

## 5 PROJECT DESCRIPTION

Dwaalboom PPC applied to Eskom Distribution for an additional 20MVA 132/22kV transformer at the end of 2006. The purpose of this application was to increase the firm transformation capacity to 40MVA. The existing transmission line that supplies the Dwaalboom substation can only supply Dwaalboom PPC with a guaranteed 20MVA, half of what was requested. The proposed Dwaalboom switching station would ensure that Dwaalboom PPC has both line and transformation firm supplies.

The switching station would have a 100m x 300m footprint. This footprint would include the following:

- The switching station (**Plate 1 and 2**);
- Terminal pylons – four pylons, known as terminal pylons would be required. Two pylons to supply power to the Spitskop – Segotishane 132 kV line and two pylons to take electricity out of the switching station and connect to the Spitskop – Segotishane line;
- Six bay double busbar;
- Auxiliary 132/22kV 10MVA transformer;
- An oil dam (approximately 400 litres);
- 15m x 15m control room;
- Communication mast (**Plate 3**);
- Dirt road for site access;
- A flood light in one corner; and
- A fence around the switching station.



**Plate 1: Example One of a Switching Station**



**Plate 2: Example Two of a Switching Station**



**Plate 3: Example of a Communication Mast**

Eskom surveyors examined the area around Dwaalboom PPC, along the Segoditshane Spitskop 1 and the Dwaalboom Gabarone South 1 transmission lines. Three locality alternatives were identified based on the following criteria:

topography of the land, accessibility of the sites and most importantly – proximity to both transmission lines.

Locality alternatives were chosen above technological, demand, activity, input or scale alternatives as these types of alternatives were not suitable for the proposed development. Although design alternatives may have been used in terms of the layout of the structures within the switching station, the total footprint size and impact on the environment would remain the same and a design alternative would therefore be meaningless.

If this project does not go ahead then the Dwaalboom PPC plant's requirements will not be met.

There were no alternatives suggested by Interested and Affected Parties (I&APs) during the public participation process.