



ENVIRONMENTAL MONITORING REPORT FOR THE OPERATION OF AUSSENKHER SUBSTATION

PERIOD:2016- 2020



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1 INTRODUCTION

On the 24th of January 2017 NamPower received the environmental clearance certificate for the expansion and operation of the Aussenkehr Substation from the Ministry of Environment and Tourism . NamPower 's Power System Construction were the main contractor on the project. The expansion of the substation was urgently required as the Aussenkehr substation supplies important agricultural loads in the south of Namibia and in particular the majority of the grape farming industry of Namibia. NamPower had to install an additional 66/ 22 kV 10 MVA transformer at the Substation. Typically the electrical load peaks during the harvest season from November up to January, and NamPower therefore was required to perform this upgrade to avoid costly power interruptions to the whole area due to the existing transformer overloading. The substation is adjacent to the land owned by the National Youth Service and operated by the Namibia Grade Company, who has a 388ha under cultivation immediately adjacent to the substation.

Apart from the PV connection project, the substation is unmanned and controlled from National Control in Windhoek therefore , the substations is only visited during inspections, annual maintenance and when there are problems encountered at the substation.

This report covers the environmental performance during the year period from 2016 to 2020 and highlights activities undertaken at the substation.

2 CONSTRUCTION ACTIVITIES

The activities undertaken during the period included,mimimal basic ground works, levelling, fencing, construction of a feeder bay to connect the PV to the Substation through overhead powerlines and expansion of the substation.

The following activities will be conducted during **Construction phase**:

- 2.1 **Preparation of the site** : These activities created some temporary noise and dust, therefore activities were limited to mainly day time.



Figure 1: Foundation columns in place and vineyard in the background.

2.2 Civil works : this will included excavations and concrete pouring using heavy excavation vehicles and equipment .



Figure 2: civil and mechanical work onsite.

2.3 Mechanical works : during this period ,the electrical equipment were installed.



Figure 3 : Mechanical work completed.

2.4 Testing and commissioning the substation , during this stage a series of thorough inspections and commissioning tests were carried out before the PV was put into service.

2.5 Rehabilitation the site, the substation yard is tidy ,embankment's, yard stone and other areas around the fence lines was reinstated.



Figure 4: At the completion of the Substation Expansion project.

3 ENVIRONMENTAL MANAGEMENT

NamPower 's environmentalist was involved in ensuring the full implementation of the Environmental Management Plan. Projects update meetings and site visits were conducted. Deviations identified during site inspections were communicated to the project manager and contractor for corrective action.

3.1 Training and induction

Prior to construction induction sessions were conducted for all Employees and contractors onsite.

3.2 Waste Management

An agreement was in place for PSC to utilize Namibia Grape Company's waste dumpsite.

3.3 Monitoring

Monitoring was conducted by NamPower 's Safety ,Health ,Environment and Wellness Department. During the upgrade and extension , all deviations from the EMP were communicated to the project manager and contractor for corrective action. Monthly project meeting were conducted.

4 INFRASTRUCTURE DEVELOPMENT

The substation is connected to the following powerline lines:

- Khurub Substation – Aussenkehr 66kV
- 22kV Aussenkehr Substation - Aussenkehr South
- 22kV Aussenkehr Substation - Aussenkehr North
- 22kV Aussenkehr PV- Aussenkehr Substation
- Proposed 132KV Transmission (Khurub-Aussenkehr)
- Proposed 132Kv (Aussenkehr – Orange Substation)

5 WATER

Mostly ready mixed concrete was used. An agreement was in place for PSC to utilize Namibia Grape Company's waste dumpsite and to fetch water from Namibia Grape Company's premises.

6 PROTECTION OF FLORA AND FAUNA

No protected plants were recorded onsite or incidents recorded.

7 HERITAGE OBJECTS

Not observed.

8 RELATIONS WITH NEIGHBOURS, OFFICIALS AND GENERAL PUBLIC

Relations with the community and stakeholders remain cordial. No stakeholder complaints were lodged during the period under review. Public notice in relation to the power outage for the purpose of energising the station were conducted and communicated to respective stakeholders.



Figure 5 : Vineyard adjacent to the substation.

9 CONCLUSION AND RECOMMENDATIONS

The overall environmental management on site is good. Inspections and meetings on the were conducted and environmental concerns and improvement opportunities were discussed during progress meetings. Access to the substation is controlled by the District NamPower employees and National Control.