an impact that affects the aesthetic appearance of the site</p>	<p>-Keep site neat and dispose of waste regularly. -The current colour of the solar panels and associated structures should be maintained and keep the same colour but not repainted to a colour that will further cause a significant contrast leading to visual nuisance (uncomfortable glare) to visitors or travellers.</p>	<p>-Project Manager -Plant Operator</p>	<p>-A Visual complaints register kept on site and to be acted upon when the need arises.</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Impact on biodiversity (fauna and flora) and ecosystem	Impacts on the ecosystem from the increase in the human footprint to the area may lead to land degradation, illegal collection of plant materials by project workers, and others.	<p>-Operational activities should be limited within the site boundaries. Further land clearing should be avoided to prevent unnecessary habitat loss.</p> <p>-All employees should be educated about the value of biodiversity preservation.</p> <p>-Ensure continued biodiversity protection and conservations awareness refresher for current and future site workers (personnel).</p> <p>-Strict conditions prohibiting harvesting of fauna and poaching of fauna should be incorporated into employment contracts.</p> <p>-Killing, injuring, hunting, capturing, disturbing, or feeding of any wild animal (reptiles or mammals) or remove any part of any wild animal, whether alive or dead is prohibited.</p> <p>-The removal, destroying, damage or disturb of any egg, nest, or burrow on and around the site is strictly prohibited.</p> <p>-The birds that may be found nesting in the roofs of the Site Substations or structures should not be disturbed nor removed. The removal of nests should only be done unless they pose a health risk or interfere with the operations. This should be communicated with MEFT.</p>	<p>-Project Manager</p> <p>-Plant Operator</p> <p>-Environmental Officer</p>	<p>-A register of unusual animals onsite, dead animals and any bird strikes / electrocuted animals</p>

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
		<p>-There are encounters of snakes crossing the Site. These should not be killed nor harmed but allowed to move away. Alternatively, the MEFT should be notified for safe removal and releasing into the wildness.</p> <p>-It is prohibited to pick, collect, destroy, damage, tamper with, disturb or remove any vegetation mineral or any other object of botanical, zoological, geological, archaeological, and historical or any other scientific interest, or part thereof. Appropriate permits should be obtained if there would be intentions to carry out any or some of these forms of "disturbance" to biodiversity.</p> <p>-A register of plant species and dead animals or snakes found on site should be kept. Photos should be taken and recorded. The details should include date of encounter, animal / plant name and location (location reference/description or GPS coordinates).</p>		

Aspect	Activity	Management & Mitigations measures	Responsibility	Key Performance Indicator (KPI)
Cumulative impact	<p>These are impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of who undertakes such other actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a period. In relation to an activity, it means the impact of an activity that may not be significant, may become significant when added to the existing and potential impacts resulting from similar or diverse activities or undertakings in the area.</p>	<p>-All other preventive measures for the different impacts will help prevent this impact.</p>	<p>-Project Manager</p>	<p>-Impacts management and mitigation measures are implemented accordingly</p>

5.3 Updated Environmental and Social Management Measures (If Any)

The aim of the management actions in this EMP is to avoid potential operational negative impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

The management action measures for the three phases; construction, operational & maintenance and decommissioning are clearly set out in the 2015 project EMP and as updated in 2020. The EMP clearly assign implementation responsibilities, monitoring indicators as well as timeframes. This is done to ensure that the EMP implementation responsibilities are clearly given, and each implementation party involved in the project is aware of their respective responsibilities from the beginning and remain accountable.

Throughout the 3 years, there has been no need to add more management action (measures) because the current ones (as recommended in the original EMP) are deemed sufficient, provided that their continued full and effective implementation and monitoring.

The measures are set to enforce full compliance of the site activities to the governing legislations and ensure environmental sustainability by avoiding or minimizing the negative impacts while maximizing the project's positive impacts.

The recommendations and conclusions made for the overall report are as presented under the next chapter below.

