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Department:  
Environmental Affairs and Tourism  
REPUBLIC OF SOUTH AFRICA

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Dear Mr Scheepers

**ZEUS-MERCURY TRANSMISSION LINE: REASONS FOR ENVIRONMENTAL  
AUTHORISATION OF WESTERN ROUTE**

I refer to my letter dated 15 May 2007.

One of the appellants requested to be provided with the reasons why it was decided to issue an environmental authorisation for the western route. I append a copy of a document entitled *Zeus-Mercury 765kV transmission line: Reasons for the environmental authorisation of the western route in the vicinity of the Vredefort Dome*. The considerations which motivated the decision are outlined in this document. I hope this information will contribute to a better understanding of why the western alternative was eventually selected. It needs to be mentioned that Eskom was continuously involved in this decision making process.

Yours sincerely

Ms Pam Yako  
Director-General  
Department of Environmental Affairs and Tourism  
Letter signed by: Mr Herman Grové  
Designation: Appeals Administrator  
Date: 23.05.2007

REASONS FOR THE ENVIRONMENTAL AUTHORISATION OF THE WESTERN ROUTE  
IN THE VICINITY OF THE VREDEFORT DOME

1. The Vredefort Dome is a declared World Heritage Site (WHS) and is awarded special protection in terms of the World Heritage Convention Act of 1999 (WHCA). According to section 4 of the WHCA sustainable development of WHSs implies that environmental degradation and unnatural disturbance of landscapes within such areas be avoided or, if it cannot be avoided, that it be mitigated.
  2. Of the three alternatives, a line along the western route will have the lowest negative visual impact on the Vredefort Dome WHS. This is due to:
    - The screening effect of the ridges which will provide a visual barrier between the Dome and the transmission line.
    - The fact that the line will be visible only from a portion of the buffer zone of the WHS and not from its core zone.
    - The fact that visitors to the Dome will encounter the line before arriving at the first major vantage point from where the WHS can be viewed.
    - The backdrop of ridges which will make the line less obtrusive when viewed from the west.
    - The more intensely transformed nature of the area between the ridges and Potchefstroom (smallholdings and concomitant infrastructure) which will render a transmission line a more tolerable element in the environment.
  3. In general, the impact of a line along the western route on avifauna and on ecosystems to be traversed will be less than of lines along the central or eastern routes.
  4. Both the environmental authority of North West Province as well as the Dome Meteorite Park Conservancy expressed support for a line along the western route.
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**APPEAL RESPONSE REPORT PREPARED IN ORDER TO ASSIST THE MINISTER IN HIS DECISION ON APPEALS RECEIVED AGAINST THE DEPARTMENTAL DECISION ON THE APPLICATION SUBMITTED IN TERMS OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS AS DETAILED BELOW:**

**PROJECT TITLE:** Zeus-Mercury 765 kV TRANSMISSION LINE

**PROJECT REFERENCE NUMBER:** 12/12/20/433

**PROJECT DESCRIPTION:** A 765 KV TRANSMISSION LINE CONNECTEING THE ZEUS SUBSTATION NEAR SECUNDA (MPUMALNGA) WITH THE MERCURY SUBSTATION NEAR ORKNEY (NORTH WEST PROVINCE)

**PROJECT LOCATION:** APPELANANTS ARE LOCATED IN AN AREA SOUTH EAST OF POTCHEFSTROOM IN CLOSE PROXIMITY TO THE VREDEFORT DOME. THREE ALTERNATIVE ROUTE ALIGNMENTS (WESTERN, CENTRAL AND EASTERN) WERE IDENTIFIED. ALTHOUGH THE EASTERN ROUTE HAD BEEN RECOMMENDED IN THE EIR, THE WESTERN ROUTE WAS AUTHORIZED IN THE ROD.

**APPLICANT:** Eskom

**DATE OF DECISION:** 2 March 2007

**NATURE OF DECISION: (Positive or negative):** AUTHORISATION (POSITIVE)

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## CHIEF DIRECTORATE: TRANSFRONTIER CONSERVATION AND PROTECTED AREAS' RESPONSE

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**CONCERN 1: DEAT APPARENTLY ERRED BY SUGGESTING THE WESTERN ROUTE**

DEAT's support for the western route should be seen against:

1) Significance of the Vredefort Dome:

- This site, according to IUCN, provides the only mappable and restorable profile that illustrates the genesis and development of an astrobleme during the very short time after impact.
- The Vredefort Dome is one of the five largest meteorite impact structures in the world. Of the three largest crater sites, the Vredefort Dome is not only the largest and oldest, but it has better exposures of impact evidences.
- The nominated area of the Vredefort Dome is a high quality representative structure and has special significance given its status as evidence of the world's greatest single event release of energy. Thus what the Vredefort Dome represents is unique for the planet.

