

EASTERN AFRICA POWER POOL



EAPP

Presentation to Afsec,
Standardization needs for Integration
of Power Pools of Africa
August, 2010, South Africa

By Jasper Oduor

Contents

- 1- Introduction
- 2- Major activities
- 3- Conclusion

- EAPP was conceived in May 2003 under the guidance of UPDEA, AFREC, UN ECA, COMESA
- The Inter-Utility MOU was initialized in Nov 2003
- The Inter-governmental MOU was drafted in May 2004 in Kigali
- In February 2005, under the hosting by UPDEA at the UNECA HQ in Addis Ababa, the MOU and the organization structure was finalized

At this meeting, attended by UNECA, and organized by UPDEA:

- the location of the Headquarters was decided upon to be Addis Ababa, Ethiopia
- the Signing of the Intergovernmental MOU (IGMOU) was done,
- and the first Chairman of the Conference of Ministers was elected to be the Minister for Energy in Kenya
- The current Chairperson is from Rwanda

Introduction Cont..

In May ,2005 in Cairo, Egypt, the inter-utilities MoU's were signed and the Steering Committee became operational.

EAPP has subsequently been adopted as a *COMESA specialized institution and as a vehicle for the enhancement of energy Interconnectivity in the Region* **by the Heads of State and Government at the 11th Summit of Comesa in Djibouti in November, 2006.**

Comesa MOU cont...

- The MOU with Comesa has provided the political and organizational enablement to coordinate the works with all the countries in the Region
- Main example is the work with RAERESA to ensure all countries participate in the development of an Independent Regulatory Body

•

- EAPP has also signed a cooperation MOUs with EAC, SAPP and WAPP
- On-going negotiations on draft MOUs with CAPP and IGAD

Introduction Cont..

EAPP Member Countries

Current Members Countries:

Burundi, DRC, Egypt, Ethiopia, Kenya, Rwanda, Sudan,
Tanzania (Tanzania joined March this year)

EAPP Member Utilities

REGIDESO of Burundi, SNEL of DR Congo, EEHC of Egypt,
EEPCO of Ethiopia, KenGen and KPLC of Kenya,
ELECTROGAZ of Rwanda, NEC of Sudan, Tanesco of
Tanzania and SINELAC of DR Congo-Rwanda-Burundi.

Potential Member Countries

Uganda, Djibouti, Libya, Eritrea

Introduction Cont...

MISSION

- Facilitate and Secure power supply for Eastern Africa Countries members at the lowest cost

Introduction Cont...

VISION

- Promote power exchanges among the utilities in Eastern Africa by developing master plan
- Optimize the usage of the existing and the potential energy resources in the region
- Reduce the electric cost in the region
- Create, in the framework of NEPAD, a conducive environment for investment in integration projects in the fields of power generation and transmission in eastern Africa countries
- Facilitate the development of electricity market in the region
- Provide efficient co-ordination between various initiatives taken in the fields of power production, transmission as well as exchanges in the Region

Introduction Cont..

