

Adams PV facility

EA Reference: 14/12/16/3/3/2/1091 and amendments

Operational Environmental Management Audit Report



Well vegetated (winter) at Adams PV facility with internal road.

**Prepared by: Barbara Raubenheimer
June 2026**

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Operational Environmental Management Audit Report – June 2026

1. Introduction

Amathemba Environmental Management Consulting was appointed by SOLA Group (Pty) Ltd to undertake an operational audit in terms of the Environmental Management Programme and Environmental Authorisation. This audit report is based on a site inspection undertaken on 15th June 2026

1.1. Scope, Purpose and Objectives of the Audit

The main objective of the compliance audit was to respond to the need for external compliance auditing. There is no EA or EMPr specification for quarterly operational phase ECO monitoring. The proposed development must comply with the following approved authorisations and Environmental Management Programme (EMPr):

Document Title	Reference Number	Date of Issue
Environmental Authorisation in Terms of Regulation 36 of the Environmental Impact Assessment Regulations, 2010 19MW Photovoltaic Solar Power Generation Plant on the Farm Adams 328 Near Hotazel, Northern Cape Province.	DEA/EIA/00734/2011 or 12/12/20/2566 AM1 AM2 AM3 AM4 AM5	10 September 2012 22 April 2013 2 March 2015 16 March 2017 5 August 2019 9 September 2020
Environmental management programme for Development of photovoltaic solar power Plant on the farm Adams, near Hotazel in the Northern cape, South Africa In terms of the National Environmental Management Act (Act 107 of 1998) National Department of Environmental Affairs (DEA) Reference number: 12/12/20/2098/1 and Neas reference number: DEAT/NEAS/00127/2011		April 2012

1.2. Audit Methodology

The following methodology was employed for this external compliance audit:

1.2.1. Pre Audit Tasks

Review of the various approvals / documents relevant to the development, namely:

- Environmental Authorisation issued by the Department of Forestry, Fisheries and Environment (DFFE).
- Project Specific EMPr.
- Previous ECO audit reports.
- Spatial data where applicable.

1.2.2. On-Site Audit

A site visit was undertaken on the 15th of June 2026 by Barbara Raubenheimer. The site inspection served to give the auditor insight into on site implementation of the EMPr as well as progress of activities, especially as it relates to the relevant approvals and the various project phases.

1.2.3. Reporting

Compilation of the audit report is based on the information obtained during the audit inspection and subsequent follow-up liaison with the representatives of the holder of the EAs. An electronic copy of this report is issued to the Holder of the EA.

1.3. *Assumptions, Limitations and Gaps in Knowledge*

- The assumption is made that all information received on which this audit report is based, is accurate and correct. Parties that contributed information to inform this audit were the Holder and Contractors as representatives of the Holder.
- No public consultation was undertaken as part of this audit.
- The auditor had access to all the information necessary to compile this audit report. There are no gaps in knowledge that would suggest any level of uncertainty in the findings of the auditor.

2. **Expertise of the Auditor**

2.1. *Barbara Raubenheimer (Auditor and Author of Audit Report)*

Barbara completed an Honours Degree (B.Sc. Hons.) in Environmental Science, a M.Sc. *et Art* in Urban and Regional Planning and a Post Graduate Certificate in Education (Geography and Economy) from the North-West University of Potchefstroom. Barbara has over ten (10) years' experience in the environmental sector. She is a registered Environmental Assessment Practitioner (EAP) with EAPASA and has been involved in various Environmental Impact Assessments (drafting of EIAs, Basic Assessments and EMPs) and Environmental Control Officer (ECO) work.

2.2. *Barry Wiesner (Reviewer of Audit Report)*

Barry completed a Master's in Philosophy (MPHIL) in Environmental Management at the University of Cape Town. Barry also has a BA majoring in Archaeology and Environmental and Geographical Science and has a Higher Diploma in Education (HDE) from the University of Cape Town. He also has a Bachelor of Theology from the University of South Africa. Barry is a Green Star SA Accredited Professional and a member of the International Association of Impact Assessors. Barry has extensive site experience working as an Environmental Control Officer (ECO) at major construction sites and in conducting Environmental Audits, EIAs, BARs and the compilation of numerous Environmental Management Programs (EMPs) over the last 24 years.