2) The responsibility of the department to serve as a custodian of the site on behalf of the country, as well as of all similar places which have qualities of outstanding universal values.

**CONCERN 2: THE VISUAL IMPACT**

(4.2 It is stated in the EIR that the eastern route should be followed as the line will be lower in the landscape and will not readily be viewed in silhouette. Why was that not adhered to?)

From a conservation point of view, the eastern route which is very close to the Vredefort Dome border cannot be accepted in view of the fact that the aesthetic value of the site is also important. According to the IUCN evaluation report of the site (2005), the Vredefort Dome represents a unique geological phenomenon of international significance and displays exceptional scenic and unsurpassed beauty which adds to the conservation value of the area.

Furthermore, the hills which are suggested to form screens for the eastern route are important remnants of the meteorite impact. However, even these remnants afford a unique opportunity for study of the exposed inner anatomy of an astrobleme, which are not found anywhere else on earth. In the up- and overturned strata forming the inner ring, faults of pre-Vredefort Event age are exposed in section, thereby affording a key to the understanding of the evolution of these systems, which is extremely important in understanding the structural geology involved in the exploration for gold. In scientific publications, theories have been proposed that link the distribution of gold in the Witwatersrand Supergroup to the Vredefort Event (Reimold and Gibson, 1996). It is therefore, according to IUCN, important that the system must remain preserved and available for research. Furthermore, the possibility that the powerline will detract from the value for which the site is on the World Heritage List is high when the eastern route is followed.

### CONCERN 3: INVOKING SECTION 34 (1) OF NHRA IF LINE KEPT ON THE EASTERN ROUTE

A decision in principle, to declare the Vredefort Dome as a National Heritage Site in terms of Section 27 of the National Heritage Resources Act (NHRA), had already been taken by the Council of the South African Heritage Resource Agency (SAHRA) in December 2002 on condition that a cultural study of the site also be undertaken. This study was recently completed and the report will soon be presented before the SAHRA Council for consideration and eventual publication of the site on the Government Gazette as a National Heritage Site. The implication of this protection, is therefore, in terms of Section 27 (18) of the NHRA, "No person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site".

What should be understood by inclusion of Section 34(1) in the National Heritage Resources Act is to assist with identification of places which are unknown which might have value for conservation while SAHRA has not yet completed a country-wide heritage survey of these places. When the audit is completed, these places will be graded in terms of significance, with the National Heritage status being the highest. Thus, significance of a 60 year old building cannot be compared to a National Heritage status acquired in terms of Section 27 of the same Act as SAHRA uses Section 34 as an identification tool to identify conservation worthy places whose value has not yet been identified before they are destroyed. It should also be pointed out that not all places that are identified through this section end up in the conservation fold.

### CONCERN 4: IMPACT OF AUTHORIZED WESTERN ROUTE ON LAND USE, ENTRANCES TO DOME AREA AND ON HISTORIC ARTIFACTS

When the Vredefort Dome nomination to UNESCO World Heritage Committee was made, a point was made to also include cultural sites. In addition to the geological significance of the site, the Dome is also renowned, in academic circles as an area, which is rich in anthropological and

archaeological heritage. Many Stone Age caves exist within the nominated area, where skulls and tools have been found. An exceptionally unique terrain, known as the "Askoppies" is at present being researched by academics. The "Askoppies" Iron Age site is a large settlement site consisting of extensive stonewalling, including cattle enclosures and huts. As the name suggests, one of the main features of the site is the large number of ash middens, some of which are huge and contain deep deposits of cultural material. Examples of rock art and Stone Age tools are found in the area, including rock art left behind by the Khoi-San (believed to be of the early inhabitants of the area). Different types of ruins left behind by other early inhabitants of the area are present, apparently representative of Sotho and Tswana speaking cultures (indigenous ethnic groups), as well as a period of interaction between the two.

A treasure of remnants from settlements during the nineteenth century exists within the nominated Vredefort Dome area, which needs further study. The area also is rich in history with regard to the early white settlement and the Anglo Boer War (a three-year war against Britain for independence at the turn of the previous century). Gold prospecting occurred in the area around 1888, but mining activities ceased during the 1920's as a result of the low gold content of the ore. The designated area predominantly is utilised for agricultural purposes. In the Vredefort Hills, extensive grazing practices dominate, with scattered cultivated lands in the valleys and along the Vaal River. This however being a marginal farming area, cultivation is decreasing rapidly and the emphasis is rapidly moving towards tourism-orientated activities based on the scenic beauty of the area.

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