

COMPLIANCE REPORT 01 FOR THE RENEWAL OF ENVIRONMENTAL CLEARANCES FOR 10 MW Solar (PV) Power Plant at Ohorongo Cement



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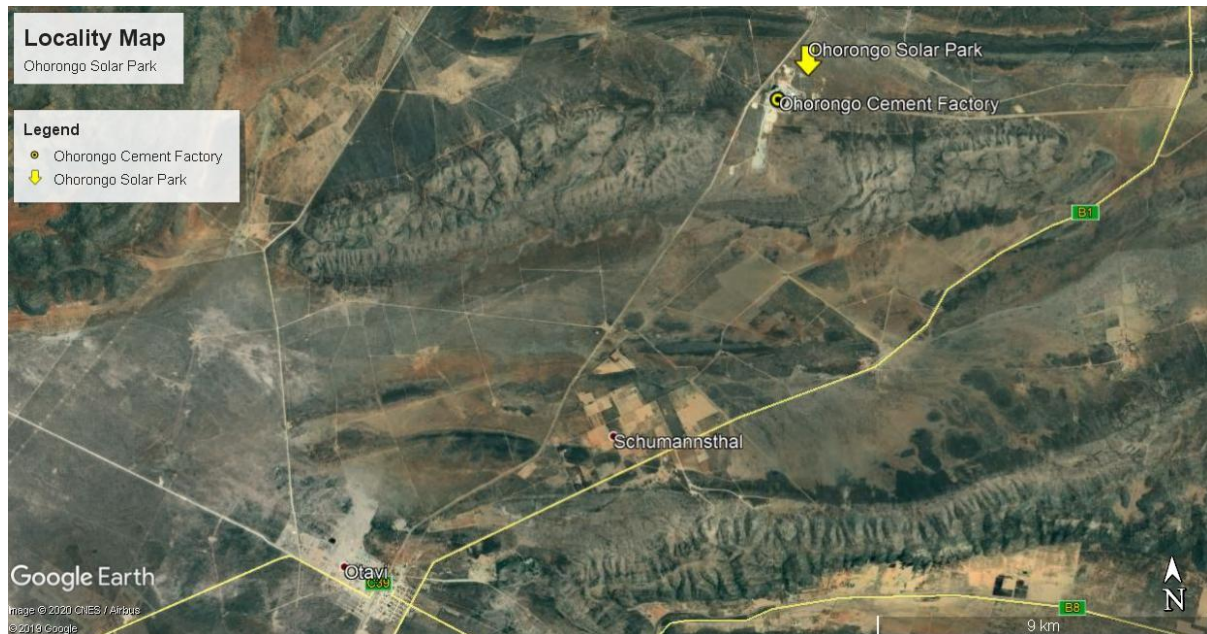
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Introduction and general comments

The Compliance Report relates to the renewal of the Environmental Clearance Certificate of SunEQ Four Investments (Namibia) PTY Ltd. owned solar PV power plant at the Ohorongo Cement site (see figure below).



The solar plant was subjected to the environmental impact assessment process and received Environmental Clearance on 12 July 2017 (though the letter was dated 24 February 2017). The operational phase of the solar plant is therefore due for the renewal of the Environmental Clearance (Appendix 1)

The Environmental Assessment Practitioner, Norman van Zyl, visited the solar park on 14 January 2020 to review the work done and operational activity.

The EAP was accompanied by operations representative of HopSol, Mr. Robert Vorster, during the site visit.

The visit achieved the following objectives:

- Evaluated the compliance of the construction process of the EMP requirements.
- Evaluated which EMP requirements are relevant to the operational phase activities.
- Evaluated the compliance of the operational activities with the relevant EMP requirements

The general remarks after the visit is:

- The compliance of the construction activities with the EMP requirements are satisfactory and deemed complete (see Appendix 2)
- There are a significant number of EMP requirements that is irrelevant to the Operational Phase or the where the design changed, making the item obsolete. It is therefore proposed to develop a new table of EMP requirements that is EMP focussed (see Appendix 3).
- The current operations comply with the EMP requirements with minor procedural amendments to some activities required (see Appendix 2).

The following section will evaluate the outcomes of the compliance requirements in more detail.

