

PD-ABY-740

PROJECT INCEPTION REPORT
AND
MONTHLY PROGRESS REPORT FOR
AUGUST 2003
NIGERIA ELECTRICITY MARKET REFORM

Work Order 171, Contract LAG-I-00-98-00006-00

Prepared for



September 2003

Prepared by

 **Nexant**

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1 Introduction

This is the initial progress report for the Nigeria Electricity Market Reform Project (USAID Work Order No. 171, Contract LAG-I-00-98-00006-00). The goal of the work order is to provide technical assistance to the Federal Government of Nigeria to implement priority electric sector reforms. Project activities started in July 2003 and the contract ends on December 18, 2003.

The project responds to a request from the Managing Director of the National Electric Power Authority (NEPA), who looks to Nexant as a longstanding and trusted advisor on corporate restructuring. The work is a direct follow-up to two earlier USAID-Nexant projects: the Nigeria Energy Sector Reform Program (Task Order 816, Contract LAG-I-00-98-00006-00), which ran from January 2002 through March 2003; and the Nigeria Electricity Market Reform Program, which covered May and June 2003.

This report presents the project work plan, which has been developed in coordination with project stakeholders NEPA, the Bureau of Public Enterprises (BPE), the Ministry of Power and Steel, USAID and World Bank. Nexant obtained concurrence from Nigerian counterparts that each activity in the work plan will contribute to tangible reforms in the electric sector and build local capacity. In addition, each activity conforms to USAID's goals for the project and leverages USAID funding for maximum impact.

This report also provides a summary of project activities conducted from project inception through August 2003. The Nexant team reached full speed in August with a seamless transition from the prior task order.

This report is organized into the following sections:

- **Section 2** – Reviews the current status of electricity sector reform in Nigeria.
- **Section 3** – Presents the technical assistance activities that Nexant will implement under this work order.
- **Section 4** – Shows the schedule for project activities and deliverables.
- **Section 5** – Presents a summary of project activities to date.
- **Attachment A** – Shows two key documents demonstrating Nigerian buy-in on the project: 1) the resolution that was adopted by the NEPA Board on the “pre-transition stage” arrangement for NEPA; and 2) a letter from the Minister of Power and Steel to the Chairman of NEPA on implementation of electricity market reform according to the Nexant model.
- **Attachment B** – Shows the minutes of the August 21 and September 1 meetings of the NEPA Restructuring Committee on the formation of new market organizations.
- **Attachment C** – Provides Nexant's presentation to the NEPA Executive Director of Marketing and his staff on metering strategy.

- **Attachment D** – Provides Nexant’s presentation to the Minister of Power and Steel on options for outsourcing distribution company management.

2 Status of Nigeria Electricity Sector Reforms

The following recent developments set the stage for the next phase of electricity market reforms in Nigeria:

- **NEPA Restructuring Committee** – In March 2003, the NEPA Board of Directors appointed a Restructuring Committee consisting of NEPA Executive Directors and BPE officials. The committee is headed by Mr. Tijjani Abdullahi, BPE Director of Networks and Infrastructure and member of the NEPA Board. On August 13, the Board formally approved the USAID-Nexant report *Priority Reforms for the Nigerian Electricity Market* as the blueprint for the pre-transition stage market, and appointed Nexant as consultant to the Restructuring Committee. The resolution that was adopted by the Board is shown in Attachment A. Nexant’s appointment as consultant to the Restructuring Committee places USAID’s energy program at the forefront of Nigeria’s electricity market reforms.
- **Federal Government of Nigeria Privatization Program** – The National Council on Privatization, through its secretariat BPE, is developing the commercial, legal and regulatory framework for the sector. There are projects underway for tariff setting and formation of the National Electricity Regulatory Commission (NERC). The work is funded by a World Bank privatization support credit and a DFID grant. BPE and NEPA have a mixed record of cooperation on policy-making for the sector. BPE’s restructuring consultants were widely criticized for failing to clearly elaborate a practical program of reforms. NEPA and BPE expect that USAID-Nexant will serve as a neutral third party that can bring new ideas and help to improve cooperation and consensus building between the two sides.
- **Ministry of Power and Steel** – Mr. Liyel Imoke, the ex-Chairman of the NEPA Technical Board, was appointed Minister of Power and Steel in July 2003. Under his leadership, the Ministry is expected to take an active role in the electricity market reforms and the privatization program. The minister is known to favor management contracts to private companies to operate NEPA’s generating plants and manage the distribution companies. Nexant was a trusted advisor to Mr. Imoke when he served as Chairman of NEPA and already the Minister is enlisting Nexant’s help to evaluate the potential role of management contracts in the reform program.
- **Draft Electric Power Sector Reform Bill of 2003** – The draft bill provides for the following key reforms: 1) formation of successor companies to be unbundled from the existing NEPA; 2) development of a competitive electricity market; 3) establishment of NERC; 4) establishment of a Rural Electrification Fund; and 5) eventual privatization of NEPA successor companies. A version of the Bill was passed by Congress in early-2003 but the President has not signed it,

presumably due to changes made in Congress. BPE expects that the Bill will be taken up again by yearend 2003.

USAID's electricity sector reform program scored a major achievement in August when the Nexant report on priority reforms was approved by NEPA, BPE and the Ministry and Nexant was appointed advisor to the NEPA Restructuring Committee. The new consensus among Nigerian decision-makers on the USAID-Nexant reform initiative provides a firm foundation for the project moving forward.

In the next four months Nexant will serve an important role as a trusted and impartial advisor and project manager for the reform program. The next section summarizes the TA activities that Nexant will implement to capitalize on the progress made to date.

3 USAID-Nexant Technical Assistance Activities

The project is structured to address two central prerequisites for the transitional wholesale electricity market in Nigeria: 1) functional unbundling of generation, transmission and distribution, and 2) enhancing the management of the distribution sector in preparation for privatization. Nexant will carry out this work in its role as advisor to the NEPA Restructuring Committee and consultant to the NEPA distribution and marketing divisions.

The project aims to help NEPA implement the initial stage wholesale electricity market according to the design developed by Nexant under its prior USAID task orders. This is a hands-on assignment and most project activities will be conducted in the field. The work plan provides for several reports, however the focus of the work is less on reporting and more on face-to-face interaction with Nigerian decision-makers who are implementing the new market structure.

The following project activities have been agreed in consultation with NEPA, BPE, the Ministry of Power and Steel, USAID and World Bank.

3.1 Advising the NEPA Restructuring Committee

Nexant is advising the NEPA Restructuring Committee in the following areas:

- **Restructuring Project Manager** – The Nexant Project Manager is responsible for planning Restructuring Committee meetings, assigning work to task teams, monitoring the project work plan, reporting progress to the Committee and delivering Nexant's recommendations on pre-transition stage market set-up.
- **Implement New Market Organizations** – Nexant is assisting the Restructuring Committee to establish two new entities for operating and administering the wholesale electricity market: 1) the Market Oversight Committee, and 2) the Market Operator. Nexant has the following responsibilities: advise on organization, job descriptions, staffing and procedures; monitor work processes during shadow market operations; and provide on-the-job training as required. The proposed designs for the two units were agreed in the August

22 and September 1 meetings of the NEPA Restructuring Committee. Attachment B shows the minutes of the meetings.