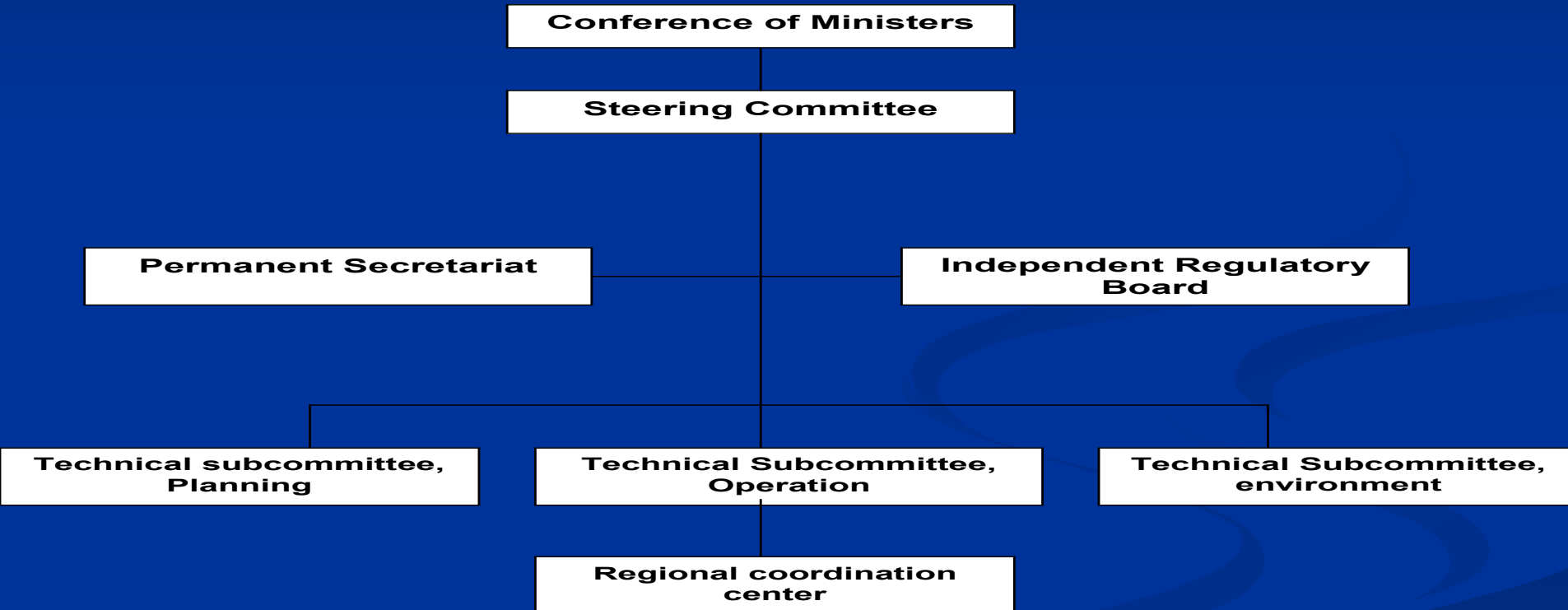
EAPP Objectives

- Secure power supply for the Region's countries
- Facilitate in the long term development of electricity market in the region
- Optimize the usage of energy resources available in the Region by working out regional investment schemes in Power generation, transmission and distribution taking into account the socio-economic and environmental aspects
- Increase power supply in the region in order to increase the access rate of the population to electricity
- Reduce electricity cost in the Region by using power system interconnection and increasing power exchanges among countries

Organization Structure

2. Organizational structure and management systems

Management Structure of the Eastern Africa Power Pool



2. MAJOR ACTIVITIES

Major Activities

- Technical Assistance and Capacity Building (EC Financed)
- Master Plan and Grid Code (NEPAD/IPPF managed by AfDB)
- Bilateral and Transmission Wheeling Agreements – Negotiations and Adoption (Possible USAID/UNDESA financing. A follow up of Kigali / Kampala coordination Meetings)
- Development of Coordination and Dispatch Centre Infrastructure and also the Independent Regulation framework (MFA Norway financing)

Major activities

EC Project

- European Commission Financing (2.7M Eur)

Overall objective

To strengthen the capability of the EAPP Permanent Secretariat to contribute in the improvement of the integration of the electricity markets of the region with a view to creating a regional electricity market.

Major activities

EC Project

Project components

- a. Preparation of the Eastern Africa Power Market Development
- b. Preparation of a strategic plan and business plan
- c. Power market rules and agreements for cross-border trade

Major activities

EC Project

Project components:

d) Horizontal activities

- Establishment of a regional database on power systems
- **Twinning (coaching) arrangement with advanced power pools**
- Trainings
- **Study tour**
- Stakeholders meetings

Major activities

EC Project

■ Regional Power Market Development

- Analysis of the current power sector situation and Implementing database
- Review of the existing studies about Eastern Africa Power Development.
- Assessment of power market future development, based on available studies

Major activities

EC Project

Preparation of a strategic plan and a business plan

- Analysis of the current context of activities in Eastern African Power Sector, including legal, regulatory and institutional aspects, the tariff policies and EAPP organization;
- setting up **strategic objectives** of the EAPP organization and a roadmap towards achieving the set objectives;

Major activities

EC Project

- Preparing the **action plan**, and means to monitor the performance of system operations and the orientations for the establishment of a **Coordination Centre**
- Preparing a **3-year business** plan where actions are described in detail and financial needs and resources are identified and quantified.