Issues that were unforeseen and need modification.

The following issues has been observed on the terrain during the operational period by the operations manager of the site:

- There is a high occurrence of snakes and therefore likely also of rodents on the terrain.
- The manual management of regrowthn grass is not successful and may lead to increased maintenance. The occurrence of snakes is directly related to this regrowth.

The EMP states that herbicide use is prohibited on vegetation growing on the site and the alternative proposed is to allow the site to be grazed by small livestock.

It is recommended that a limited flock of small livestock be allowed to graze under supervision on the site as a management method. Remaining nonedibles can be remover mechanically once a year.

From the photos below it is clear that it is mostly edible grass growing on the terrain.



Photo set 1 Sparse grass cover and example of inedible growth

Issues that need minor improvement on site.

The following minor improvement measures is required on site (see Appendix 2, marked red):

- The warning signs on the perimeter fence is only for the electrical fence. The spacing of the signs are also too far apart.
 - ü It is recommended that large enough signs that specifically identify the site as containing electrical danger be added to the perimeter fence every 15m.
- There is not enough container storage space on site. Some sensitive equipment and steel elements are therefore stored in the open. This may cause damage to the equipment and pose a safety threat.
 - ü It is recommended that a second storage container eventually be installed to improve this situation.
- Although the septic tank functions well and is well maintained the soil cover seems to be not sufficient or has sunk down due to natural compaction (se photo below).

- ü It is recommended that soil cover be added and raised above the surrounding natural ground level.
- Assure that there are adequate waste storage capacity on site.



Photo set 2 Warning signs on fence, storage conditions, septic tank soil conditions.

Issues that need procedural management.

The EMP requirement tables consist of large amounts of information pertaining construction activities that can be removed to streamline operations compliance monitoring (see Appendix 2, marked green). The following types of requirements are therefore removed from the proposed Operations EMP tables (Appendix 3):

- Management of aloes on site. There are no aloes on site.
- Removal of monitoring of bird strikes on the transmission line. The design changed to an underground line.
- No dust experienced on site during operations to date.
- No hazardous waste such as cement bags and hydrocarbons used on site.
- No Erosion on site.
- No lighting or visibility issues observed on site.
- No topsoil stored onsite.

The current operations does not have an appointed Environmental Officer. This function should be added to the duties of the site Operations Manager.

The proposed Operational EMP (Appendix 3) must be applied by the Operations Manager as a quarterly checklist during site visits. The Operations Manager should keep records for future reference.

The operations also require a formal Waste Management Plan/Checklist as well as a Emergency Response Plan/Checklist.

Conclusion and recommendation

The following conclusions can be deducted:

- The compliance of the construction activities with the EMP requirements are satisfactory and deemed complete.
- There are a significant number of EMP requirements that is irrelevant to the Operational Phase or the where the design changed, making the item obsolete. It is therefore proposed to develop a new table of EMP requirements that is EMP focussed (see Appendix 3).
- The current operations comply with the EMP requirements with minor procedural amendments to some activities required (see Appendix 2).

It is therefore recommended that:

- The Environmental Clearance Certificates is renewed.
- Grazing by a limited number of small stock be allowed.
- The three minor improvements be implemented.
- The proposed Operational EMP tables be implemented.
- The recommended procedural adjustments be implemented.

