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KENYA NATIONAL ASSEMBLY

TENTH PARLIAMENT-SECOND SESSION

DEPARTMENTAL COMMITTEE ON ENERGY, COMMUNICATIONS
AND PUBLIC WORKS

REPORT ON THE TOUR OF THE SONDU/MIRIU HYDROELECTRICITY
POWER STATION

Clerk's chambers,
National Assembly,
NAIROBI

July, 2008

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REPORT ON THE TOUR OF THE SONDU/MIRIU HYDROELECTRICITY POWER STATION

PREFACE

Hon. Speaker Sir,

1. The Departmental Committee "B" on Energy, Communications and Public Works was constituted at the commencement of the tenth Parliament pursuant to provisions of Standing Order 151; whose paragraph (4) mandates the Committee to carry out these functions:-
 - i. to investigate, inquire into and report on all matters relating to its mandate, management, activities, administration, operations and estimates of the assigned ministries and departments;
 - ii. to study the programme and policy objectives of ministries and departments and the effectiveness for the implementation;
 - iii. to study and review all legislation after the First Reading subject to the exemptions under Standing Order 101A(4);
 - iv. to study, assess and analyze the relative success of the Ministries and Departments as measured by the results obtained as compared with its stated objectives;
 - v. to investigate and inquire into all matters relating to the assigned Ministries and departments as it deems necessary and as may be referred to it by the House or a Minister; and
 - vi. to make reports and recommendations to the House as often as possible including recommendation of proposed legislation.

2. The subjects falling within the purview of the Committee are:-
 - i. Energy production and distribution;
 - ii. Transport and communications;
 - iii. Construction and maintenance of public roads, rails and buildings, air and sea ports;
 - iv. Information and broadcasting

3. The Committee comprises the following Members:-
 - i. The Hon. James G. Rege, M.P. - Chairperson
 - ii. The Hon. Kambi Kazungu, M.P.
 - iii. The Hon. Maina Kamau, M.P.
 - iv. The Hon. Wambugu Clement, M.P.
 - v. The Hon. Isaack Muoki, M.P.
 - vi. The Hon. Kathuri Emilio, M.P.
 - vii. The Hon. Ekwee Ethuro, M.P.
 - viii. The Hon. Eng. Nicholas Gumbo, M.P.
 - ix. The Hon. Charles L. Lugano, M.P.
 - x. The Hon. Edwin O. Yinda, M.P.
 - xi. The Hon. Charles M. Nyamai, M.P.

4. On 18th July, 2008, the Committee toured the Sondu/Miriu Hydroelectricity Power Station which was supposed to be commissioned on the same day. The tour was pursuant to an invitation by the Managing Director of Kenya Electricity Generating Company (KENGEN). Also to witness the commissioning were three Members of Parliament from the Committee concerned with energy matters in the Parliament of Japan.

5. The delegation comprised:-
 - i. The Hon. James Gordon Rege, M.P. - Chairperson
 - ii. The Hon. Maina Kamau, M.P.
 - iii. The Hon. Isaac Muoki, M.P.
 - iv. The Hon. Charles Lilechi Lugano, M.P.

- v. The Hon. Charles Nyamai, M.P.
- vi. Mr. George Gazemba - Secretary

Area Members of Parliament, Hon. Fredrick Otieno Outa for Nyando and Pollyins Ochieng for Nyakach accompanied the Committee.

- 6. The Committee expresses gratitude to the Speaker for sanctioning the visit and the Clerk for providing technical support. The Committee also expresses gratitude to the management of KENGEN for putting in place appropriate arrangements which made the tour successful, and the area Members of Parliament for the company and contribution during the tour.

Hon. Speaker Sir,

- 7. On behalf of the Committee, I now wish to lay on the Table of the House the report of the Committee in respect of the visit, pursuant to provisions of Standing Order 162.

The Hon. James G. Rege, M.P.