2.3. *Statement of Independence*

Amathemba Environmental Management Consulting CC was appointed to carry out the external compliance audit and compile this resultant Audit Report. Neither Barry Wiesner, nor Barbara Raubenheimer in their private capacity, nor Amathemba Environmental Management Consulting CC have any material present or contingent interest in the outcome of this report, nor do they have any pecuniary or other interest that could be reasonably regarded as being capable of affecting their independence. Amathemba Environmental Management Consulting CC has no beneficial interest in the outcome of this compliance audit, other than reasonable remuneration for work performed in undertaking the audit inspection and compiling this report.

3. **Requirements of Appendix 7 of EIA Regulations (2014, as amended)**

Although not legally required, this audit report has been compiled in accordance with the requirements of Appendix 7 of the 2014 EIA Regulations, as amended. These requirements are included herewith, which contains the minimum content requirements for compliance audit reports.

Regulatory Ref # of Appendix 7	Details of Requirement	Report Section Reference
1	The environmental audit report must provide for recommendations regarding the need to amend the EMPr, and where applicable, the closure plan.	N/A - No amendments required at this time.
2 (a) (i)	Report on level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan.	Sections 5 and 6
2 (a) (ii)	Report on the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieves the objectives and outcomes of the EMPr, and closure plan.	Section 5 and 6
2 (b)	Identify and assess any new impacts and risks as a result of undertaking the activity.	N/A - No new impacts identified additional to what has already been identified during the EIA.
2 (c)	Evaluate the effectiveness of the EMPr, and where applicable, the closure plan.	N/A - EMPr effective to manage impacts identified during EIA.
2 (d)	Identify shortcomings in the EMPr, and where applicable, the closure plan.	N/A - No shortcomings identified during this audit period.
2 (e)	Identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.	Section 5 and 6
3 (1) a	An environmental audit report prepared in terms of these Regulations must contain details of the— (i) independent person who prepared the environmental audit report; and (ii) expertise of the independent person that compiled the environmental audit report	Section 2
3 (1) b	a declaration that the independent auditor is independent in a form as may be specified by the competent authority;	Section 3
3 (1) c	an indication of the scope of, and the purpose for which, the environmental audit report was prepared;	Section 1.1
3 (1) d	a description of the methodology adopted in preparing the environmental audit report;	Section 1.2
3 (1) e	an indication of the ability of the EMPr, and where applicable, the closure plan to— (i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis. (ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and (iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;	Section 5 and 6
3 (1) f	a description of any assumptions made, and any uncertainties or gaps in knowledge;	Section 1.3
3 (1) g	a description of any public consultation process that was undertaken during the course of carrying out the environmental audit report;	Section 1.3
3 (1) h	a summary and copies of any comments that were received during any public consultation process; and	N/A
3 (1) i	any other information requested by the competent authority.	No additional requirements are known currently.

4. Document Review

As part of the requirements in the EMPr the following documents need to be maintained during the Operational Phase:

Requirement*	✓/X/NA	Comment
Environmental Management System	✓	An ESMS is in place.
Internal Environmental Audits	✓	Audits have been conducted and submitted to the DFFE.
Avifaunal Monitoring Reports	NA	No Avifaunal monitoring is required.
Water Use Register	✓	Water consumption is being logged- municipal water is being utilised.
Incidents and Complaints Registers	✓	Registers are in place and being maintained.
Waste Records	X	Waste disposal slips not available for all waste streams. Lacking for previous hazardous waste disposal. General waste is being disposed of via municipal waste services.
Local Employment	✓	Locals are appointed to the site for the management of vegetation and panel washing.

Requirement*	✓/X/NA	Comment
Emergency Preparedness	✓	Emergency preparedness plans are in place.

*Ensure that all supporting plans and documents are updated and revised regularly.

5. Results of Compliance Monitoring

5.1. Areas of Concern

Refer to the Appendix A and B for the checklists for more details concerning the allocated scores. Additional site photos have been included to provide evidence of the conditions on site, see Appendix C.