- **Implement Financial Restructuring** – A Nexant consultant serves as advisor to the Restructuring Committee's Finance Task Team, which is responsible for unbundling assets and liabilities to the new business units and implementing the financial restructuring plan.
- **Address Human Resources Issues** – The NEPA Board has approved reorganization plans for the generation, transmission and distribution sectors consistent with the new electricity market structure. The Restructuring Committee is expected to appoint a Reorganization Task Team to address HR issues that will arise as staff is reassigned to new business units. Nexant will provide a consultant to work with the Task Team if the reorganization begins before the end of Nexant's contract with USAID.

The project final report in December will summarize Nexant's progress with the Restructuring Committee and make recommendations on next steps for the Committee to implement.

3.2 Enhancing the Management of the Distribution Sector

This activity will assist NEPA to enhance management capabilities and core functions at the distribution business units during the pre-transition stage electricity market. Nexant will also advise on strategies to institute management contracts with private companies. These activities are important for the distribution sector to evolve from central administrative control to a decentralized system of regional DisCos operating as semi-autonomous commercially oriented profit centers.

Nexant's scope of work covers the following tasks:

- **Guidelines for Delegation of Authority from Headquarters to the DisCos** – Nexant is advising NEPA management on new authority limits for the DisCos during the pre-transition stage electricity market. Nexant will deliver guidelines in the following areas: internal controls; procurement; spending limits; budgeting; and economic and financial analysis of projects.
- **Strategies for Metering and Billing** – Poor collections performance is NEPA's Achilles heel. NEPA bills only about 60% of energy generated, and collects only about 60% of billed revenue. Nexant is working with the NEPA Marketing Department and Abuja DisCo to identify the problems in metering and billing and develop new strategies to address the problems. The project team will summarize its findings and recommendations in working papers that NEPA can use for executive decision-making. Also, Nexant plans to deliver an informal workshop on billing and metering for NEPA management in November. Attachment C shows the handout from a presentation on metering strategy that Nexant delivered on 3 September to the head of NEPA marketing sector and his staff.
- **On-the-job Training for Demand Forecasting** – A reliable forecast of customer demand is essential for technical and financial planning; however demand

forecasting is practically nonexistent at NEPA. Nexant is providing on-the-job training in load forecasting for staff from Abuja DisCo. Nexant's distribution expert has gained NEPA buy-in on the project and Abuja Zone has formed a counterpart team to work with the consultant on a daily basis to complete a detailed load forecast by the end of the year. The team is using the *Load Forecast Model for Abuja DisCo Working Paper* (Nexant, June 2003) as a guide for their activities. The project will serve as a pilot that can be replicated company-wide.

- **DisCo Management Contracts** – In August, the newly appointed Minister of Power and Steel requested Nexant to develop recommendations on outsourcing executive management of NEPA DisCos to private operators. This activity is proceeding in two steps. First, Nexant reviewed optional approaches to management outsourcing and delivered recommendations to the Minister. Attachment D shows the handout from the meeting, which was held on 22 August. Nexant's analysis concludes that private management contractors could add value at NEPA. Next, Nexant will recommend implementation arrangements.

The project final report will summarize progress on the aforementioned tasks and discuss next steps for enhancing the management of the distribution sector.

4 Project Schedule

Figure 1 shows the schedule for project activities and deliverables.

| | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-----|-----|-----|-----|-----|-----|
| 1. Advising the NEPA Restruct Committee | | | | | | |
| ▪ Restructuring Project Manager | | | | | | |
| ▪ Implement New Market Organizations | | | | | | |
| ▪ Implement Financial Restructuring | | | | | | |
| ▪ Address Human Resources Issues | | | | | | |
| 2. Enhancing Distribution Management | | | | | | |
| ▪ Delegation from HQ to DisCos | | | | | | |
| ▪ Strategies for Metering and Billing | | | | | | |
| ▪ Demand Forecasting | | | | | | |
| ▪ DisCo Management Contracts | | | | | | |
| Deliverables | | | | | | |
| ▪ Guidelines on Delegation of Authority | | | | ▲ | | |
| ▪ Working Paper: Metering Strategy | | | ▲ | | | |
| ▪ Working Paper: Billing Strategy | | | | | ▲ | |
| ▪ Management Contracts Presentation | | | | ▲ | | |
| ▪ Workshop on Metering and Billing | | | | | ▲ | |
| ▪ Project Summary Report | | | | | | ▲ |

Figure 1: Project Schedule

5 Monthly Report for August 2003

5.1 Summary of Activities

The following table summarizes progress on project activities.

| Activity | Progress in Period |
|--|---|
| Advising the NEPA Restruct Committee | |
| Advise NEPA Restructuring Committee | <ul style="list-style-type: none"> ▪ Developed agenda and led the meetings of the Restructuring Committee on Aug 22 and Sep 1. ▪ Regular meetings with BPE and NEPA to coordinate, plan and implement activities. |
| Implement Market Operator and Market Oversight Committee | <ul style="list-style-type: none"> ▪ Conducted stakeholder meetings at NEPA. ▪ Specified the roles, functions and activities of the MOC vis-à-vis other market players. ▪ Prepared job descriptions for the Market Operator and Director of the MOC Secretariat. |
| Implement Financial Restructuring | <ul style="list-style-type: none"> ▪ Kick-off meetings with Financial Task Team. ▪ Diagnostic study in progress. |
| Address HR Issues for Reorganization | <ul style="list-style-type: none"> ▪ No activity |
| Enhancing Distribution Management | |
| Guidelines for Delegation from HQ to DisCos | <ul style="list-style-type: none"> ▪ Conducted field interviews with NEPA management and staff. Preparing diagnostic of current practices. |
| Strategies for Metering and Billing | <ul style="list-style-type: none"> ▪ Completed fieldwork to identify main problems for retail metering and to discuss possible solutions with NEPA management. ▪ Delivered a presentation on metering strategy to the Executive Director of Marketing and his staff. ▪ Working paper will be delivered in September. |
| On-the-job Training for Demand Forecasting | <ul style="list-style-type: none"> ▪ Formed joint Nexant-NEPA load forecasting team for Abuja DisCo. ▪ Conducted daily on-the-job training with counterparts. ▪ Load forecast in progress. |
| DisCo Management Contracts | <ul style="list-style-type: none"> ▪ Delivered a presentation on <i>Options for Outsourcing DisCo Management</i> to the Minister of Power and Steel. |

5.2 Key Meetings

The following table provides a summary of key meetings showing attendees and outcomes.

