



ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN FOR THE PROPOSED AUAS - OTJIKOTO – LIFA 400kV TRANSMISSION LINE

The Proposed Power Line:

NamPower proposes to construct a 400kV power line from Auas Substation (near Windhoek) to Gerus Substation (near Otjiwarongo) to Otjikoto Substation (near Tsumeb) and from there to Lifa Substation (near Ruacana) as part of a greater plan to meet the need for growth in power demand and supply in Namibia.

The Need for the Proposed Power Line:

The need for the power line arises out of NamPower's planning process to meet the future power demand needs in Namibia. The hydro power station at Ruacana generates about half of Namibia's power, while the rest is currently imported from South Africa.

The reasons for the new power line include:

- To provide the necessary bulk transmission infrastructure to transport power from the existing sources of generation to areas where it is needed;
- To strengthen the Namibian national power grid, and ensure stability of supply to areas of consumption; and
- To meet the need for economic growth, particularly in the north of the country where a high percentage of the country's people live.

Areas around Tsumeb and further north are seen as growth areas in Namibia and the power demand there is expected to increase substantially over the next decade or two. The proposed new high voltage transmission line is intended for bulk transmission of power. It will not supply power directly to the communities through which it is routed because the voltage is too high for reticulation to individual consumers.

The EIA Process:

NamPower appointed Eco.plan to conduct the EIA for the proposed power line. The study was conducted in three phases:

Phase 1: Route Evaluation / Scoping Phase

- Mapping and evaluation at 1:250 000;
- Public Participation Process; and
- Scoping Report.

Phase 2: Environmental Assessment of Preferred Route

- Mapping and evaluation at 1:50 000;
- Specialist 'ground' studies in selected areas that may be environmentally sensitive; and
- EA Report.

Phase 3: Environmental Management Plan

- An Environmental Management Plan (EMP) for construction will address the impacts during the construction and maintenance phase by means of a set of Environmental Specifications, which will be included in Contract Documents and enforced on site.

Throughout the EIA process public participation has been ongoing. A comprehensive Public Participation Programme was implemented at an early stage in the EA process in order to establish the concerns of I&AP's, authorities and the wider public.

Brief Description of Power Line and Related Infrastructure:

For technical and economic reasons it is necessary for high voltage power lines to be constructed in straight lines as far as possible.

In the case of overhead transmission lines, the proposed towers for a 400kV power line will be approximately 40m high. The construction design preferred by NamPower is the cross rope suspension tower, which is shown in Figure 2. This design minimises the amount of steel used and is therefore most cost-effective. Self-supporting suspension towers and straining towers are used in conjunction with cross rope suspension towers, especially in areas where the foundation or ground surface is unstable, and at bend points. Self-supporting structures have four legs as shown in Figure 3. Straining towers are required at all bend points.

A straining tower also has four legs and looks very similar to the self-supporting suspension tower, but the conductors are not suspended, in fact the tower is used to put the conductors in tension. A straining tower is shown in Figure 4.



Figure 2 – Cross Rope Suspension Tower



Figure 3 – Self-Supporting Suspension Tower



Figure 4 – Straining Tower

For a 400kV power line, a servitude of 55m wide is required. Within that 55m servitude no buildings or other infrastructure will be permitted. However cultivation of crops or grazing of livestock can continue. A narrow strip of about 12 metres wide within that servitude will be cleared of trees and tall bushes before construction commences. This will be done only directly under the conductors to assist in construction in order to reduce the risk of flash-overs between the power line and trees, and to protect the power line from fire.

An access track of 4 - 5m wide is normally cleared within the servitude for vehicular access for construction and maintenance. Such tracks will be limited to a single route. Only bush and trees will need to be cleared from the tracks, while grass can remain. Where possible, existing public roads will be used, which will minimise the need for the creation of new tracks. Private farm roads will not normally be used.

The Way Forward:

The Scoping Phase is complete and public review is finalised. The final Scoping Report is available on NamPower website for public interest.

The EIA and EMP have also been finalised and are made available for public interest.

The EIA and EMP have also been submitted to the authorities and Environmental Clearance has been granted for the EIA and EMP by the Ministry of Environment and Tourism.

Construction of the power line section from Auas Substation to Gerus Substation is anticipated to begin in January 2007.

Further Information:

If you require any further information on the EIA process please registering as an I&AP with Eco.plan via e-mail, post or fax:

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