- Erosion control infrastructure shows evidence of siltation.
- In some areas the unlined storm water channels are not shaped properly either due to faunal activity or likely erosion from run-off.
- Alien invasive plant species (AIS) were widely observed on site (especially adjacent to the fence, the on-site water point and between panels).
- Remnant plant material from AIS removal remain on dried heaps on site which are posing a potential fire hazard if not removed and disposed of adequately.
- Additional internal road areas are being cleared by security and maintenance personnel especially visible in the North Western corner of the site.
- The incident of the one transformer failing could not be verified.
- Safe disposal of the contaminated bundwall water of the remaining transformer that has leaks can't be verified.
- Litter from stored solar panel wrapping remains in the area previously utilised as a storage laydown

The following table gives some photographic evidence of the abovementioned areas of concern, with the following key utilised to give a timeframe in which the concerns are to be addressed:

Colour	Timeframe
	Ongoing- through operational lifespan.
	Medium term- Prior to next bi-annual audit.
	Short term- Immediate

Table 1 Areas of Concern Illustrated

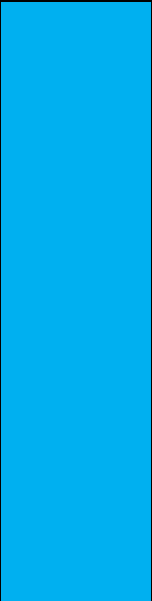
Image	Example and Action	Timeframe to Resolve
	Siltation of storm water channel across the road. Storm water infrastructure must be cleared of silt regularly to limit surface water contamination and increase safe driving conditions on site.	

Image	Example and Action	Timeframe to Resolve
	Additional areas are being cleared by security and maintenance personnel via repeated foot traffic. If possible personnel should avoid continuously following the same route. Giving vegetation time to recover	
	The shape of storm channels must be maintained and adequately shaped to ensure that channels don't become wider and eroded further or undercut. Where fauna such as groundhogs are responsible for channel disruption care must be taken to not harm the animals during maintenance.	
	All AIS must be removed regularly as per the AIS management plan available for Adams from SOLA.	
	The transformer on site's bund dry but stained with HCS leaking from a section of the transformer. During the documentation audit, no safe disposal certificate of the previously disposed waste water was made available. Safe disposal certificates of all waste disposal must be obtained and kept for record and proof of adequate disposal.	

Image	Example and Action	Timeframe to Resolve
	Plant material, looking like AIS that was removed has dried in the small stockpiles (Heaps). As it is currently burning season it is recommended that the remnant plant material is removed and adequately disposed of with record thereof being kept.	
	Litter from solar panel packaging remains where the panels were previously stored prior to being stored in a container. Litter must be contained and adequately disposed of.	

5.2. Environmental Incidents

To date some minor incidents have occurred. The incident of the break-in was recorded and police was notified. The one transformer breaking which is currently being repaired was not captured in any register.

5.3. Complaints

To date, no complaints have been lodged. A complaints register is in place via the electronic file access currently as with the incidents being logged. It is recommended that all staff on site has access to the incidents and complaints registers either electronically or that a hard-copy is made available for all to utilise.

5.4. Resource Use

The resource use is being recorded currently by the environmental officer including water usage, fuel usage and waste being taken from site. The emissions generated are further also being calculated by the environmental officer.

5.5. Compliance Summary

There are no noted non-compliances. The site is commended on their efforts to control invasive vegetation as no alien plants were noted during this audit period. Administrative items that require to be verified are indicated in the checklists below.

5.5.1. EA Compliance Score

Of the total 33 conditions audited, 13 are applicable. Of the applicable conditions the resulting compliance scores are:

- Compliant - 85%
- Partially Compliant - 15%
- Non-Compliant - 0%

The partial compliances relate to the notice of commencement of construction not being available and only softcopies of the EA and EMPr being available during the time of the audit. Hardcopies of the EA and EMPr should be available on site.

5.5.2. EMPr Compliance Score

Of the total 29 impact management actions audited, 29 are applicable. Of the applicable actions the resulting compliance scores are:

- Compliant - 66%
- Partially Compliant - 28%
- Non-Compliant - 7%

The partial compliances are mostly waste related, as the proof of disposal for all waste streams is not available, and there are occurrences of litter on site. Other partial compliances are due to a lack of maintenance on storm water infrastructure, presence of AIS and all incidents not being recorded as required.

Two non-compliances were awarded with regard to the EMPr requirements as emergence contact details were not visible at the site office and there is no information board concerning the history of the site and archaeological significance of the site as required by the EMPr. As these two aspects are important, but do not entail a lot of intervention, non-compliances were awarded as they can be rectified easily and timeously.