| Org | Date | Attendees | Outcome |
|--------------------|-------------------|---|---|
| BPE | 1 Aug | BPE Power Team, Mr. Babalola, Mr. Tijjani Abdullahi | Agreed on the structure of the market and prepared a work plan for the NEPA Restruct Committee. |
| NEPA and BPE | Wks of 4 & 11 Aug | BPE Power Team, NEPA Executives | Series of coordination meetings with key project stakeholders. |
| Ministry Power | 8 Aug | Minister Liyel Imoke | Minister requested that Nexant study DisCo management outsourcing. |
| NEPA | 12 Aug | GM Abuja Zone, AGM Distribution | Kick-off meeting for demand forecasting activity. |
| USAID | 13 Aug | Mr. Frank Okafor, Mr. Tom Park | Briefing to USAID/Nigeria on Nexant's energy work. |
| NITEL | 15 Aug | Mr. Graham Moss | Information exchange on Pentascope management contract for NITEL. |
| NEPA | 11-31 Aug | Abuja DisCo Load Forecast Team | On-the-job training for load forecasting. |
| NEPA | 14 Aug | Marketing Sector | Kick-off meeting for TA on metering strategies. |
| NEPA | 20 Aug | NEPA Finance, Audit and Procurement | Kick-off meeting for delegation of authority TA. |
| NEPA Restruct Comm | 22 Aug | BPE Power Team, NEPA Executives | Half day meeting to review the proposed electricity market structure and discuss new market organizations. |
| Ministry Power | 22 Aug | Minister Liyel Imoke | Nexant presentation of recommendations on DisCo management contracts. |
| Nexant | 26 Aug | Nexant Team | Coordination meeting to review activities and project assignments. |
| NEPA Restruct Comm | 1 Sep | BPE Power Team, NEPA Executives, NEPA MD | Half day meeting to discuss new market organizations, deliver progress reports, appoint new task teams and review schedule. |
| NEPA | 3 Sep | ED Marketing and staff | Nexant presentation on metering strategies. |

5.3 Fieldwork Dates

The following table lists field dates for Nexant advisors.

| Name | Position | Field Dates |
|--------------|--------------------------------|-----------------|
| Tom Simpson | Project Manager/Sr. Consultant | thru November |
| R. Rejikumar | Sr. Consultant (Distribution) | 11 Aug to 6 Sep |
| Gulam Dhalla | Sr. Consultant (Financial) | 19 Aug thru Sep |
| Martin Massy | Sr. Consultant (Market Set-up) | 26 Aug to 5 Sep |

5.4 Spending

The following table shows the estimated spending from project inception through August 2003.

| Category | Amount |
|-------------------|------------------|
| Labor | \$94,000 |
| Non-Labor | \$41,000 |
| Total | \$135,000 |
| Budget Ceiling | \$470,078 |
| Balance Remaining | \$335,000 |

Attachment A: Pre-transition Arrangement for NEPA

Letters from Chairman of Restructuring Committee and from Minister of Power and Steel

**Attachment B: Minutes of 21 August and 1 September NEPA
Restructuring Committee Meetings**

Attachment C: Presentation on Metering Strategies for NEPA

Attachment D: Presentation on Outsourcing DisCo Management

Attachment A: Pre-transition Arrangement for NEPA



THE PRESIDENCY

Bureau of Public Enterprises

The Secretariat of the National Council on Privatisation

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11 August 2003

The Managing Director
NEPA Corporate Headquarters,
Plot 441 Zambezi Crescent,
Maitama, Abuja

ATTENTION: Members of the Restructuring Committee

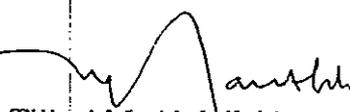
Dear Sir,

DOCUMENT ON PRE-TRANSITION ARRANGEMENT FOR NEPA

Please find attached a working paper on the pre-transition arrangement for NEPA based on the Nexant Initiative reports. This working paper should form the focus of discussion of the Restructuring Committee meeting to be held.

Thank you and best regards,

Yours faithfully,


Tijjani M. Abdullahi
Chairman, Restructuring Committee



ELECTRIC POWER SECTOR REFORM PROGRAMME

Date: August 11, 2003

To: NEPA Board Restructuring Committee

From: Chairman, NEPA Board Restructuring Committee

PRE-TRANSITION ARRANGEMENT FOR NEPA

1.0 Introduction

- 1.1 The electric power sector reform (EPSR) programme is essentially in two parts: restructuring of the industry, which involves the unbundling of NEPA into distinct business units, and the privatisation of the business units. In addition to addressing technical, financial, legal and commercial issues intrinsic to NEPA and the proposed business units, a critical aspect of the restructuring is the establishment of the regulatory commission. The functions and role of the regulatory commission is to oversee and monitor the activities of participants in the industry. The main catalyst for the above-mentioned restructuring and privatisation is the EPSR Bill. We envisage that the bill will be enacted before end of 4th quarter 2003.
- 1.2 However, to ensure that crucial time is not lost pending the passage of the Bill, BPE held a meeting with Nexant and the Chairman, NEPA Board to consider the possibility of undertaking some of the activities highlighted by Nexant as pre-transition stage arrangement. Acquiescence was gained on four (4) areas that can be commenced immediately pending the enactment of the EPSR Bill, namely (i) financial, (ii) commercial, (iii) institutional, and (iv) technical. Quintessentially, the proposal envisages horizontal demarcation of the three key sectors along functional lines. Generation Sector would be comprised of existing power stations as semi-autonomous units; Transmission Sector would be functionally distinct; and Distribution Sector would be comprised of NEPA's existing distribution zones as semi-autonomous units.

2.0 FEATURES OF THE PRE-TRANSITION STAGE ARRANGEMENT

In order for this pre-transition stage arrangement to be effective in improving the performance of NEPA, the concomitant institutional, commercial and financial arrangements will need to be clearly defined.

2.1 Institutional

Broadly speaking, Annex 1 shows the proposed NEPA restructuring for the immediate term during the lead-up to the Transition Stage Market. The following institutional arrangement is in force to the pre-transition stage:

- **NEPA BoD** – The Board will serve as decision-making body governing the pre-transition stage market rules and transfer pricing between the NBUs.
- **Market Oversight Committee** – The Market Oversight Committee will set the pre-transition stage market rules and pricing methodology and ensure the efficient administration of the market rules.
- **NEPA HQ** – NEPA Headquarters will remain status quo until its functions are unbundled to the NBUs as part of the Electric Power Sector Reform programme.
- **Generation Sector** – NEPA Generation Sector will be constituted as semi-autonomous units.
- **Transmission Sector** – NEPA Transmission Sector will be functionally distinct (TransysCo) from the semi-autonomous units of Generation and Distribution Sectors. The configuration of transmission sector will reflect the three primary functions, namely, ownership and maintenance of the grid, system operations and market operations.
- **Market Operator** – The Market Operator will be implemented as a division within TransysCo. The new unit will have the following key functional responsibilities: 1) implement and administer the market rules; 2) determine cash allocations; and 3) administer collections and payments.
- **Distribution & Marketing Sector** – This sector will be comprised of semi-autonomous units.

2.2 Commercial

The following commercial arrangements will be instituted between the units and administered by TransysCo:

- Load allocation to the DisCos will continue according to the status quo subject to any modifications proposed by the DisCo Set-up Team.
- Appropriate banking arrangements will be instituted for cash flows from the DisCos to the Market Operator to the other Units.
- Market rules as defined by the Market Oversight Committee and approved by the Board will form the modus operandi.

Annex 1 also highlights the commercial relationship between the units by showing the flow of cash.

2.3 Financial

A financial restructuring plan will be agreed and implemented. Assets and liabilities will be unbundled to the units according to the Nexant report, and all units will conduct a physical asset inventory. units will keep their own asset registers and books of account and regularly report financial results. Financial authority limits will be enhanced at the unit level.