6 ENVIRONMENTAL MONITORING, COMPLIANCE AND AUDITING

To ensure compliance with the legal requirements, minimize potential adverse impacts and improve environmental sustainability, some monitoring activities are recommended for the site. These recommended monitoring exercises are to be implemented as follows:

6.1 Monitoring of EMP Implementation and ECC Renewal

- Environmental (during the validity period of the ECC): Annual compliance monitoring of the EMP implementation (Environmental Monitoring) should be undertaken throughout the project cycle, i.e. as required in the ECC conditions (bi-annual or annually – pending the conditions in the new ECC). Environmental monitoring reports are to be compiled and submitted to the Department of Environmental Affairs and Forestry (DEAF) for archiving. This practice will make future ECC renewals easy. Therefore, the Proponent should effectively monitor the EMP implementation and submit the reports to the DEAF. The submission is not only done for record keeping purposes, but

also in compliance with the environmental legislation. **The next compliance monitoring is scheduled for November/December 2023.**

- Environmental Compliance Checklist: To make impact monitoring and EMP compliance easy, the Proponent should keep an Impact-Indicator Checklist that can be used by the ECO and updated accordingly. - Refer to Appendix C (Environmental Monitoring Table).

6.2 Environmental Awareness

Unisun Energy should ensure that its employees and any third party who carries out all or part of their obligations are adequately trained regarding the implementation of the EMP, as well as regarding environmental legal requirements and obligations. Training may be conducted by the ECO, where necessary.

Environment and health awareness training programmes should be targeted at three distinct levels of employment, i.e. the executive, middle management, and labour. Environmental awareness training programmes shall contain the following information:

- The names, positions, and responsibilities of personnel to be trained.
- The framework for appropriate training plans.
- The summarized content of each training course.
- A schedule for the presentation of the training courses.
- The ECO shall ensure that records of all training interventions are kept in accordance with record keeping and documentation control requirements as set out in this EMP. The training records shall verify each of the targeted personnel's training experience.

7 RECOMMENDATIONS AND CONCLUSIONS

The Environmental Consultant has been carrying out a site visit and observations for the implementation of the EMP on the project site as part of environmental monitoring for the past 3 years. The project is of small to medium-scale level and activities are well limited within the site boundaries Unisun Energy has been fully compliant with the EMP requirements as recommended for the completed construction phase, and now in the operational phase. The components of the EMP (management measures) that were recommended for the construction activities have been fully implemented (in full compliance) and this has been observed with some biophysical and social environmental components on and around the site. The road access has been upgraded to standard for the operational phase and equipped with road safety signage.

7.1 Recommendations

Therefore, the Environmental Consultant is confident that the potential negative impacts associated with the project activities on site can continue to be mitigated by effectively implementing the recommended management action measures and with more effort and commitment put on implementation monitoring. It is therefore, recommended that the Solar (PV) Plant project and associated activities on site be granted a new Environmental Clearance Certificate, and provided that:

- All the respective management (mitigation) measures provided in the initial project EMP drafted in 2015 (also as presented for the current project phase activities) are effectively implemented progressively per project phase and monitored as stipulated to achieve full EMP implementation compliance.
- All required permits, licenses and approvals for the project activities are obtained as required (please refer to the Permitting and Licensing).
- Where required and emphasized, improvements should be made with full commitment and effectively put in place.
- Unisun Energy, their project workers and contractors comply with the legal requirements governing their project and its associated activities.
- All the necessary environmental and social (occupational health and safety) precautions provided are adhered to.
- To ensure that the ECC is always valid and compliant with Environmental laws, Unisun Energy should continue to effectively conduct Environmental (EMP) Compliance Monitoring and most importantly, ensure timely submission of ECC renewal applications.