6. Recommendations

It is recommended that the aspects highlighted in the areas of concern be addressed. Furthermore establishing mechanisms for on-site staff to obtain training, document incidents and complaints will significantly improve the overall environmental management and record keeping. It is further also recommended that detail record is kept of all waste disposal along with the proof of final disposals being kept on record.

As a safety precaution as well as enforcing adequate maintenance on site, the dried cut vegetation, likely AIS should immediately be removed as it presents a fire hazard as it is currently burning season.

7. Adequacy of the EMPr

Based on the information review and areas inspected at the time of the audit, there are some aspects concerning environmental management of impacts that require attention.

Auditor: Barbara Raubenheimer (0780709014)

Signed: 

Date: 02 July 2026

APPENDIX A: EA CHECKLIST

Condition	✓/X/NA	Comment
Scope of Authorisation		
1. The development of the 19.99ha solar facility on the three preferred areas with coordinates indicated above in the western and southwestern section of the property is approved. (AM 5)	✓	Noted construction has been concluded, the project is now operational.
2. Authorisation of the activity is subject to the conditions contained in this authorisation, which form part of the environmental authorisation and are binding on the holder of the authorisation.	✓	Noted, where ownership of the EA has changed, subsequent amendments where submitted and approved.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this environmental authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.	✓	Noted construction has been concluded, the project is now operational.
4. The activities authorised may only be carried out at the property as described above.	✓	Noted construction has been concluded, the project is now operational with the approved activities as per the EA.
5. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.	✓	Noted, where ownership of the EA has changed, subsequent amendments where submitted and approved.
6. The activity must commence within a period of two (2) years from the date of expiry of the EA issued on 10 September 2012, which is now extended to 10 September 2021. If commencement of the activity does not occur within that period, the environmental authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.	✓	Noted, extension for the commencement was applied for and approved multiple times until the activity commenced. Construction of the project began on March 11, 2021, which was prior to the expiration date of the EA amendment on September 10, 2021.
7. Commencement with one activity listed in terms of this authorisation constitutes commencement of all authorised activities.	✓	Noted.
8. The holder of an environmental authorisation must notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.	✓	Ownership of the EA was amended and approved as per this requirement.
Notification of authorisation and right to appeal		
9. The holder of an environmental authorisation must notify the competent authority of any alienation, transfer and change of ownership rights in the property on which the activity is to take place.	NA	Noted the activity has been operational for over 2 years. It is unsure whether this notice was placed.

10. The notification referred to must — 10.1. specify the date on which the authorisation was issued, 10.2. inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the Environmental Impact Assessment Regulations, 2010; 10.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and 10.4. give the reasons of the competent authority for the decision.	NA	Noted the activity has been operational for over 2 years. It is unsure whether this notice was placed.
11. The holder of the authorisation must publish a notice — 11.1. informing interested and affected parties of the decision; 11.2. informing interested and affected parties where the decision can be accessed; and 11.3. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against this decision in the newspaper(s) contemplated and used in terms of regulation 54(2)(c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.	NA	Noted the activity has been operational for over 2 years. It is unsure whether this notice was placed.
Management of the activity		
12. The Environmental Management Programme (E V]Pr) submitted as part of the Application for EA is hereby approved. This EMPr must be implemented and adhered to.	✓	The EMPr is being adhered to.
13. The applicant must appoint a suitably experienced independent Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr. 13.1. The ECO shall be appointed before commencement of any authorised activity/ies. 13.2. Once appointed, the name and contact details of the ECO must be submitted to the Director: Compliance Monitoring of the Department. 13.3. The ECO shall keep record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO. 13.4. The ECO shall remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation. 13.5. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.	NA	Amathemba Environmental Consulting was appointed as the ECO for the operational phase to ensure compliance to EMPr and Applicable EA conditions.
Recording and reporting to the Department		
14. All documentation e.g. audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the Director: Compliance Monitoring at the Department.	✓	No construction activities are taking place any longer, but resource use and environmental incidents and complaints are being recorded and rectified as specified in the EMPr for the Operational Phase