3.0 RESTRUCTURING PROJECT PLAN THROUGH YEAR END 2003

3.1 Annex 2 provides a top-level workplan for the pre-transition arrangement. The plan shows key activities, organizational responsibilities, and timeframe. The exercise will require the involvement of the following key stakeholders:

- Federal Ministry of Power & Steel
- NEPA BoD
- NEPA Management
- Restructuring Committee of NEPA BoD
- Market Oversight Committee
- Bureau of Public Enterprises

3.2 As agreed in principle, NEXANT will assist in monitoring and reporting on the work of the various Set-up teams and Task Teams. They will also prepare progress reports and provide briefings to the Restructuring Committee of the BoD. The Nexant Project Manager will be resident in Abuja from August through November 2003 under funding provided by USAID.

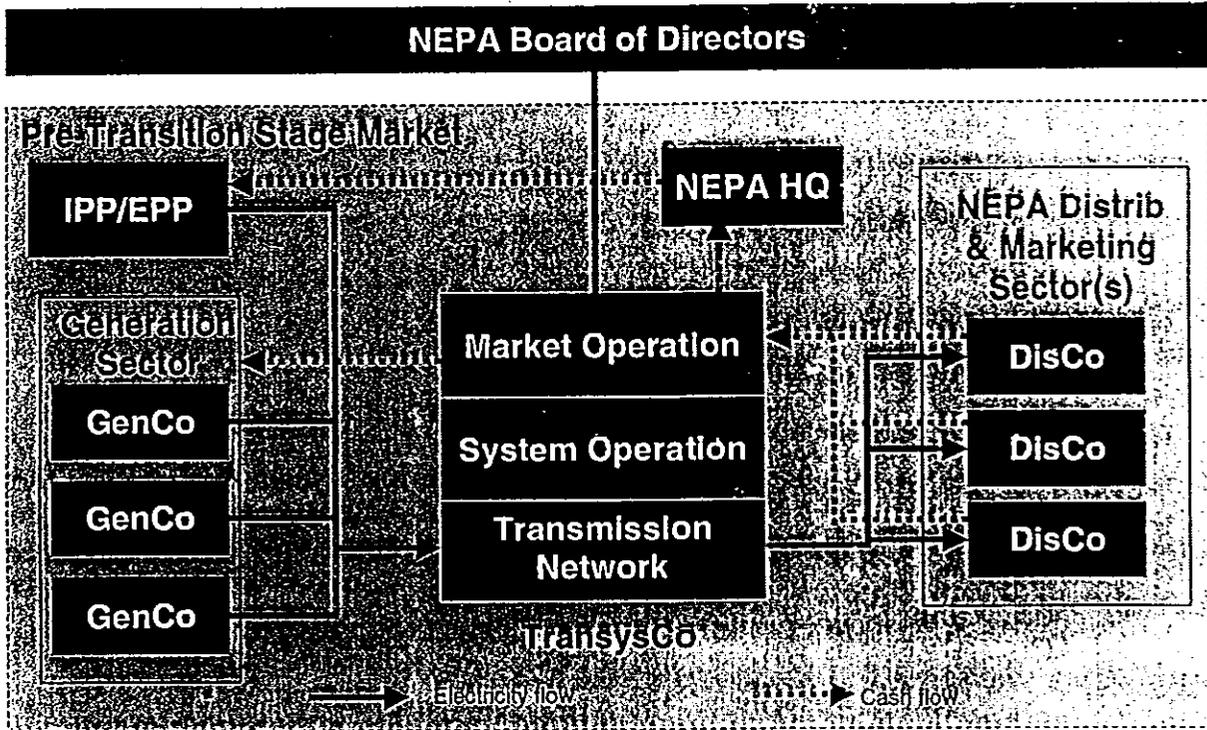
4.0 ADVANTAGES OF THE PRE-TRANSITION ARRANGEMENT

There are a number of advantages to adopting the Nexant initiative and these include, but are not limited to the following:

- Immediate commencement of activities to improve operational and allocative efficiencies, thereby improve revenue collection
- Devolution of authority to the appropriate levels, which would improve performance
- Definitive and effective trading arrangement that will be underpinned by adherence to market rules
- Emergence of a regulatory functions in the form of Market Oversight Committee that would set the pre-transition market rules and pricing methodology; and would also ensure the efficient administration of the market rules
- Introduction of market operation function into the Transmission company (Transysco)
- Gradual and incremental approach to restructuring of NEPA

Furthermore, the emergence of the semi-autonomous units would lead to competitive behaviour and shadow trading based on transfer pricing. In addition to making operations more transparent, it would be possible to pursue cost reducing measures, as the bottlenecks would be identified.

Annex 1: Proposed NEPA Restructuring for the Immediate Term



Annex 2: Workplan for NEPA Restructuring Activities (Next 6 Months)

| Activity | Responsibility | Aug-03 | Sept-03 | Oct-03 | Nov-03 | Dec-03 | Jan-04 |
|--|-------------------|--------|---------|--------|--------|--------|--------|
| A. Financial | | | | | | | |
| 1. Recommendations for Financial Restructuring | Restruct Comm | █ | █ | █ | █ | | |
| 2. Asset inventory and complete asset registers | Set-up, Fin Teams | | | | | █ | █ |
| 3. Unbundle assets/liabilities; opening balance sheets | Financial Team | | | | | █ | |
| 4. Cost of restructuring (including HR) | Restruct Comm | █ | | | | | |
| 5. Implement financial restructuring plan | Set-up, Fin Teams | | | | | █ | █ |
| 6. Define cost structures and tariff methodologies | Financial Team | | █ | █ | █ | | |
| 7. Finalize and validate Charges Model | Financial Team | █ | █ | | | | |
| 8. Enhance NBU authority limits | Restruct Comm | | | | | █ | |
| 9. Bottom-up financial planning for NBUs | NBU Set-up Teams | █ | █ | █ | █ | █ | █ |
| B. Commercial | | | | | | | |
| 1. Rules for shadow market operations | Mkt O/sight Comm | █ | █ | █ | █ | | |
| 2. Pricing approach between NBUs | Mkt O/sight Comm | █ | █ | █ | █ | | |
| 3. Procedures for market operations | Mkt O/sight Comm | █ | █ | █ | █ | | |
| 4. Set up banking arrangements | Fin & NBU Teams | █ | █ | █ | █ | | |
| C. Institutional | | | | | | | |
| 1. Set up Market Operator | Mkt O/sight Comm | █ | █ | █ | █ | | |
| 2. Set up Market Oversight Committee | Board | █ | █ | | | | |
| 3. Finalize NBU Organization Structures | NBU Set-up Teams | █ | █ | | | | |
| 4. Assign Staff to NBUs | HR Team | █ | █ | █ | █ | █ | █ |
| 5. Address HR Issues | HR Team | █ | █ | █ | █ | █ | █ |
| 6. Outsourcing and Non-core Businesses | Board | █ | █ | █ | █ | | |
| 7. Training program for key management personnel | Restruct Comm | █ | █ | █ | █ | | |
| D. Technical | | | | | | | |
| 1. Complete grid metering and boundary definitions | TransysCo | █ | █ | █ | █ | | |
| 2. Meter data collection and reporting system | TransysCo | | █ | █ | █ | █ | |
| 3. Define and implement KPIs | NBU Set-up Teams | █ | █ | █ | | | |
| 4. Grid, distribution and metering codes | NBU Set-up Teams | | | | █ | █ | █ |

681

C2882

FEDERAL MINISTRY OF POWER AND STEEL
INTERNAL MEMO

| | | | |
|---------|--|------|------------------------------|
| FROM | MINISTER OF POWER & STEEL | TO | CHAIRMAN NEPA MD NEPA ✓ |
| SUBJECT | IMPLEMENTATION OF ELECTRICITY MARKET REFORM THE NEXANT MODEL | DATE | 18 TH AUGUST 2003 |

I was pleased to note that the Board at its last meeting took a definitive decision to earnestly embark on sector reform with the adoption of the Nexant report as a working model to be implemented in the transition phase leading up to the passage and ascent of the Electric Power Reform Bill.