7.2 Conclusions

The Environmental Consultant acknowledges that Unisun Energy has been compliant with the ECC conditions and implementation of the EMP onsite between November 2020 to date, as well as undertaking of bi-annual environmental reporting. The Environmental Consultant recommends that the current ECC be renewed so that the Proponent can continue with the project activities (operational phase to generate electricity for the nation) and ensure timely renewal before the end of the next 3 years counting from the new ECC date.

There has not been any significant changes or activities that might compromise the environment or its components and or trigger significant changes in the management and mitigation measures initially provided.

Furthermore, based on the recent site observations, the site is generally well-kept, and the current works are well within the initial EMP requirements for the operations. The Environmental Consultant trusts that Unisun Energy will continue to maintain the same commitment towards environmental sustainability and ethics throughout the project cycle, and ensure timely renewal of ECCs.

Therefore, it is crucial for the Proponent and their workers as well as contractors (where needed) to continue with the effective implementation of the recommended management measures to protect both the biophysical and social environment. All these would be done with the aim of promoting environmental sustainability while ensuring a smooth and harmonious existence and purpose of the project activities and structures in the host environment.

The Proponent and contractors will also be required to comply with all legal obligations governing their project activities (throughout to future decommissioning phase, if considered).

APPENDIX A:

**CURRENT ENVIRONMENTAL CLEARANCE
CERTIFICATE (ECC)**



REPUBLIC OF NAMIBIA
MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM
OFFICE OF THE ENVIRONMENTAL COMMISSIONER

ENVIRONMENTAL CLEARANCE CERTIFICATE
ISSUED

In accordance with Section 37(2) of the Environmental
Management Act (Act No. 7 of 2007)

TO

Unisun Energy (Pty) Limited
P. O. Box 3885, Windhoek

TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY

**The Construction and Operational Activities of the 5 MW Solar
(Photovoltaic) Power Plant Project in Okatope, Oshikoto Region**

Issued on the date: **2020-11-10**
Expires on this date: **2023-11-10**



(See conditions printed over leaf)

This certificate is printed without erasures or alterations



CONDITIONS OF APPROVAL

1. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office
2. This certificate does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants
3. This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project
4. All applicable and required permits are obtained and mitigation measures stipulated in the EMP are applied particularly with respect to management of ecological impacts
5. Strict compliance with national heritage guidelines and regulations is expected throughout the life-span of the proposed activity, therefore any new archaeological finds must be reported to the National Heritage Council for appropriate handling of such
6. A six monthly report on project progress and environmental management profile, starting from date of commencement of operations, must be submitted by the Proponent to Office of Environmental Commissioner

APPENDIX B:

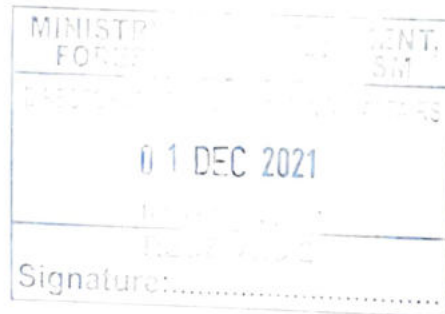
**PROOFS OF BI-ANNUAL ENVIRONMENTAL
MONITORING FOR THE PV SITE BETWEEN
MAY 2021 AND MAY 2023**

Date: 01 December 2021

The Environmental Commissioner
The Department of Environmental Affairs and Forestry
Ministry of Environment, Forestry and Tourism
Private Bag 13306
Windhoek, Namibia

Attention: Mr. T. Mufeti

Dear Sir



RE: SUBMISSION OF THE BI-ANNUAL ENVIRONMENTAL AUDIT REPORT FOR THE CURRENT CONSTRUCTION AND OPERATIONAL ACTIVITIES OF A 5-MEGAWATT (MW) SOLAR (PHOTOVOLTAIC) POWER PLANT SITUATED IN OKATOPE OF THE OSHIKOTO REGION - ECC NO.: ECC001076

In fulfilment of the conditions of the Environmental Clearance Certificate (ECC) No. 1076, Ms. Fredrika Shagama, an Independent Environmental Assessment Practitioner (EAP) / Environmental and Water Consultant hereby submits the Report hard copy accompanying this letter. The Report is for the November 2021 Cycle's **Bi-Annual Environmental Audit: The Current Construction and subsequent Operational activities of a 5-Megawatt (MW) Solar (Photovoltaic) Power Plant situated in Okatope (between Ondangwa and Omuthiya Towns) in the Oshikoto Region** for Unisun Energy Pty Ltd (The Project Proponent/Owner).

