



*Operational & Trading Guidelines  
in the  
Southern African Power Pool*

*By*

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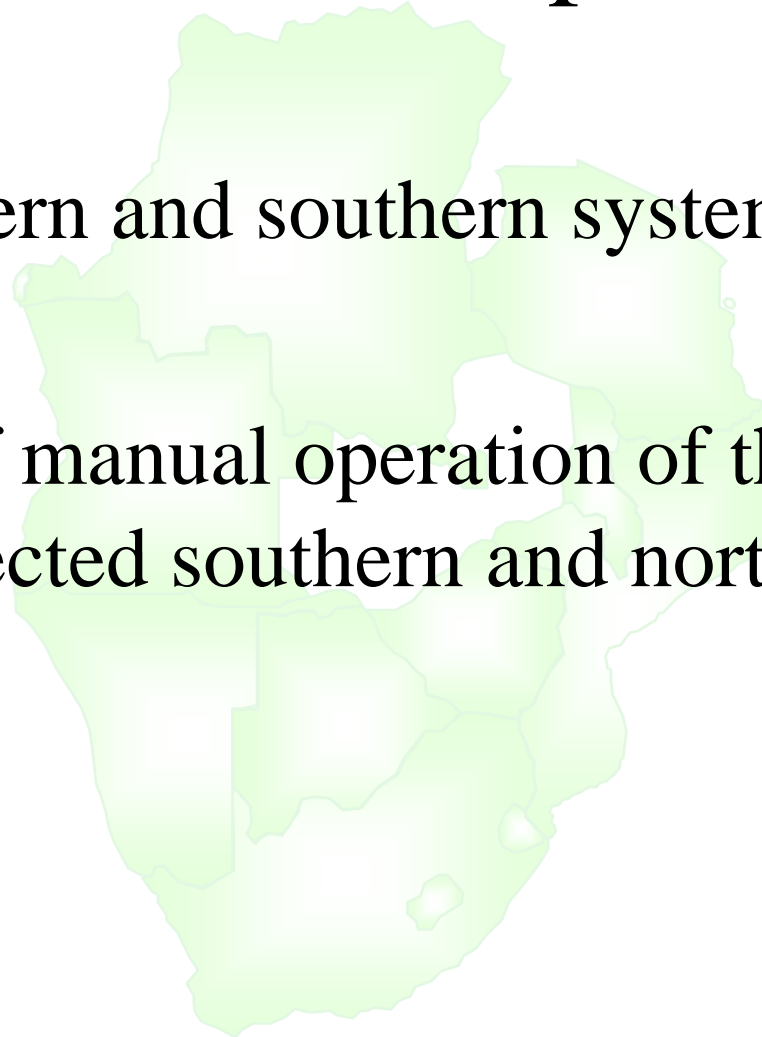
*Operating Sub-Committee Chairperson*