It now behoves us to show our commitment to the reform policy of this administration by diligently and expeditiously implementing the programme.

In this wise, I would urge that you immediately set about constituting an implementation committee to oversee the process. I would also advise that such Committee be chaired by the Managing Director (NEPA) with the Executive Director (Operations) as alternate Chairman. The Committee should have representation from within NEPA – (GM –Audit, Corporate Planning, Human Resources, Field/Outstation Officers, Unions) and outside NEPA; Nexant, BPE, Ministry of

Handwritten notes:
10/24/03
Committee
20/11/03
e for

Handwritten signature: PC All Eds, Com (Audit), Com (Oper)

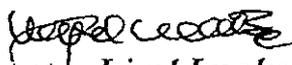
FEDERAL MINISTRY OF POWER AND STEEL
ABUJA.

Power and Steel, BPE Consultants and such other interest as you may deem necessary. The Committee should report to the Board of Directors which shall in turn keep the Ministry abreast of progress of implementation.

The Committee should within one week of its inauguration, submit a road map to completion of the programme.

I would advise that membership of the Committee should to every extent possible be on a full time basis for effective coordination and expeditious implementation of the reform agenda.

You can count on the strong support of the Ministry at all times. I wish you the best of luck in this critical assignment.


Senator Liyel Imoke

Cc:

Permanent Secretary
Director (Power)
Director (Power Policy)
Legal Adviser.

**Attachment B: Minutes of 21 Aug NEPA
Restructuring Committee Meeting**

Attention: Dr. Sam Agbogun
ED, CP&S.

MINUTES OF THE RESTRUCTURING MEETING HELD ON 22 AUGUST 2003 AT NEPA CORPORATE HEADQUARTERS

Present

- | | | |
|-----------------------------|------------------------------|-------------|
| 1. Tijjani M. Abdullahi | (Director, BPE) | - Chairman |
| 2. Dr. Sam J. Agbogun | (ED, CP&S) | - Member |
| 3. Engr. G.O.P Osakue | (ED, Trx) | - " |
| 4. Engr. (Mrs.) B.A. Lijofi | (ED, Dist) | - " |
| 5. Engr. O.K Ozoemena | (ED, Gen) | - " |
| 6. Engr. A. Oyinloye | (ED, Mkting) | - " |
| 7. Shaibu Maigida | (ED, F&A) | - " |
| 8. S. O Udeh | (AGM, RE: Rep. ED, Ops) | - " |
| 9. Shittu Shaibu | (PSRT-BPE: Rep. Leader PSRT) | - " |
| 10. Rahila Onya | (PSRT-BPE) | - Secretary |

Apology

11. Engr. J. O. Makoju - NEPA MD

Absent

11. Perm Secretary - FMPS

In attendance

- | | |
|---------------------------|-----------------------|
| 1. A.T Zubairu | - Legal, NEPA |
| 2. Adekunle Oyenusi | - Legal, NEPA |
| 3. Engr. J. O. Akinsulere | - GM, Marketing, NEPA |
| 4. Reji kumar | - Nexant Inc. |
| 5. Tom Simpson | - Nexant Inc. |
| 6. Gulam Dhalla | - Nexant Inc. |

1.0 Opening Remarks

- 1.1 The meeting commenced at 10.25 a.m. under the Chairmanship of Tijjani Abdullahi with an opening prayer by Engr. Udeh. Thereafter, the Chairman welcomed all to the meeting and requested an introduction by members for the benefit of Nexant group in attendance.
- 1.2 The Chairman informed the meeting that the pre-transition proposal discussed and approved at the last meeting was presented to NEPA Board and approval received to implement the proposal. He drew the attention of members to item 3.2 - 3.4 of the minutes of the last meeting to guide the discussions of the meeting. He stated

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that the meeting would essentially focus on details of the pre-transition proposal as would be presented by Nexant and discussion of various comments that would arise.

2.0 NEXANT PRESENTATION/DISCUSSION OF THE PRE-TRANSITIONAL ARRANGEMENT FOR NEPA

- 2.1 Tom Simpson elaborated on the pre-transition stage market structure and the various players. He stated that NEPA would be vertically unbundled into GenCos, TransSysCo and DisCos and the Market Operator and Market Oversight Committee (MOC) would be formed. The MOC and Market Operator will ensure compliance with the system of agreements between the unbundled units.
- 2.2 He explained that the MOC would be an independent deliberative body that would oversee the financial settlements function administered by the Market Operator and the physical operation of the generation and transmission systems. The Market Operator, which will be within the TranSysCo will administer the market rules, and the billing and cash flow functions and determine cash allocations during the transition stages and for Nigeria's forthcoming wholesale electricity market.
- 2.3 Tom Simpson informed the meeting that there were several possible structures for the MOC, which he recommended should comprise of 3-5 members. The choice of the appropriate structure would depend on the particular situation in Nigeria. However, ideally the structure of the MOC, which is top level and would have executive control of the market should be chosen to best achieve fairness to all market participants, sustainability of adequate system reliability, transparent decision-making process and cost effectiveness.
- 2.4 Thereafter, Tom Simpson suggested three (3) options the Committee should consider to adopt one. They are:
- MOC comprised of independent experts who do not represent particular industry sectors
 - MOC comprised of members of different interests of the industry: generators, distribution companies, end-users, and the transmission owner e.t.c.
 - MOC comprised of officials of the utility holding company charged with executive decision-making authority over shadow market transactions between the unbundled units.
- 2.5 The meeting was of the view that option 2 was the best for Nigeria considering the fact that it would require a longer timeframe for option 1 and option 3 would not be feasible since it is expected that the Initial Holding Company (NEPA) would eventually be phased out.