Major activities EC Project

Power market rules and agreements for cross-border trade: Preparation

- market rules (licensing, guidelines for tariff setting)
- **Standard power purchasing agreement**
- Standard agreement on power balancing
- **proposal for cost-based tariff-setting**
- proposal related the legal/regulatory framework
- **Treaty related to regional electricity trade**

Major activities

EC Project

- The project is scheduled to be completed by January 2012

Major activities: AfDB Project

- NEPAD-IPPF/AfDB Financing (1.7 Mil US\$)
 - Drafting EAPP regional power system master plan
 - Drafting of electricity grid code for EAPP

Major activities

AfDB Project

- The project commenced with the Kick-Off meeting is on 5th October, 2009. Together with EAC
- The project is on schedule
- The project is planned to be completed by January, 2011

Major activities

UNDESA

- **Twinning with other power pools and Study Tours to Southern Africa Power Pool; Workshop on Agreements done. Planned trainings (capacity building) on Financing Models for Power Projects, and study tour to SIEPAC of Central America and PJM of USA**

Major Activities:

USAID USD 2.4m

Powering Power Progress Projects

Following on meetings in Rwanda and Uganda

- Power Market development workshop on 1-5 February 2009
- Renewables and energy Efficiency Workshop in March 2010
- Powering Power Projects additional support EAPP and EAC prepare for Power Market and Power Trade. Consultant Nexant of USA. To ensure at least 3 PPA are driven to conclusion. To prepare Transmission Interconnection Standards

MFA Norway Project

USD 2.2M

- Recruitment and training of staff for the CC and IRB
- Installation and operationalization of the data base
- Installation and operationalization of the Communications Infrastructure
- Facilitation of Institutional set up of the CC and the IRB
- Project to be completed by Dec 2011
- The Kick-off Meeting was on 2nd Dec, 2009
- Inception Report for stakeholders held and final report being prepared

Transmission Lines Standards

- Grid Code developed by SNC Lavalin / PB Power under Nepad-ippf financing under AfDB
- Transmission Standards by Nexant under USAID financed Powering Power Progress Project
- What needs to be done now? (Governor settings, AVR settings? Any common policy?)
- Are we too late in anything? (Review the status of all the major interconnectors)
- What needs to be done nationally so as to limit regional and national negative impact?

Transmission Standards cont...

- At the detailed design stage, need to agree on the transmission Standards.
- These must be common for all the African Pools
- Have the on-going projects considered this?
- What to be considered? (Main inter-connector voltages, voltages tolerances, frequency limits, stability criteria, protection relay settings and fault clearance times, equipment specifications, under-frequency load-shed schemes and islanding schemes)

Design of the EAPP/EAC Interconnection Code by SNC Lavalin

- Scope and Structure of the EAPP/EAC Interconnection Code
 - Glossary/definitions
 - General Conditions
 - Planning Code
 - Connections Code
 - Operations Code
 - Scheduling and Dispatch Code
 - Data Exchange Code
 - Metering Code
 - Operator Training and Authorisation Code

Conclusion

- The Policy, Legal, Regulatory and Institutional and Regulatory Frameworks to be ready for power trade by 2013. Also the Roadmap / Strategic Plan
- Most Eastern Africa countries would have been connected by 2014 (2 years slippage !!)
- The work of physical interconnections:
The NBI projects (around Lake Victoria)
Ethio-Sudan; Ethio-Djibouti; Ethio-Kenya;
Kenya-Tanzania-(Zambia) are expected to have