*26-30 June 2006*



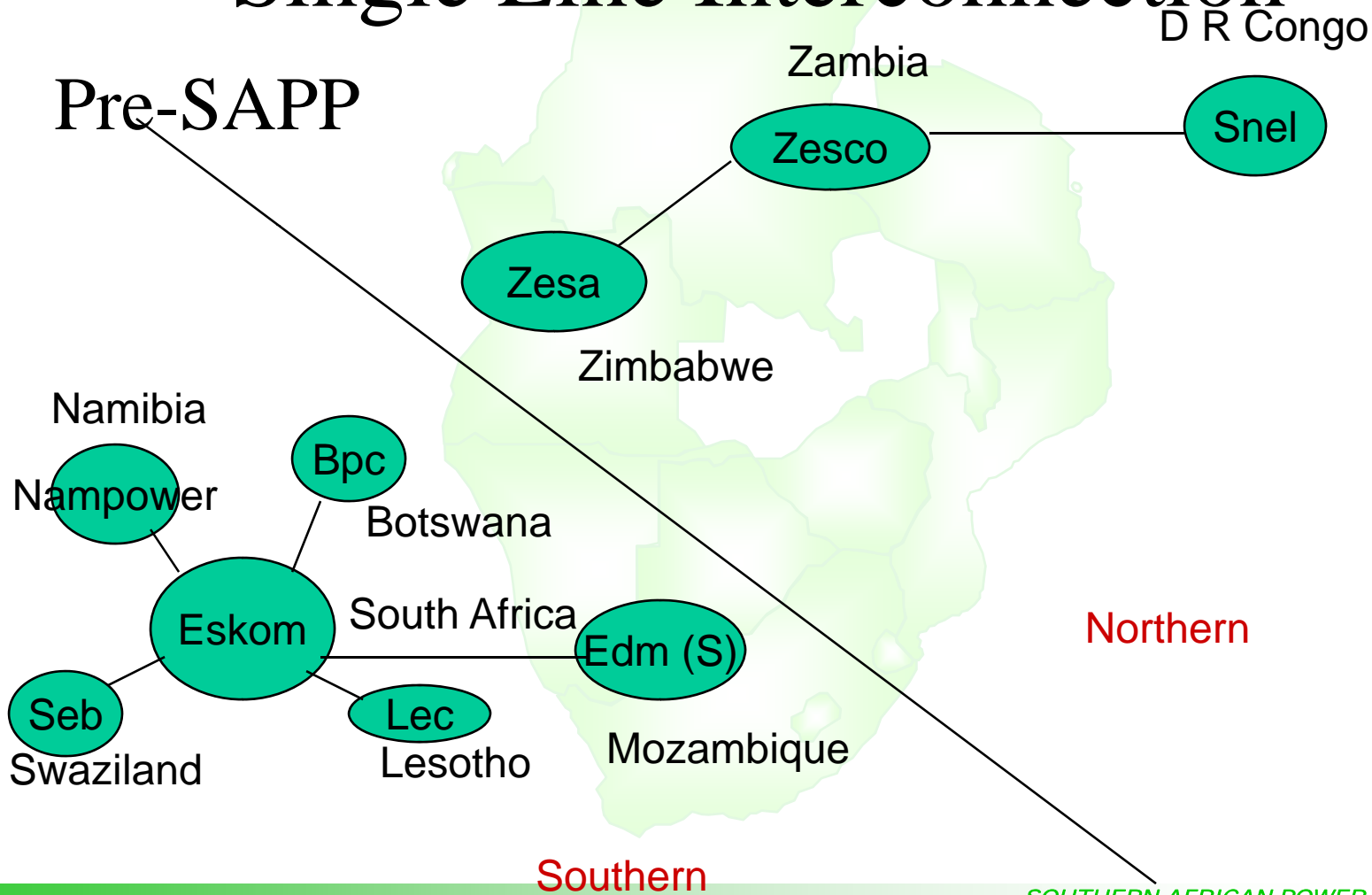
# Historical Perspective

- The northern and southern systems
- The IOPC
- Demise of manual operation of the interconnected southern and northern systems



# Northern and Southern Networks

## Single Line Interconnection



# From IOPC to SAPP

- Drivers
  - Need to foster co-operation in SADC
  - Compelling drought in the north