The Report is submitted as a hard copy because there has not been provision for the next upload (the November 2021 cycle) on the ECC Portal after the first Bi-Annual Environmental Audit Report was uploaded in May 2021.

Yours Sincerely,

.....

Ms. Fredrika N. Shagama (Independent Water and Environmental Consultant)

Ms. Fredrika Shagama (Independent Water and Environmental Consultant), EAPAN registered Ordinary Member Practitioner

Postal Address: P.O. Box 27318, Windhoek, Namibia

Email: fshagama@gmail.com

Mobile: +264 81 407 5536

Date: 05 May 2022

The Environmental Commissioner
The Department of Environmental Affairs and Forestry
Ministry of Environment, Forestry and Tourism
Private Bag 13306
Windhoek, Namibia

Attention: Mr. T. Mufeti



Dear Sir

RE: SUBMISSION OF THE BI-ANNUAL ENVIRONMENTAL AUDIT REPORT FOR THE CURRENT CONSTRUCTION AND OPERATIONAL ACTIVITIES OF A 5-MEGAWATT (MW) SOLAR (PHOTOVOLTAIC) POWER PLANT SITUATED IN OKATOPE OF THE OSHIKOTO REGION - ECC NO.: ECC001076

In fulfilment of the conditions of the Environmental Clearance Certificate (ECC) No. 1076, Ms. Fredrika Shagama, an Independent Environmental and Water Consultant hereby submits an Environmental Audit (Bi-Annual) Report hard copy accompanying this letter. The Report has been prepared for the Cycle of May 2022's **Bi-Annual Environmental Audit: The Nearly Completed Construction Works and subsequent Operational activities of a 5-Megawatt (MW) Solar (Photovoltaic) Power Plant situated in Okatope in the Oshikoto Region** for Unisun Energy Pty Ltd (The Project Proponent / Owner).

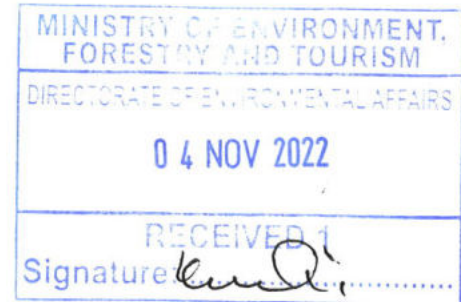
The soft copy of the Bi-Annual Report has also been uploaded on the provided platform on the online ECC for your evaluation.

Yours Sincerely,

.....
Ms. Fredrika N. Shagama (Independent Water and Environmental Consultant)

Date: 04 November 2022

The Environmental Commissioner
The Department of Environmental Affairs and Forestry
Ministry of Environment, Forestry and Tourism
Private Bag 13306
Windhoek, Namibia



Attention: Mr. Timoteus Mufeti

Dear Sir

Re: Submission of the Bi-Annual Environmental Audit Report for the Recently Completed Construction Works and Operational Activities of A 5-Megawatt (MW) Solar (Photovoltaic) Power Plant Situated in Okatope of the Oshikoto Region, Namibia - ECC No.: Ecc001076 (November 2022 Cycle)

In fulfilment of the conditions of the Environmental Clearance Certificate (ECC) No. 1076, Ms. Fredrika Shagama, an Independent Environmental and Water Consultant appointed by Unisun Energy (Pty) Ltd hereby submits an Environmental Compliance Audit (Bi-Annual) Report hard copy accompanying this letter. The Report has been prepared for the Cycle of November 2022's **Bi-Annual Environmental Audit: The Completed Construction Works and Operational activities of a 5-Megawatt (MW) Solar (Photovoltaic) Power Plant situated in Okatope in the Oshikoto Region** for Unisun Energy Pty Ltd (The Project Proponent / Owner).