15. The holder of the authorisation must submit an environmental audit report to the Department within 30 days of completion of the construction phase (i.e. within 30 days of site handover) and within 30 days of completion of rehabilitation activities.	NA	Noted the activity has been operational for over 2 years.
16. The environmental audit report must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the EMPr.	NA	The Operation ECO reports will have the mentioned details in the report.
17. Records relating to monitoring and auditing must be kept on site and made available for inspection to any relevant and competent authority in respect of this development.	NA	Noted the activity has been operational for over 2 years. The client will be advised to keep record going forward of the operational ECO reports.
18. The authorised activity shall not commence within twenty (20) days of the date of signature of the authorisation.	NA	The date of commencement is uncertain, but the facility has been operational without complaints.
19. An appeal under section 43 of the National Environmental Management Act (NEMA), Act 107 of 1998 (as amended), does not suspend an environmental authorisation or exemption, or any provisions or conditions attached thereto, or any directive, unless the Minister, MEC or delegated organ of state directs otherwise.	NA	Noted, not appeals were received to the knowledge of the ECO.
20. Should you be notified by the Minister of a suspension of the authorisation pending appeal procedures, you may not commence with the activity until such time that the Minister allows you to commence with such an activity in writing.	NA	Noted, not appeals were received to the knowledge of the ECO.
Notification to authorities		
21. Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number. This notification period may coincide with the notice of intent to appeal period	✓/X	Notice of commencement of construction could not be confirmed. No proof of notification was presented.
Operation of the activity		
22. Fourteen (14) days written notice must be given to the Department that the activity operational phase will commence.	✓	Notice of commencement to be confirmed. Notice was given on the 27 of August 2021 to the Department of operation starting on 17 September 2021.
Site closure and decommissioning		
23. Should the activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.	NA	Site closure or decommissioning is not expected any time soon, but relevant procedures will be advised should closure or decommissioning be planned.
Specific conditions		
24. A secondary vegetation survey must be undertaken on the exact 19.99 ha area chosen within the preferred areas for development of the solar facility. A copy of this study must be submitted to the Department prior to commencement of the activity. This survey must be undertaken by a qualified regional vegetation specialist prior to construction commencing and during the optimal flowering period, in order to: • identify any species for which permits will be required to allow their removal or destruction; • identify plant specimens of conservation concern which would qualify for plant rescue or for which seed should be obtained to assist with their re-establishment, and	NA	Construction has concluded. Studies were conducted by 3 foxes Biodiversity Solutions where vegetation numbers were provided and a subsequent study was conducted by Simon Todd Consulting. Permits were also in place (for removal of Boophone disticha, Vachellia erioloba and Vachellia haemotoxylon).

• document the species present, their composition and ecological drivers, in order to facilitate future rehabilitation of the area.		
25. A search and rescue programme must be implemented by a qualified specialist prior to the clearance of vegetation for any faunal species of conservation concern that are unable to relocate of their own accord from the areas intended for development.	NA	Construction and clearance has concluded.
26. All necessary permits must be obtained from the relevant authority for the removal or destruction of affected indigenous protected and endangered plant and animal species.	NA	Construction has concluded.
27. Copies of permits in respect of 1.28 above required must be submitted to the Department for record keeping	NA	Construction has concluded.
28. No exotic plants may be used for rehabilitation purposes. Only indigenous plants of the area may be utilised.	NA	No evidence of exotics being utilised for rehabilitation were visible on the site.
29. Construction activities must not intrude on the waterholes / pans on the site.	NA	Construction has concluded, not additional migratory measures concerning water bodies were noted in the EMPr.
30. A final layout plan for the activity must be submitted to the Department for approval, prior to commencement of the activity.	NA	Construction has concluded.
Specific conditions		
31. A copy of this authorisation and the approved EMPr must be kept at the property where the activity/ will be undertaken. The authorisation and approved EMPr must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.	✓/X	Digital copies (soft) copies of the documentation are available. Hardcopies of the EA and EMPr recommended.
32. The holder of the authorisation must notify both the Director.' Integrated Environmental Authorisations and the Director: Compliance Monitoring at the Department, in writing and within 48 (forty eight) hours, if any condition of this authorisation cannot be or is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.	NA	Noted.
33. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the applicant with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.	NA	Noted.