APPENDIX 1

Current Environmental Clearance Certificate

APPENDIX 2

Notes on the compliance of activities with the current EMP requirements

BIODIVERSITY			
Materials delivery and laydown / storage	Potential impact on biodiversity	Prevent trapping and hunting.	No activity observed or realistically possible
		Identify the aloes in the area to be cleared and transplant them to a suitable (similar location) outside the project footprint area. Liaise with the Ohorongo Cement Environmental Manager to find a suitable location.	No aloes are currently present on the site. Removed from the new Operational EMP.
Reflective surfaces of the panels could act as attractants for approaching birds.	Bird strikes and interactions	An avifaunal monitoring programme shall be implemented. Refer to section 9.7.1 below.	Transmission line is below ground and therefore not relevant to the new Operational EMP. Removed from the new Operational EMP.
		If numerous bird carcasses are found around the modules/solar arrays, investigate and implement relevant management and mitigation measures to avoid/reduce further impacts.	Only small birds are active on site.
		In addition to formal carcass searches, staff should report incidental bird mortalities through a formalised reporting system.	Removed from the new Operational EMP.
NOISE, DUST			
Windblown dust from exposed/cleared surfaces during operations	Increase in Dust nuisance & health impacts	Complaints regarding dust to be registered in the complaints register and to be investigated and managed in accordance with an incident reporting procedure.	Operations personnel expince below normal dust. Cleaning of panels extended from monthly to annual. Removed from the new Operational EMP.
SURFACE WATER, GROUNDWATER AND SOIL RESOURCES			
Storage and handling of other hazardous substances (i.e. paint)	Contamination of surface water and groundwater resources and pollution of soil	Engineered containment of process areas, sewage facilities, wastewater, waste storage areas, vehicle maintenance areas, and hydrocarbon storage areas.	No paints or hydrocarbon based material is used on site. Structures are galvanised and the transformenrs are semi-sealed and oil is removed by specialist contained equipment.
		All excess concrete shall be removed from site on completion of concrete works and disposed of at a licensed landfill site.	No cement is used on site. Removed from the new Operational EMP.

		Used cement bags shall not be used for any other purpose and shall be disposed of on a regular basis.	No cement is used on site. Removed from the new Operational EMP.
		All hydrocarbon (e.g. fuel, oils and contaminated soil / materials) and other hazardous waste (e.g. paint, bitumen, tar, etc.) resulting from spills, refueling and maintenance activities shall be disposed of in a licensed hazardous waste site or, where possible, sold to an approved used-oil recycling company. The Managing Contractor shall keep records of disposal certificates on site.	No hazardous material used on site. Removed from the new Operational EMP.
Toilet facilities		Ensure good housekeeping and proper sanitation and treatment of wastewater during construction and operations.	Facility is used by one person on site. Septic tank content removed to the Ohorongo Cement treatment facility.
		Performing ablutions outside of established toilet facilities is strictly prohibited.	No activity or incident observed.
Cleaning the solar panels – water supply	Reduction of water resource	Ensure that the current water abstraction permit for the Ohorongo Cement factory allows for the additional volume of water to be used for the cleaning of the panels. Use water sparingly and only use the allotted volumes of water.	Cleaning of panels extended from monthly to annual. Personal use of water on site is from a 5m ³ tank which is manually refilled when necessary. Current use is less than 2.5m ³ /month.
Erosion		The Proponent shall protect areas susceptible to erosion by installing necessary temporary and permanent drainage works and by taking measures necessary to prevent surface water from being concentrated in streams and from scouring slopes, banks or other areas.	No erosion on site detected. Two small areas of pooling evident but not significant. Removed from the new Operational EMP.
VISUAL			
Lighting		The use of night light will be kept to a minimum and will illuminate only that which is required.	Minimal lighting (LED) on the fence for security, which only switches on with movement.

		Yellow lighting is recommended and/or light emitting diode (LED) lighting is reported to be unattractive to insects and should be used where possible.	Removed from the new Operational EMP.
		Lights should be directed downwards where possible.	Removed from the new Operational EMP.
Visibility		Painting infrastructure with colours that blend in with the surrounding environment where possible (similar to the adjacent Ohorongo Cement infrastructure).	No structure is higher than 3m, and is therefore rarely visible from the vicinity. Removed from the new Operational EMP.
SOIL MANAGEMENT			
Topsoil storage		Topsoil (an approximately 150 mm layer) shall be removed from areas to be disturbed during construction and stockpiled for landscaping / rehabilitation purposes	There are no topsoil stockpiles left on the terrain. Removed from the new Operational EMP.
		Topsoil stockpiles shall be convex and no more than 2 m high.	Removed from the new Operational EMP.
		Keep vegetation in topsoil stockpiles or cover stockpiles with cleared vegetation	Removed from the new Operational EMP.
		Maintain stockpiles against erosion	Removed from the new Operational EMP.
WASTE MANAGEMENT			
	Hydrocarbon pollution	All hydrocarbon (e.g. fuel, oils and contaminated soil / materials) and other hazardous waste (e.g. paints, bitumen, tar, etc.) resulting from spills, refueling and maintenance activities shall be disposed of in a licensed hazardous waste site or, where possible, sold to an approved used-oil recycling company.	No hydrocarbon or other hazardous material used on site.
	Pollution	Contractor shall be responsible for the establishment of a solid waste control and removal system with temporary storage in a demarkated area.	No facilities for maintenance waste or general waste evident on site Provide the relevant containers and dispose of at relevant waste site.