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- 2.6 The meeting was further informed that the MOC will comprise of a secretariat, and two (2) advisory committees: a technical advisory committee, which would be ad hoc for specific issues and a financial advisory committee, which would be more or less a standing committee to process and analyze budgetary issues for each of the thirteen (GenCo, TransysCo and 11ise os DisCos) players in the market. The MOC, which was agreed would be part-time would determine the procedures used by the Market Operator, which would report to it functionally and administratively to NEPA MD. Essentially the Market Operator is the banker of the money to be allocated to the units based on power generated and sold.
- 2.7 The meeting deliberated on the person that would chair the advisory committees and came up with two (2) options: i) The committees elect their chairman; or ii) Members of MOC act as chairmen. The meeting unanimously agreed that the second option was the best in order to avoid likely discrimination using the first option. It was also decided that though MOC is independent, it would report to NEPA Board. MOC Secretariat would be fulltime with a Director and secretariat staff. The meeting also decided that each DisCo would be represented in the Financial Committee meetings in view of the fact that each zone was peculiar and would not have the same issues and budget.
- 2.8 After extensive deliberations on the membership of MOC, it was decided that MOC should have representatives from FMP&S, MOFI, BPE, and NEPA MD as a member in his capacity. The Secretariat, which would be assisted by consultants, would be in NEPA and the chairman of MOC would be an external party to be appointed by NEPA Board. The Chairman suggested that in view of the limited timeframe it would be advisable to recommend a member of the Electric Power Sector Reform Implementation Committee (EPIC) to NEPA Board for appointment.
- 2.9 Thereafter, Tom Simpson stated that to enable the market to be successful with the pre-transition arrangement, it is pertinent to have more authority devolved to the 11 DisCos to enable them to have maximum autonomy. After extensive deliberation on the matter, two (2) things were noted, is either: i) the budgetary allocation is not enough; or ii) authority limits are not enough, to give DisCos maximum autonomy. Nexant was requested to look at the authority limits adopted for NITEL in order to determine what the authority limit should be for NEPA in the transition stage. The meeting was of the view that the limit given to DisCos should be such that it can afford them to purchase a new sub-station if required.
- 2.10 Furthermore, the meeting was informed that the Market Operations Department would have three (3) sub-units: i) Technical Data Administration to collect, validate, aggregate and edit technical data; ii) Commercial Reconciliation to receive commercial data; and iii) Treasury to determine cash allocations. Each sub-unit would have three (3) support staff. Market Operations would be at AGM level with Principal Managers to head the sub-units. The Market Operator proposal essentially takes the Red Electrica's assignment to the next level.

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- 2.11 Finally, Nexant recommended that these organizations (MOC & Market Operations Department) should be set up as soon as possible to ensure the smooth transition to a functioning wholesale electricity market by commencing the shadow market operations.

3.0 DECISIONS TAKEN

The meeting unanimously agreed to the following:

- 3.1 The pre-transition stage would have 13 players in the market – 11 DisCos, 1 GenCo and a TransysCo. The eleven (11) DisCos authority limits and cash allocations to operate effectively as an autonomous unit would be enhanced. Nexant would review the authority limits given to NITEL to derive an appropriate limit for NEPA DisCos.
- 3.2 MOC would be part-time under the chairmanship of an external chairman to be appointed by NEPA Board with membership drawn from NEPA, FMP&S, BPE, MOFI, and NEPA MD in his capacity. MOC Secretariat would be full-time with a Director as the head. The Restructuring Committee would recommend to NEPA Board an EPIC member to chair MOC.
- 3.3 Members of MOC would be chairpersons to MOC's two (2) advisory committees to be constituted. An Assistant General Manager who would report to MOC would head the Market Operations Department. On the other hand, a Principal Manager would head the sub-units of the Market Operations department. The Market Operator would report to MOC and MOC to NEPA Board.
- 3.4 All eleven (11) DisCos will be represented during MOC financial advisory committee meetings to present their budgets and peculiar cases, which in turn would be presented to NEPA Board for approval.
- 3.5 All Set-up Teams are expected to come up with recommendations to be considered at the next Restructuring Committee meeting for the staffing of the market operations department. ED, CP&S is to co-ordinate the task.
- 3.6 The set-up Teams are all expected to integrate their individual work with the proposed pre-transition arrangement document ahead of Restructuring Committee next meeting.
- ### 4.0 CLOSING
- 4.1 The Chairman scheduled another meeting for Friday 29 August 2003 at 10.00 a.m.. Thereafter, the meeting adjourned at 1.55 p.m with a closing prayer by Shittu Shaibu.

MINUTES OF THE RESTRUCTURING MEETING HELD ON 1 SEPTEMBER 2003 AT NEPA CORPORATE HEADQUARTERS

Present

- | | | |
|-----------------------------|--------------------|----------------|
| 1. Dr. Lanre Babalola | (Leader, PSRT-BPE) | - Ag. Chairman |
| 2. Engr. J. O. Makoju | (NEPA MD) | - Member |
| 3. Dr. Sam J. Agbogun | (ED, CP&S) | - " |
| 4. Engr. G.O.P Osakue | (ED, Trx) | - " |
| 5. Engr. (Mrs.) B.A. Lijofi | (ED, Dist) | - " |
| 6. Engr. O.K Ozoemena | (ED, Gen) | - " |
| 7. Engr. A. Oyinloye | (ED, Mktng) | - " |
| 8. Shaibu Maigida | (ED, F&A) | - " |
| 9. Engr. Y. Abdulmumini | (ED, Ops) | - " |
| 10. Rahila Onya | (PSRT-BPE) | - Secretary |

Apology

11. Tijjani M. Abdullahi - Director, BPE

Absent

11. Perm Secretary - FMPS

In attendance

- | | |
|-------------------|--------------------|
| 1. Adamu Damji | - AD (PSRT-BPE) |
| 2. P.C. Eluemunor | - GM (Legal, NEPA) |
| 3. A.T Zubairu | - SM (Legal, NEPA) |
| 4. Tom Simpson | - Nexant Inc. |
| 5. Gulam Dhalla | - Nexant Inc. |
| 6. Martin Massy | - Nexant Inc. |

1.0 OPENING REMARKS

- 1.1 The meeting commenced at 10.55 a.m. under the Chairmanship of Dr. Lanre Babalola in the absence of the Chairman Tijjani Abdullahi. The Ag. Chairman welcomed all to the meeting and gave an apology on behalf of Tijjani Abdullahi who was presently out of the country.
- 1.2 The Ag. Chairman informed the meeting that the meeting, which was unable to hold on Friday 29 August 2003, was rescheduled for Monday 1 September 2003 in view of the fact that one of the Nexant Consultants who was key to the pre-transition arrangement proposal was schedule to leave on Tuesday 2 September 2003.

Minutes of RC Meeting held on 1 September 2003

1.3 He further stated that the pre-transition arrangement proposal was once more reviewed after the last Restructuring Committee meeting and certain observations were made on the structure of the pre-transition arrangement. He stated that it was after an extensive discussion with Nexant that an agenda being considered was drawn (attached as Annex 1). The Ag. Chairman took the meeting through the agenda by explaining each item.

1.4 Thereafter, NEPA MD noted the absence of the Federal Ministry of Power & Steel and stated the need to have them participate in the meetings. It was suggested that 3-4 persons be nominated by the Minister to attend these meetings on behalf of the Permanent Secretary who is a member of the Committee. NEPA MD stated that there was a need to brief the Minister of the previous meetings held.

2.0 SUMMARY OF LAST MEETING HELD

2.1 The Ag. Chairman requested Tom Simpson to recap the discussions and decisions taken at the last restructuring meeting. In summary, Tom stated that the meeting essentially discussed the function and structure of the pre-transition arrangement, which has the Market Oversight Committee (MOC) and Market Operator (MO) as the key institutions to be established.

2.2 MOC is expected to be a high level committee comprised of 5 members with a very strong Secretariat. In view of the fact that there would be budget functions at this level a Director would head the Secretariat. MOC amongst others is to set guidelines and policies for cash allocation, and oversee market operations. MOC would have two (2) subcommittees (Technical and Financial), which would have the 13 players (11 Discos, 1 Genco & 1 TranSysCo) represented.

