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## CHAPTER 2 SITE AND SITUATION

### 2.1 Introduction

This chapter gives an introduction to the site. It describes the regional locality of the nuclear power station as well as the main features of its site, some of which are dealt with in greater detail in subsequent chapters.

### 2.2 Situation

The site for KNPS is situated on the Cape West Coast, approximately 30 km north of Cape Town. The location of the site is indicated on the following drawings:

- ◆ *Drawing No. 1* illustrating its regional locality,
- ◆ *Drawing No.2* showing the site in local context.

### 2.3 Site Description

#### 2.3.1 General

Cape farm No. 34, also known as Duynefontein, on which the reactors are constructed, measures 1 257 ha in extent, stretching 4.4 km along the coast and 3.5 km inland. The West Coast Road (Provincial trunk road No. 77) passes over the farm, thus giving excellent access to the site.

The adjoining farm, Kleine Springfontein No. 33 also belongs to Eskom.



This property measures 1 590 ha in extent, includes 3.6 km of coast to the north of Duynefontein and stretches 3.75 km inland.

To the south of Duynefontein and adjoining it, Eskom also owns land which has been developed as a housing estate for Koeberg employees. This estate, known as Duynefontein, takes up 87.5 ha of the local area of 309 ha of land owned here.

The site layout, including the housing estate, is shown on *Drawing No. 3*.

#### 2.3.2 Topography

The land is generally flat with only a modest fall towards the coast (*Drawing No 4*). The flatness is broken by a series of dunes varying in height up to 10 metres, whilst sand moving in from the coast resulted in a sand fed area to the south of the site and an even larger one further north. No rivers or streams cross the site and the drainage paths are generally unpronounced.

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### 2.3.3 Geology

The site is located within the coastal plain of the Western Cape. Most of this coastal plain is covered by Tertiary and Recent deposits. Isolated pockets of recent unconsolidated aeolian sand and ancient dunes, stabilised by vegetation, occupy large areas and is generally known as the "sandveld". The site is underlain by slightly metamorphosed metasediments of the Malmesbury formation, Late Precambrian granite intrusions and Cambrian sediments of the Klipheuwel and related formations.

### 2.3.4 Vegetation

The landscape with the stabilised and mobile dunes is associated with a vegetation consisting of indigenous pioneer plants partly covering the coastal dunes, while exotic Acacias invade and stabilise the mobile sand dunes behind the frontal series.

Further inland the vegetation is primarily indigenous coastal strandveld.

This pattern of successive stabilisation and vegetation is more pronounced in the south than in the northern section of the site.

### 2.3.5 Climate

The site falls within the winter-rainfall area of the Western Cape, in a region along the West Coast with a rather modest rainfall (between 350-400 mm annually) which coincides with a winter-wind pattern of north to north westerly winds, while high velocity, southerly winds predominate in the summer months.

The sea has a moderating effect on the climate and reduces the difference between day and night temperatures.