		Contractor shall provide bins (with lids) of sufficient number and capacity to store solid waste produced on a daily basis. The lids shall be kept firmly on the bins at all times.	
SOCIO-ECONOMIC			
General third party safety and security	General third party safety and security	Provide appropriate fencing, security access control and warning signs (in appropriate languages with danger pictures) at the PV power plant access point and around the entire PV power plant site, at appropriate intervals.	The warning signs are only at the gate and the corners of the fence which is confusing as it does not indicate the risk of danger on the terrain. Increase the fence signs to include a clear danger sign as well as the electric fence sign every 25m.
		Develop and implement an emergency response plan for accidental injury to personnel, visitors, third parties or animals.	Access to the site is controlled and recorded. Operating manager is not aware of an emergency response plan (ERP). Correct with an ERP.
Employment and contracting	Local content	Recruitment of nationals, in particular local people.	Technical operations contractor personnel and on-site security has been sourced from the vicinity.
		Promote small and medium enterprises (SME) development wherever possible.	No contract work currently undertaken.
		Local (Tsumeb, Otavi) procurement whenever possible and encourage employees and the community to do the same.	Procurement is only specialist material via the operations contractor. Not relevant.
GENERAL			
Environmental Control		Presence of and Environmental Officer.	Operating manager is not aware of the role. Induct and appoint the Operating manager as the Environmental Officer.
		Environmental and Safety Induction to all new employees, contractors, and visitors.	

APPENDIX 3

Revised EMP requirement list for the operational activities.

BIODIVERSITY			Observation
Materials delivery and laydown / storage	Potential impact on biodiversity	Prevent trapping and hunting.	
SURFACE WATER, GROUNDWATER AND SOIL RESOURCES			
Storage and handling of other hazardous substances (i.e. paint)	Contamination of surface water and groundwater resources and pollution of soil	Engineered containment of process areas, sewage facilities, wastewater, waste storage areas, vehicle maintenance areas, and hydrocarbon storage areas.	
Toilet facilities		Ensure good housekeeping and proper sanitation and treatment of wastewater during construction and operations.	
		Performing ablutions outside of established toilet facilities is strictly prohibited.	
Cleaning the solar panels – water supply	Reduction of water resource	Ensure that the current water abstraction permit for the Ohorongongo Cement factory allows for the additional volume of water to be used for the cleaning of the panels. Use water sparingly and only use the allotted volumes of water.	
WASTE MANAGEMENT			
	Hydrocarbon pollution	All hydrocarbon (e.g. fuel, oils and contaminated soil / materials) and other hazardous waste (e.g. paints, bitumen, tar, etc.) resulting from spills, refueling and maintenance activities shall be disposed of in a licensed hazardous waste site or, where possible, sold to an approved used-oil recycling company.	
	Pollution	Contractor shall be responsible for the establishment of a solid waste control and	

		removal system with temporary storage in a demarkated area.	
		Contractor shall provide bins (with lids) of sufficient number and capacity to store solid waste produced on a daily basis. The lids shall be kept firmly on the bins at all times.	
		Waste Management Plan in place.	
SOCIO-ECONOMIC			
General third party safety and security	General third party safety and security	Provide appropriate fencing, security access control and warning signs (in appropriate languages with danger pictures) at the PV power plant access point and around the entire PV power plant site, at appropriate intervals.	
		Develop and implement an emergency response plan for accidental injury to personnel, visitors, third parties or animals.	
Employment and contracting	Local content	Recruitment of nationals, in particular local people.	
		Promote small and medium enterprises (SME) development wherever possible.	
		Local (Tsumeb, Otavi) procurement whenever possible and encourage employees and the community to do the same.	
GENERAL			
Environmental Control		Presence of and Environmental Officer.	
		Emergency Response Plan in place	
		Environmental and Safety Induction to all new employees, contractors, and visitors.	