APPENDIX B: EMPr CHECKLIST

Impact Management Actions	Compliance Results	
	✓/X/NA	Comments/ Findings/ Recommendations
Legal Compliance: Ensuring compliance to legal requirements.		
Procedures must be drawn up to ensure that all relevant environmental legal requirements and amendments are identified, and that this EMPr can be updated to ensure that those legal requirements are met.	✓	Procedures are available and the client is aware that the EMPr can be updated.
The EMPr must be updated on a periodic basis to ensure that environmental legal requirements for the operational phase are adhered to.	✓	Legal requirements are adequately addressed in the EMPr to ensure compliance.
Monitoring and Reporting		
Monitor site activities and compliance with EMPr and Environmental Authorization.	✓	
Identify, propose, monitor and sign off on the implementation of any environmental rectification measures.	✓	
Audit compliance with EMPr and report to authorities.	✓	
Environmental incidents		
National DEA must immediately be informed should any serious incident occur which is likely to have detrimental effects on the environment. A record of these incidents must be kept. All incidents must be reported as per the requirements of S30 of the National Environmental Management Act, No. 107 OF 1998. "Incident" means an unexpected sudden occurrence, including a major emission, fire or explosion leading to serious danger to the public or potentially serious pollution of or detriment to the environment, whether immediate or delayed;	✓/X	Record of some incidents reported are available. The incident of the transformer breaking was not recorded.
APS will be responsible for rehabilitating any damaged caused to the environment due to any event or incident occurring on site.	✓	The transformer is currently being repaired with a temporary mobile transformer currently on site.
Emergency procedures		
A protocol for response during emergencies must be developed and maintained. This protocol must be kept at the site office/ control room.	✓/X	The assembly point was identified, but emergency contact numbers and personnel must be displayed.
An on-site safety plan must be available, and all staff must be trained in the appropriate emergency procedures.	✓	
Ensure that the contact details of the police or security company, ambulance service and fire brigade are available on site.	X	Emergency contact details were not displayed at the O and M building.
Overall Monitoring plan		
The 19.99 hectare site where the PV array is to be established, must be continually cleared of invasive and alien plants, so as to allow the indigenous vegetation to take control.	✓/X	Alien invasive species were observed on site between the solar panels, adjacent to the fence and the water point on site.
No fauna should be intentionally disturbed, removed or destroyed at any stage during the operation of the power plant.	✓	No fauna was removed or destroyed.
The entire area of the site (19.99 hectare area) should be monitored to ensure that erosion onsite and specifically between the lines of solar panels is not eroded. Water runoff from the panels during heavy rain events may cause sheet flow and localised channel flow, and may cause erosion. Low level gabion structures and natural ground colour sand bags should be placed in areas where stormwater runoff is fast flowing,	✓/X	Silt collected in the road stormwater channels across the internal roads.

and/ or collecting. If erosion occurs after a rain event, then remediation should happen immediately if this is the case.		
No flora (trees, shrubs, grasses etc.) are to be taken off site or harvested for any reason what-so-ever. All indigenous floras growing naturally on site must be left undisturbed throughout the operational phase of the power plant. Only flora that may impede the functionality of the solar panels may be cut or trimmed accordingly.	✓	No floral removal has taken place, and flora between the solar panels is generally well maintained.
The information panel about the history of the site and its archaeological significance, together with a small display of artefacts, must be maintained at the power plant's office to inform staff and their visitors. Workers involved with operation and maintenance of the PV plant should be empowered through training to recognise archaeological artefacts (i.e. hand tools).	X	No information panel or poster was noted on site during the audit.
Dust entrainment emanating from vehicular travel on gravel roads in the area will need to be controlled with the use of dust suppression sprayers. Speed limits for trucks of no more than 20 km/h on gravel roads must be enforced in order to further control dust. Emissions emanating from the exhausts of truck and diesel generators on the site are deemed to be negligible and thus no mitigation is required. It is not likely that any other construction activity will greatly (if at all) effect air quality in the vicinity of the site.	✓	No dust challenges were observed on site.
There will be no noise what so ever that will emanate from the facility once it is complete and in operation. The only noise which would emanate from the area is when the change of security staff occurs twice a day. This noise will be limited to the vehicular noise, and will be for a very limited duration each day.	✓	No excessive or abnormal levels of noise were observed.
Visual		
The proposed 19.99 hectare area for the PV plant is situated in the middle of the feasible area. The place is thereby confining any larger visual impact by not fragmenting development areas. The site is however very far from main traffic or tourist routes, and the visual impact will be very minimal.	✓	No negative visual impact is being caused.
Safety and security		
The site should be fenced off and the fence maintained in order to control safety on the site. Safety measures must be implemented and maintained in accordance with the agreements between APS and and/or any security subcontractors.	✓	The theft that occurred on site was adequately reported with the fence adequately temporarily reinstated.
Groundwater		
If groundwater is used, the PV array is only proposed to abstract 400m3 per year, which, when abstracted over a period of 12 months, is a very minimal amount of 33m3 per month. If this is to happen, groundwater levels in the borehole must however be checked and recorded on a monthly basis, to determine water levels variations.	✓	Municipal water is being utilised on site, therefore no abstraction monitoring is required.
Surface water		
Maintain water velocity dissipaters (low-lying gabions) in areas where stormwater may channel and could cause erosion. Wash panels on clear sunny days (as opposed to overcast days) to increase evaporation rate of water run-off from panels, thereby reducing chance of erosion.	✓	Panel washing was being done on the day of the audit, during sunny weather conditions.
Make use of accredited bio-degradable detergents for the washing of solar panels.	✓	No soap or detergent is being used for panel washing. Clean water is being utilised for panel washing.

