

# **Nigeria: Regulation and Power Sector Reform**

## ***Power Sector Reform Restructuring and Regulation Policy Module***

**Abuja, May 19 - 23, 2003**

# **Nigeria: Regulation and Power Sector Reform**

## ***Policy Module - Nigerian Approach Regulation for Distribution and Sales to Consumers***

**Abuja, May 20th 2003**

# Allocation of Responsibilities: Distribution Company

## ◆ DistCo

- Two licences
- Distribution Network
  - Obligation to serve / connect
  - Operation and maintenance
  - Quality of network service
- Retail Sales
  - Obligation to supply
  - Reliability of supply
  - Contracting Obligation
  - Competitive or economic procurement
  - Metering and Billing



# Licences : Distribution Services

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- ◆ Law: authorises to construct, operate and maintain a distribution system and facilities in an area
- ◆ Network Services:
  - Franchise area and public service obligations
    - Obligation to connect and distribute
  - Open access to network
  - Technical standards
  - Procedures for relationship user - DistCo
    - Distribution Code?
  - Technical quality performance (incentives, compensations)
  - Maximum regulated network (wheeling) tariffs associated to the quality of service regime
    - Incentives for improvements in quality performance
    - Compensations to network users for performance below target
  - Metering, billing and collection
  - Rural electrification obligations?

# Licences : Regulated Trader

- ◆ Licence for Sales to Consumers: (sales monopoly to captive customers)
  - Authorises to buy electricity and Ancillary Services to resell to end customers
  - Obligation to supply captive customers
  - Provisions for future retail competition
  - Procedures for relationship consumer - DistCo / Trader
    - Distribution Code?
  - Procurement rights and obligations
    - Obligation to contract?
    - Can buy from other countries or Regional Pool?
  - Supply quality performance (incentives, compensations)
  - Tariff regime and pass through mechanism associated to performance
    - Performance based multi year tariff?
    - Pass through mechanism
    - Tariffs updates (adjustments) and review
    - Incentives for efficient sales service or efficient procurement
    - Compensations to consumers
  - Metering and Billing
    - Metering Code?



# **Nigeria: Regulation and Power Sector Reform**

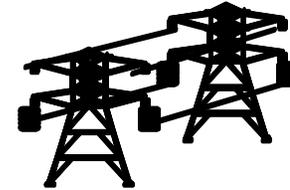
## ***Policy Module - Nigerian Approach Regulation for Transmission and System Operation***

**Abuja, May 20th 2003**

# Allocation of Responsibilities: Transmission Company

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- ◆ TransCo responsibilities should be established in licence conditions
  - Transmission Grid and Interconnectors
    - Open access and new connections
    - Operation and maintenance
    - Quality and performance
  - System Expansion
    - System plan for security, reliability and quality standards, and projected load
    - Transmission expansions or upgrades approved in system plan
    - New interconnectors?
    - Lines to connect new generation?



# Contestability of Grid Connections

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- ◆ TransCo may have the monopoly of connections or each user has the right to choose between:
  - Agreeing with TransCo for connection;
  - Agreeing with a contractor the connection
- ◆ Advantages of contestability:
  - With a new TransCo and especially if public owned, investors may fear connection will not be ready in time
  - Competitive tension on cost of connection
  - Promotes efficiency of TransCo
- ◆ Issue: guarantee non discrimination if connection not responsibility of TransCo
  - Clear technical design and operational standards
  - Transparent and detailed procedures for approval by TransCo of connection



# Transmission Companies: Licence

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- Law = To construct, operate and maintain a transmission system (national or interconnectors)
- Not allowed to buy or sell energy
- System Planning obligations
- New connections
- Obligation to expand
- Quality of service
- Performance regime
- Criteria and procedures for revenues
  - Revenue associated to performance
- Transmission charges mechanism to collect from Transmission Users approved revenues
- Special conditions for interconnectors

# Allocation of Responsibilities: System Operator

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- ◆ Nigeria = SO initially in TransCo, then separated into an Independent System Operator (ISO)
  - A separate SO licences
- ◆ System Operation =
  - Load forecasts and ***planning for long term capacity***
  - Maintenance outages coordination
  - Dispatch and scheduling
  - Congestion administration
  - Ancillary Services
  - Coordination Interconnectors and with Regional Pools / Operators
  - Supervise Open access and new connections
- ◆ Market Operation =
  - Participant admission and register
  - Grid Code and Market Rules
  - Balancing Market and prices
  - Metering and Settlement

# **Nigeria: Regulation and Power Sector Reform**

***Policy Module - Nigerian Approach***

***Regulation for  
Generation and IPPs***

**Abuja, May 20th 2003**

# Allocation of Responsibilities: Generation Company

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- ◆ Successor Generator or IPPs responsibilities should be established in licence conditions
  - Energy production
  - New generation investment
  - Operation and maintenance of power plants
    - Fuel procurement
    - Efficient availability
    - Hydro: reservoir management?
  - Environmental
  - Participate in the Market
    - Contracts
    - Energy and Ancillary Services
    - Balancing Market
  - Sales to Traders and Eligible Customers
    - Regional trading requires a separate Trader licence?
- ◆ Self generation (cogeneration) can sell
  - Price? Avoided cost?

# Generation Regulation: Principles

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- ◆ General objectives
  - Availability (performance) incentives
  - Merit order constrained dispatch
  - Competition in supply
  - Competition in contracts
  - Viability of successor generators
- ◆ Regulation of prices:
  - Thermal Variable costs for dispatch nomination
    - During transition, contract prices?
    - Later, caps and VOLL? Floor?
  - Hydro dispatch nomination
- ◆ Ancillary Services
  - Special pricing and payment
  - Incentives to provide for shared quality
- ◆ Generation Capacity payment in contracts (incentives for reliability of supply)?

# Generators: Licence

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- ◆ Production of electricity: authorises to build, own, operate and maintain
  - Technical and environmental standards
  - Avoid creating barriers to entry: too complicated or slow or discriminatory licensing procedure
  - Non discriminatory open access to grid and networks
    - Standard security and quality for connection requirements
    - Predictable and transparent procedures
  - Mandatory centralized dispatch
    - Regulation of offers (variable costs and caps)
  - Obligation to comply with rules and Codes
- ◆ Sales - trade
  - Can sell to eligible customers and distribution companies through contracts
  - Can buy and sell in the Balancing market
  - Can buy and sell backup contracts with other Generators
  - Can sell ancillary services
  - Can export to other markets or Regional Pool?

# Generation: New entry

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- ◆ Close gap in required generation capacity for reliability of supply
  - Plan and inform in advance reasonable additions (e.g. MW per year)
  - Issue: load projections after so many years of suppressed load
    - Bad experiences after rationing of over estimation of non supplied load
    - Care not to over commit to a load that does not exist
- ◆ Affordability of new generation:
  - Role of Bulk Trader
  - Competitive Procurement
    - Role of NERC:
      - For Bulk Trader and DistCos: procedures or guidelines?
      - When and why direct contracting is allowed
  - Standard contract design?
- ◆ Promote flexibility and free choices for investors
  - Plan MW needed plus fuel - energy policy; or
  - Plan new generation project