**Chairman, Departmental Committee on Energy,
Communications and Public Works**

Sign



Date

August 5, 08

General

The Sondu/Miriu Hydroelectricity Power Station is located in Nyakach, 30 Kilometres South East of Kisumu city and about 300 Kilometres Northwest of Nairobi. The project was developed by the Kenya Electricity Generating Company (Kengen) and was completed in the year 2007.

The project development was funded by Kengen and the Japan Bank for International Cooperation (JIBC). 85% of the project cost was met by JIBC while the remaining 15% by Kengen. The first phase cost Japanese Yen 6,933 million and covered Lot I-1 civil works of the intake.

The second phase cost Japanese Yen 10,554 million and involved completion of the remaining civil works, hydromechanical works, generating equipment and transmission line.

The project is a run-of-the river scheme and utilizes water from the Sondu River flowing into Lake Victoria. Unlike many power stations, Sondu Miriu has no major dam and associated reservoir but relies on the flow in the river with only a small storage capacity thus reducing environmental impact. The station is capable of producing 60MW of power and an average annual production of 331GWh.

Sondu River has a catchment area of 3,345, sq Km, a length of 200km, an average annual rainfall of 1,500 mm and an annual discharge of 41cu.m/sec. The Sondu River Multipurpose Development Master Plan was prepared in 1985 by the Japan International Cooperation Agency (JICA). The plan proposed three projects namely:-

- (i) Sondu/Miriu Hydropower Scheme
- (ii) Magwagwa Multipurpose Dam Scheme
- (iii) Kano Plain Irrigation Scheme

The Sondu/Miriu Hydropower Scheme was prioritized over the others. Design and preparation of tender documents was carried out by Kenya Power and Lighting Company and was financed by the Overseas Economic Cooperation Fund of Japan (OEFC) now (Japan Bank for International Cooperation (JIBC) in 1991.

The Magwagwa Multipurpose Dam and Kano Plain irrigation Schemes projects have, however, not yet commenced and new studies will have to be undertaken before commencement.

How the station functions

The project was completed in 2007 and became operational in March, 2008. Water is diverted from the Sondu River at the intake through a 6.2 Kilometres tunnel constructed under phase one of the project. A surface mounted penstock then takes the water down the Nyakach escarpment to a power station below.

In the power house, turbines harness the water from which they generate electricity. The water is then discharged into the Sondu River approximately 13 Kilometres downstream of the intake via a 4.7 kilometre long outlet channel.

Necessity of the project

The installed power generating capacity of Kenya as of March 2001 was 1,097MW with an effective capacity of 1000 MW. The system peak demand was 817 MW and annual energy demand was 4,791 GWh.

The energy sold in 2000/01 was 3,212 GWh. Owing to the insufficient effective generation capacity, power system management remained constrained. KENGEN therefore had a challenge of developing power generation systems to meet increased power demand for the future.

Sondu Mirui project was among the projects aimed at realizing increased power for the increased demand in future. The project was initially to be completed in 2004 but was not.

Most hydropower stations are situated on the Tana River except Sondu/Miriu and Turkwel and it is important to have other power stations in other parts of the country in order to have well distributed energy resources countrywide.

Commissioning of the project

The project was scheduled to be commissioned on 18th July, 2008 but the Commissioning never took place for reasons unknown to the Committee. There had been reports on 15th of July, 2008 that the Government would not commission the project owing to low water levels of Sondu/Miriu River occasioned by the destruction of the Mau forest. This was not correct as during the tour, the Committee with the aid of Engineers established that the water levels were at required levels and the project was running.

Recommendations

Following the tour, the Committee recommends as follows:-

- (i) The Government should commission the Sondu/Miriu hydroelectricity station at the very earliest opportunity.
- (ii) The Government should ensure the remaining projects of Magwagwa Multipurpose Dam and Kano Plain irrigation Scheme projects are undertaken as they are crucial in alleviating poverty in the areas concerned.
- (iii) The government should ensure there is adequate power generation at affordable cost if the Millennium Development Goals (MDGs) and Vision 2030 are to be achieved.
- (iv) There is urgent need to protect all water catchment areas in the country particularly the Mau forest in order to protect rivers which are crucial in power generation and other economic activities.