Develop a storm water management plan.	✓	A storm water management plan is available.
Integrated waste management		
Ensure that no refuse generated on the premises be placed, dumped or deposited on adjacent/surrounding properties including road verges, roads or public places and open spaces at any time during the operation and life span of the power plant. All discard materials produced during operation of the power plant must be taken offsite and deposited in an accredited landfill site.	✓/X	Waste bins on site are weather proof. Proof of disposal could not be verified, with occurrences of litter at risk to be windblown.
APS shall ensure that waste and surplus food, food packaging and organic waste are not deposited by any employees anywhere on the site except in refuse bins for removal on a weekly basis by ASP. Refuse bins shall be weather and animal-proof, and be located at the main control room at the power plant.	✓/X	Proof of weekly disposal could not be presented and no safe disposal certificates are available.
APS must transport refuse collected from the site at least once a week. Refuse must be disposed of at a site approved by the ECO.	✓/X	The disposal site is to be verified.
General site maintenance during operation		
A grievance and consultation plan must be developed and kept on the site at all times during operation of the solar power plant. All grievances between landowners and APS and between APS or any service provider or other entity should be recorded and dealt with in the appropriate grievance channels are outlined in the grievance plan which must be established. Community consultation with surrounding land owners and community members must continue through the life cycle of the project, and must be reported on as such in the grievance and consultation plan. This will allow the receipt of and facilitate resolution of concerns and grievances about the project social and environmental issues raised by individuals or groups during the project operational period.	✓	A grievance plan is available and no grievances or concerns have been raised by surrounding landowners.
General onsite maintenance of the panels during the operational phase must in no way impact or negatively affect the environment, and contractors or other service providers providing onsite maintenance must be made aware of this EMPr and the content thereof.	✓/X	Proof of environmental training of the EMPr is not available.
Permanent Closure and Decommissioning		
This activity will not be decommissioned in the foreseeable future. This project has an extended lifespan period, with potential for later expansion. From this, it is determined that decommissioning of the project will only occur after 25-30 years. Due to this, no possible mitigation can at this stage be tabled, due to many environmental changes that may take place over time, which will subsequently render any mitigation discussed, void. However, if the panels will be removed, they will be sent to a recycling facility. Depending on the technological advancements that will have taken place during the life span of the plant some of the infrastructure, such as frames can be used for a new plant otherwise they can be removed and also recycled. If decommissioning of the facility is ever planned, an updated closure and decommissioning EMPr must be compiled.	✓	Permanent closure or decommissioning is not planned. If planned a new EMPr guiding decommissioning will be compiled.

APPENDIX C: ADDITIONAL PICTURES



Positive evidence of faunal activity on site



Fence where break in was reported is temporarily repaired.



Safety site signage.



Litter adjacent to the site office from solar panel wrapping.



Access control to the site.



AIS adjacent to site fence.



Waste skip with lid.



Natural vegetation on site.



HCS cage on site.



Temporary transformer in container with internalised bund.

APPENDIX D: MAP OF AUDIT ROUTE ON THE DAY OF THE AUDIT