2.3 Tom Simpson also stated that it was agreed that MO would report functionally to MOC. MO would be at the AGM level, therefore, the EDs were expected to recommend staff that are going to be interviewed for the position.

2.4 The issue of 13 players versus 18 players proposed for the Nigerian electricity market was discussed. The meeting noted that the immediate task in the pre-transition arrangement is to set up the distribution zones as semi-autonomous units since distribution is a major bottleneck. This informed the need to have semi autonomous distribution units so as to see how NEPA could improve on its billing and collection with the new structure. NEPA MD stated that the process would be phased so that NEPA would eventually have semi autonomous generation units.

2.5 The Ag. Chairman also stated that he was at first alarmed when he read 13 players in the minutes of the last meeting in view of the fact that it was not in line with the 18 units approved for the unbundling of NEPA. However, on a closer note he was of the view that as opposed to having semi autonomous generation units, efficiency gains would be lost if Genco is taken as a block. Nevertheless, this was,

for now at least not a major bottleneck for the reform process so having it, as a block in the interim was not a key issue.

3.0 DISCUSSIONS ON SETTING UP THE MARKET OVERSIGHT COMMITTEE

- 3.1 The Ag. Chairman drew members' attention to the fact that the key function of MOC should be regulatory since it is intended to be a quasi-regulator until the Bill is passed and NERC established. He stated that the decisions taken at the last meeting on the structure of MOC does not depict that of a regulatory body in terms of its functions. A regulator must be independent of the players in the proposed shadow market with respect to budgets and cash allocations. Therefore, if the proposed Financial Committee of the MOC was expected to analyse and determine what each player in the market would get then there are bound to be conflicts in its role as a regulator.
- 3.2 Thereafter, the meeting went through the functions of MOC outlined in the document circulated, which was not exhaustive. NEPA MD noted that the semi autonomous units should be made to conduct planning studies for their sectors and an analysis made by MOC for NEPA Board's approval, which would be sent back for implementation. MOC Secretariat must collate all these information before it is presented to MOC.
- 3.3 The Ag. Chairman further informed the meeting that there was a need for members to take cognisance of the primary role of MOC, which would help to determine what the structure would be and the composition of MOC. He also emphasised the importance to separate executive functions from regulatory functions since it is not proper to have both functions in one body. Therefore, MOC should not be made to implement cash allocations as an oversight body. If MOC does implement cash allocations then a major function of NEPA Management would be given to MOC. This is analogous to the FMP&S making operational decisions an area firmly in the purview of NEPA Management.
- 3.4 It was suggested that the proposed MOC Financial Committee to be set-up could be a subcommittee under NEPA Board Financial Committee to essentially perform the executive function of allocating and implementing cash. NEPA MD advised that the fewer Committees established the better for the process to move forward. So he commended the suggestion and noted the need for both options to be properly considered – i.e. i) MOC to have a both Executive and Regulatory functions or ii) The Executive and Regulatory functions should be separated.

3.5 The meeting agreed that an Ad hoc Team should be constituted to consider both options highlighting the pros and cons for the Restructuring Committee to consider and approve an appropriate structure for the pre-transition stage. The Team was constituted as follows:

- i. ED (CP&S)
- ii. ED (F&A)
- iii. ED (Dist)
- iv. BPE
- v. FMPS
- vi. Nexant

3.6 It was agreed that the team would meet on Monday 8 September 2003 at 10 a.m. to deliberate and recommend the best model for NEPA, which other countries could probably emulate if successful.

4.0 DISCUSSIONS ON SETTING UP THE MARKET OPERATOR

4.1 Tom Simpson stated that in setting up MO, two (2) key issues arise: i) selection process for the AGM position; and ii) who are the officials presently in NEPA that could be moved to MO.

4.2 The Ag. Chairman, however, noted that the critical issue in setting up MO that must be clarified first was the reporting lines. He stated that in view of the fact that TranSysCo was not yet established and there was no clear-cut demarcation between the sectors at the moment, MO could report administratively to NEPA MD and functionally to MOC as was agreed at the last meeting.

4.3 Thereafter, the meeting discussed the functions of MO, which amongst others include i) implement and administer market rules & contracts; ii) Admin settlements, compute billings and issue invoices; iii) determine cash allocation & administration payments; and iv) supervise compliance with market rules and contractual obligations.

4.4 The meeting agreed that the sector EDs should nominate two (2) persons each from present AGMs and PMs for MO position. If a PM is qualified such a person would be nominated for the position. An interview panel would be set up to undertake this selection process. It was suggested and agreed that Nexant, Accenture and BPE should form that Panel so as to bring transparency and fairness into the process.

4.5 It was also agreed that after the MO position is filled, the MO would be part of the process of selecting MO staff. NEPA MD advised that during the interview for the AGM position for MO, potential candidates for staffing MO would be identified. The meeting noted the need for MO AGM to be exposed to some training on market operations.

4.6 The Ag. Chairman brought to the attention of members the advert, which was placed in the papers for TranSysCo staffing by Accenture. He stated that this should not have been done since there was no approval to do so from NEPA Board. NEPA MD expressed his embarrassment at the advert and informed the meeting that he had already asked ED (Transmission) to follow-up on the matter.

5.0 NEW TASK TEAMS

5.1 The meeting was informed that three (3) task teams have been identified to assist the Restructuring Committee Set-up Teams in their respective tasks. They are:

- a) **Financial Task Team:** The team would assist with the financial issues for each Set-up team. GM (F&A) would chair the Task Team
- b) **Reorganisation (HR) Task Team:** The team would help to address and implement staffing issues in line with the organograms already prepared by the Set-up Teams. The Task Team would be chaired and coordinated by AGM (HRD).
- c) **Legal Task Team:** This team is expected to look at the various contracts when the NBUs are established. The meeting was of the view that since there were no major legal issues in the pre-transition period the legal team had nothing much to do at the moment. However, legal issues that come up in the process would be addressed accordingly.

5.2 The meeting unanimously agreed that the GM & AGM heading these task teams should be present at subsequent Restructuring Committee Meetings.

6.0 PROGRESS REPORTS

6.1 NBU Set-up Teams

The Set-up Teams were requested to submit a progress report on their activities so as to ensure that their activities dovetail with the pre-transition arrangements being discussed. They were given a deadline of two (2) weeks, hence, the reports are to be submitted in the week of 15 September 2003.

6.2 NEPA Financial Restructuring

6.2.1 Gulam Dallah informed the meeting about the need to discuss the issue of NEPA debts with government to write them off or assume the debts. He stated that a letter had been written with respect to this and noted that the process used to restructure NITEL's debt would be reviewed towards finding a lasting solution to NEPA debts. NEPA MD also suggested that the way some other countries restructured their debts should also be studied in the process.

