



Press Statement

4 JUNE 2006 POWER OUTAGE

1. INTRODUCTION

On 4th June 2006, the country experienced a nation wide power failure from about 14:48 hrs to, in some cases, 19:43 hrs when the power was fully restored.

In line with its mandate and obligation, the Energy Regulation Board (ERB), on 13 June 2006, constituted an ad-hoc Team of Experts to investigate the 4th June 2006 nation-wide power failure and establish its causes and why it was not contained by the Zambian power system. The ad-hoc Team of Experts was further tasked to develop recommendations to reduce the possible recurrence of similar incidents in future.

The ad-hoc Team of Experts was composed of the following Members:

Dr Lemba Davy Nyirenda:	Engineering Institute of Zambia (Chairperson of the Team)
Mr Raphael Salasini:	University of Zambia, School of Engineering
Mr Christopher Nthala:	ZESCO Limited
Mr Illack N Chiti:	Lunswemfwa Hydro Power Company
Mr Humphrey Mulela:	Copperbelt Energy Corporation Plc
Mr Fredrick Bantubonse:	Zambia Chamber of Mines
Mr Mathews Lindunda:	Individual Capacity (Former MD, Kariba North Bank)
Mr James Manda :	Energy Regulation Board
Mr Yohanne Mukabe:	Energy Regulation Board
Mr David Mpundu	Energy Regulation Board
Mr Lester Kalemba	Energy Regulation Board

2. FINDINGS

Through the ad-hoc Team of Experts referred to above, the ERB has established that the power outage of June 4, 2006 was caused by a fault at the Kariba South Power Station switchyard, in Kariba, Zimbabwe. Protective equipment at the substation designed to contain such faults did not operate as expected and this led to an adverse impact on the Zambian electricity network.

The fault led to a power loss of approximately 1,117MW affecting all the major load centres in the country. However, the entire Western Province and parts of Southern, Eastern, Northern and Luapula Provinces continued to be on supply on

account of the Victoria Falls Power Station and the mini hydro power stations at Lusiwasi, Lunzua, Musonda and Chishimba which remained operational during the power outage.

The Report indicates that system restoration commenced with the starting of the first generating unit at Kariba North Bank Power Station at 16:03 hours and was concluded when all loads had been progressively restored at 19:43 hours. Imports of electricity from the Democratic Republic of Congo (DRC), coupled with the running of all available Gas Turbine Alternators (GTAs) by the Copperbelt Energy Corporation Plc (CEC) by 16:00 hours on that day greatly assisted in limiting the extent of the crisis on the Copperbelt

3. IMPACT ON THE NATIONAL ECONOMY

The Report indicates that due to limited information, the ad-hoc Team of Experts was unable to exactly conclude the extent of financial impact of the system disturbance on the country. However, it is estimated that the loss to the mining industry, where more information was forthcoming, totalled approximately USD3.5million.

4. RECOMMENDATIONS

In view of the findings, the ad-hoc Team of Experts has recommended the following:

- i. That ZESCO should engage with its Zimbabwean counterpart ZESA to establish why the protection systems to clear the fault that occurred at Kariba South Power Station switchyard did not operate.
- ii. That ZESCO should take all necessary measures to ensure that system disturbances originating from outside the Zambian system have minimal impact on the ZESCO system;
- iii. That ZESCO should keep its protection system especially the software in the microprocessor based relays regularly updated and train its staff accordingly;
- iv. That ZESCO should undertake dynamic stability studies in order to determine the behaviour of generating units connected to the grid in the event of major system disturbances before it implements its proposal to change the systems that protect the generators at Kafue Gorge in the event of high frequency;
- v. That ZESCO should investigate the viability of correcting the transformer phase shift in the supplies that come from the distribution system to the power station for paralleling with the station auxiliary

supplies at Kafue Gorge Power Station and Kariba North Bank Power Station;

- vi. That a countrywide study should be undertaken to attain a better understanding of the impact of power outages on various customers;
- vii. That Customers with critical loads be advised or compelled by legislation to install their own standby emergency supply facilities;
- viii. That CEC should maintain its Gas Turbine Alternators (GTAs) in good working condition at all times. Furthermore, that all utilities should ensure that the infrastructure associated with black start i.e. restoring the electricity network in Zambia from a total blackout, exists and is maintained in good working order with the appropriate emergency response mechanisms; and
- ix. That the Government should consider introducing and implementing energy efficiency measures covering both the supply and demand side management.

5. CORRECTIVE MEASURES

The ERB has adopted the Recommendations of the ad-hoc Team of Experts and will follow up with the utilities and where need be, apply sanctions and other corrective measures to avoid similar occurrences in future.

MRS. F MWANGALA ZALOUMIS
BOARD CHAIRPERSON
ENERGY REGULATION BOARD