  - Optimised regional development/expansion
  - Political change in SADC (RSA)
  - New interconnected operating concepts

# New Concepts for Interconnected Operations

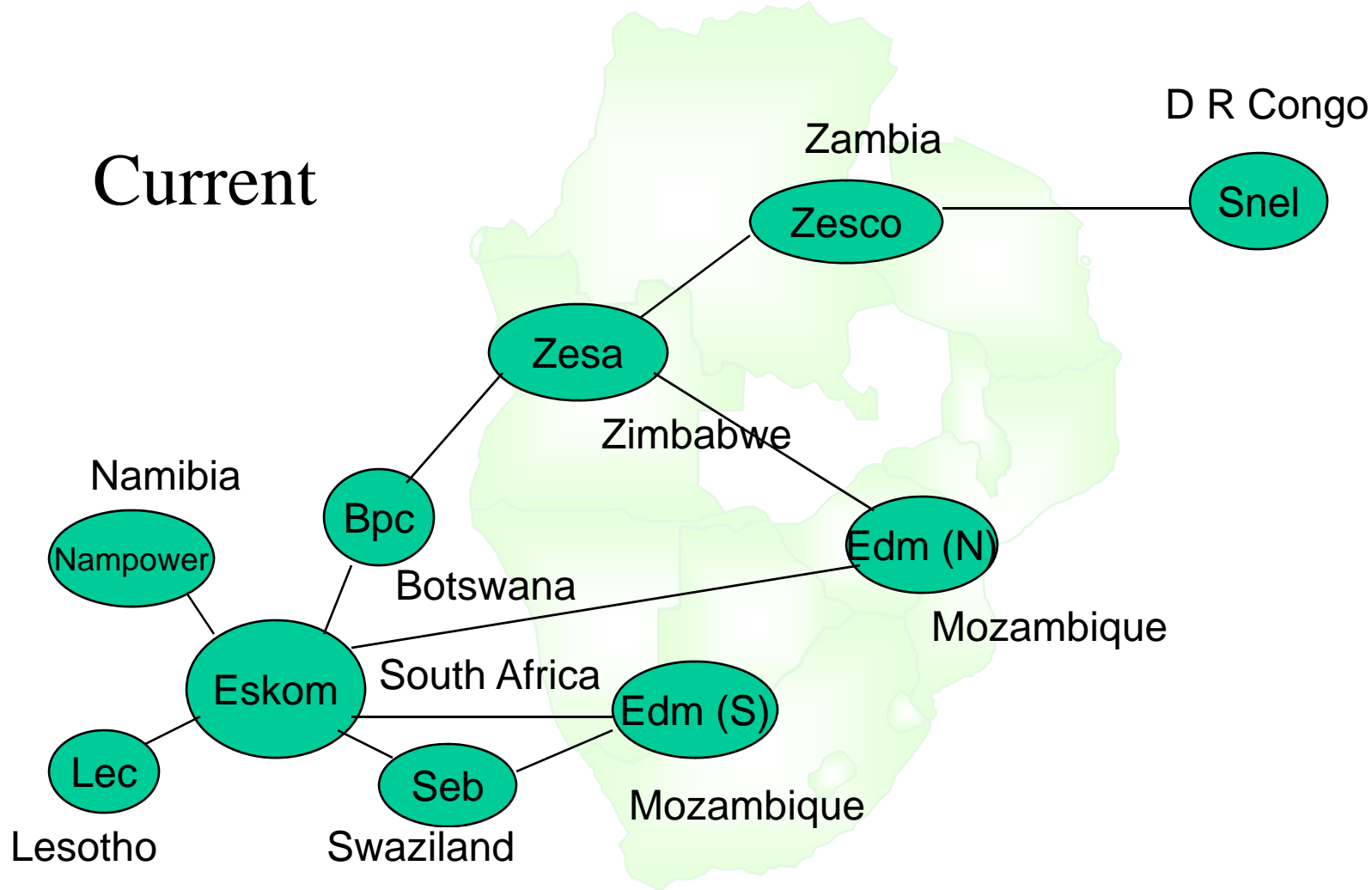
- External assistance from Manitoba Hydro
  - Training
  - Setting up assistance
- Control area concepts – ACE
- Control gear – AGC
- Need for common rules and standards