Yours Sincerely,

.....
Ms. Fredrika N. Shagama (Independent Water and Environmental Consultant)

Date: 03 May 2023

The Environmental Commissioner
The Department of Environmental Affairs and Forestry
Ministry of Environment, Forestry and Tourism
Private Bag 13306
Windhoek, Namibia



Attention: Mr. Timoteus Mufeti

Dear Sir

Re: Submission of the Bi-Annual Environmental Audit Report for the Operational Activities of A 5-Megawatt (MW) Solar (Photovoltaic) Power Plant Situated in Okatope of the Oshikoto Region, Namibia - ECC No.: Ecc001076 (May 2023 Cycle)

In fulfilment of the conditions of the Environmental Clearance Certificate (ECC) No. 1076, Ms. Fredrika Shagama, an Independent Environmental and Water Consultant appointed by Unisun Energy (Pty) Ltd hereby submits an Environmental Compliance Audit (Bi-Annual) Report hard copy accompanying this letter. The Report has been prepared for the May 2023 cycle (November 2022 to May 2023)'s **Bi-Annual Environmental Monitoring/Audit: The Operational activities of a 5-Megawatt (MW) Solar (Photovoltaic) Power Plant situated in Okatope in the Oshikoto Region** for Unisun Energy Pty Ltd (The Project Proponent / Owner).

Yours Sincerely,

Handwritten signature of Fredrika Shagama

.....
Ms. Fredrika N. Shagama (Independent Water and Environmental Consultant)

APPENDIX C:

SITE ENVIRONMENTAL MONITORING TABLE

Key Aspects for monitoring and actions thereto: Operations and Maintenance Phase – Okatope PV Site

No.	Objective	Requirement	Frequency	Evidence
1.	Sustainable utilisation of water resources	-Water should be utilised efficiently	Monthly	-Provide the total water usage records (monthly) for the period being monitored
2.	Avoid environmental pollution	-The site waste bins should be emptied once capacity is reached	Monthly	-Records of waste removal from site
3.	To protect and conserve biodiversity: Avifauna	-Inspection of the site for dead or injured birds and bats -Inspect the powerline route from site to the substation for birds collision owing to the powerline	Weekly	-Records of the findings
	To protect and conserve biodiversity: Reptiles (snakes)	-Inform MEFT officials and if not arriving on time, the snakes should be left to move away without being harmed.	Weekly	Records of the findings and action (date and coordinates, if possible)
4.	Prevent the risk of Accidental fire outbreaks	-Inspect the site for any flammable substances such as dry woods, open fires -Keep the site area and fence area clear off grass, thus, limiting the risk of accidental fire spreading.	Weekly Monthly for grass removal during the rainy seasons (December to May)	-The overgrown site grass is trimmed or removed entirely. -No flammable substances such as dry vegetation, littered plastics and papers or open fires are present nor allowed onsite
5.	Avoid negative conflict and ensuring grievances raised are resolved amicably	-Address any concerns raised by the communities or neighbouring occupiers of land adjacent to the site.	Ad-hoc	-Records of grievances or complaints regarding site operations or related activities.

No.	Objective	Requirement	Frequency	Evidence
6.	To ensure health and safety onsite	<ul style="list-style-type: none"> -The site workers and visitors are properly equipped with PPE -The first aid kit is fully furnished -The fire extinguishers are always serviced and up-to-date 	<ul style="list-style-type: none"> Ad-hoc and as deemed necessary Monthly Servicing done as prescribed by equipment provider/manufacturer 	