# SAPP

- Infrastructure
  - Operating Members
  - Matimba – Insukamini line (1996)
- Co-ordination Centre (2002)
  - Functional from an operating perspective and evolved
- Expansion
  - Incorporation of SNEL
  - New interconnections (Phokoje, Songo-Bindura, Songo- Apollo, Kokerboom – Aus, Motraco etc)
  - IPPs and ITCs (HCB, CEC, MOTRACO)
  - Changed political landscape opportunities (Mozambique, Angola etc)

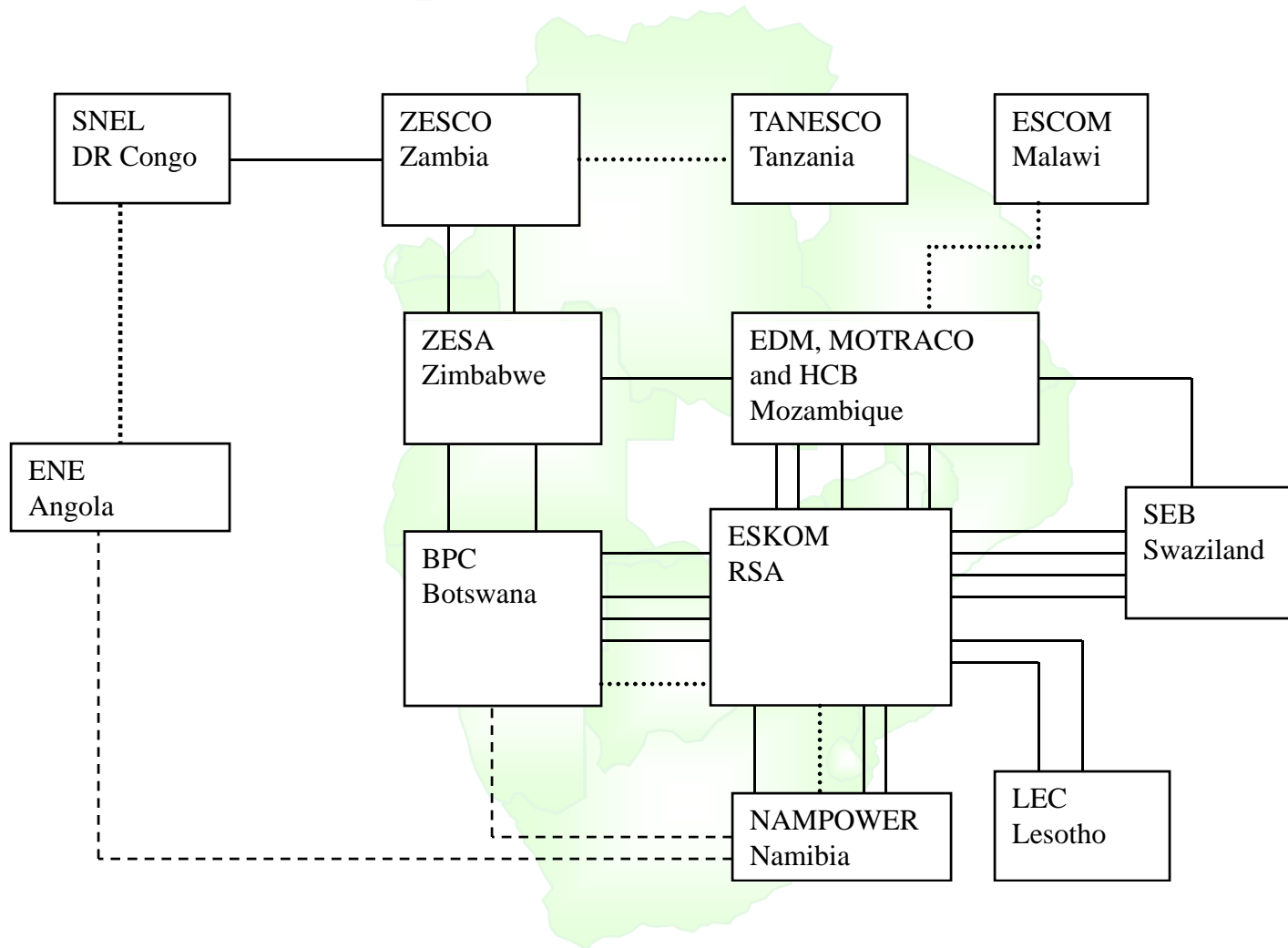
# SAPP Single Line Interconnection

Current



# SAPP Single Line Interconnection

## Current and Prospective



# Interconnected Operations Documents

- **Agreement Between Operating Members**
  - Policy document setting broad guidelines that bind members on issues like:
    - Governance structure and roles in the pool
    - Operating principles (**SRMC, reserve policy etc**)
    - Member commitment to approved concepts e.g. CC budget contribution and formula
    - Influenced by NERC
- **Product of PSC**

# Interconnected Operations Documents

- **Operating Guidelines**
  - Functional document that spells out details
  - Emphasises operating to the same rules, standards and procedures for smooth and fair ops (the SAPP evolution)
  - Gives guidance on specific operations e.g. time error correction, schedule ramping, inadvertent energy payback, frequency bias measurement intervals and calculations, control performance criteria
  - Influenced by NERC
  - **Product of OSC**

# Interconnected Operations Documents

- **Trading Guidelines**
- Born out of will to develop competition (1999)
- Empowerment of the CC to trade
- Operationalisation of STEM
- Document containing rules for trade e.g. the offer/bid matching process, trading timelines, financial settlement rules, roles of participants, securities etc.

# Special Guidelines

- Reliability takes precedence over trading
- Bilateral contracts are high priority
- Capacity allocation:  
problems arising out of ownership and commercial arrangements
- Border to border wheeling concept (IPP/ITCs)
- Treatment of losses
- Procedure for new guidelines (consensus first then vote: wheeling, frequency relaxation)
- Joint investigations and resolution of technical problems (power system oscillations, telecomms)
- Ancillary services
- Disaggregation of system operations and trading functions
- Counter flows
- Market expansion: Guidelines for special market arrangements (MCP, spot trading etc)

# Making it Work

- Leadership is key
- Benefits to citizens depend on pooled knowledge, experience and performance
- Commitment to co-operation and development  
(evolve with time and environment)
- Be conscious of your responsibilities for then you will be cautious of your actions.

# SAPP Operations

- Pre-SAPP
  - System Ops performed both roles (Trading and operating - with exceptions)
  - Operational reliability and efficiency were issues
  - System Operator was the all in all and much burn out was experienced (JTC example)
- IN SAPP
  - Separation of trade and system ops – sharpened focus
  - Traders focus on economic efficiency
  - Operators focus on operational efficiency

# Benefits of SAPP

- Increased reliability due to interconnectivity
- Improved operating efficiency with removal of operational bi-focalty and opportunities to reverse roles (**importers could export**)
- Increased trade due to review of old contracts (**price reductions and trade flexibility**)
- Increased economic efficiency with removal of bi-focalty
- Development of a competitive market
- Clear signals for system expansion from both trading and operating functions

# Challenges for the Future

- Looming supply shortages
- Reliability becoming an issue again
- System monitoring becoming critical
- **Adherence to rules and standards will be on the spot light**
- New rules are promulgated for changing environment e.g. new trading platform (MCP)
- Trading innovation and creativity becoming critical (win-win transactions)
- Synergy amongst utility operators and traders is critical
- Inter – pool operations are coming

*THANK YOU*