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- 6.2.2 Thereafter, ED (CP&S) informed the meeting that it might not be feasible to have the government take over all NEPA debts because some of the debts are tied to the assets to be allocated to the Units in form of loans. He noted that some of the debts are also corporate. In response, Gulam stated that the intent to have government take over NEPA debts is in anticipation of the electricity market development in the future. He noted that it was pertinent to start negotiating with government on the matter now since it takes a long process. Meanwhile the debts could be left in NEPA HQ in the interim.
- 6.2.3 The recommendation to leave the debts in HQ at the initial stage was informed by the fact that there would be tariff implications for the Unit with large debts, which would have to start servicing such debts with very slim chances of recovering cost. Therefore, the Units would be over burdened and would likely not be able to function efficiently. Gulam further urged members to look at the recommendations contained in Nexant report on NEPA Financial unbundling for more details.
- 6.2.4 The meeting also discussed the status of NEPA Management Accounts and Assets Register for 2001/2002. ED (F&A) informed the meeting that NEPA Audited Accounts for 2002 are almost ready and would be presented to the Board for approval during their meeting scheduled for 23 September 2003. The meeting was also informed that the Assets Register for 2001 was ready while that of 2003 was being finalised and would be ready in October 2003.
- 6.2.5 After extensive deliberations, the meeting decided that in view of these data that the Set-up teams have awaited for so long, the teams should make use of the Assets Register completed for 2001 to be made available by ED (F&A) while waiting for that of 2002. The teams are also expected to wait for the 2002 NEPA Audited Accounts since it would be available for use at the end of September 2003.
- 6.2.6 The Financial Team is expected to report on the workplan for NEPA financial restructuring at the next Restructuring Committee meeting that would subsequently be scheduled.
- 6.2.7 The meeting was informed that in the Charges Model, Nexant used the valuation models of PB Power. There was need to do so the semi autonomous units possess their assets from inception. The meeting, however, noted that there was need to also verify the figures used in PB Power valuations for certainty.
- 6.3 Study on NBU Financial Autonomy
- 6.3.1 The key elements of financial autonomy for the units include spending limits; procurement procedures; and project management. Nexant are expected to review these elements. Autonomy of the units would bring about more responsibility and internal accountability. Gulam suggested that to ensure that the units do not go on a spending spree when authority limits are enhanced, an effective mechanism to

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check their activities must be established. It was also suggested that spending limit could be tied to the business plans for accountability

- 6.3.2 It is expected that Nexant would review all the issues with respect to the NBU financial autonomy and come up with recommendation to deal with these elements. The recommendations should include operational efficiency and the report should be ready by the end of September 2003.

7.0 WORKPLAN FOR NEPA RESTRUCTURING ACTIVITIES

- 7.1 Tom Simpson informed the meeting that for better coordination the restructuring activities were categorised under financial, commercial, institutional and technical headings. Thereafter, he took the meeting through each task in the workplan.
- 7.2 The meeting noted that there was a need to delegate someone to each task in order to know the parties driving the activities identified instead of waiting for a Restructuring Committee meetings to hold before something could be done.
- 7.3 The Ag. Chairman stated that BPE and Nexant would come up with a more detailed workplan indicating the persons responsible for each task. Thereafter, each person would be required to review the workplan to see if the timeframe is realistic.

8.0 DECISIONS TAKEN

The meeting unanimously agreed to the following:

- 8.1 In the interim the generation units would be taken as a block, therefore, there would be 13 players in the market
- 8.2 An Ad hoc committee comprising of ED (CP&S), ED (F&A), ED (Dist), BPE and FMPS constituted are expected to deliberate on the options of having MOC perform both regulatory and executive functions or to have the functions separated. They are to recommend the best option to the Restructuring Committee
- 8.3 The Ad hoc committee on the MOC structure would meet on Monday 8 September 2003 at NEPA HQs.
- 8.4 MO would report administratively to NEPA MD and functionally to MOC as was agreed at the last meeting in view of the fact that TranSysCo was not yet established and there was no clear-cut demarcation between the sectors at the moment
- 8.5 Sector EDs are to nominate two (2) persons each from both the AGM and PM levels for the MO position. After the MO is appointed, the MO would be involved in the selection process of staffing MO and would be exposed to training.

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- 8.6 Accenture, Nexant and BPE to form the interview panel to bring about transparency in the process of selection for the MO position. During the course of the interview potential candidates for staffing MO should also be identified
- 8.7 GM (F&A) and AGM (HRD) are to chair the Financial and Reorganisation Task Teams respectively. They are also to attend subsequent Restructuring Committee meetings.
- 8.8 The Set-up Teams are expected to submit a progress report on their activities in 2 (two) weeks (the week of 15 September 2003) so as to ensure that they are in line with the pre-transitional arrangement.
- 8.9 Set-up teams should make use of the Assets Register completed for 2001, which would be made available to them by ED (F&A) while waiting for that of 2002. The teams are also expected to wait for the 2002 NEPA Audited Accounts since it would be available for use at the end of September 2003.
- 8.10 The Financial Team is to report on the workplan for NEPA financial restructuring at the next Restructuring Committee
- 8.11 Nexant is expected to prepare a review and proffer recommendations by the end of September 2003 on NBU Financial Autonomy, which would include spending limits, procurement procedures and project management.
- 8.12 A detailed workplan indicating the persons responsible for each task is to be prepared by BPE and Nexant. Thereafter, each person would be required to review the workplan to see if the timeframe stipulated is realistic.
- 9.0 **CLOSING**
- 9.1 The meeting adjourned at 1.45 p.m.

Attachment C: Presentation on Metering Strategies for NEPA

METERING STRATEGIES FOR NEPA

Introduction:

- Metering needs urgent attention in NEPA as less than 30% customers have a working meter
- Only a portion of the electricity delivered to a Zone is billed to the customers
- NEPA has inadequate information on its customers
- Inadequate metering is the major contributing factor for poor collection ratio
- Meter reading process needs revamping; but meter readers can not be blamed for all the problems as there are very few working meters

Metering Strategies for NEPA

Problems:

- No meters for 30% customers
- 50% of installed meters are defective
- Meters are not read correctly/regularly
- Inefficient and outdated mechanical meters are still being procured
- New connections are given with out installing meters
- Cost of meters collected from customers; but not passed on to meter manufacturer
- Customers deposit the cost of meters; but not passed on to Meter Manufacturer
- Meter Manufacturer (monopoly) starts production only after receipt of full cost of the meter
- Average 12 to 18 months waiting period for meters after giving connections with out meters

METERING STRATEGIES FOR NEPA

Problems:

- Customers billed on estimated basis which give rise to disputes and malpractices
- Meter maintenance charge levied from customers for meters that are yet to be installed (@ N500 per month)
- Meter cost levied from customers is too high: N6500 for single phase mechanical meters, where as modern digital electronic meters are available in international market at N1500-1800; Similarly the cost of MCB in the market is N600-800 where as N4600 is levied from customers
- Average customer pays N6500 towards cost of meter and N9000 towards meter maintenance charges (500x 18 months) before their meters are installed

Metering Strategies for NEPA: ISSUES

Major Issues requiring policy decisions are:

Meter Ownership

Type of Meters

Procurement Procedure

Financing New Meters

Meter Reading Practices

Metering Strategies for NEPA: Meter Ownership

Who Should Own the Meters?

| Ownership | Pros | Cons |
|---------------------|--|---|
| NEPA | <ul style="list-style-type: none"> •Easy to set standards •Better prices on bulk purchase •Better control on entire metering program •Ownership of meter data •NEPA can levy meter rent/maintenance charge | <ul style="list-style-type: none"> •NEPA need to fund procurement •NEPA (Owner) should replace the damaged meters |
| Customer | <ul style="list-style-type: none"> •Customer can buy one of the make approved by NEPA from any vendor •Customer pays for the meter •Connections given only after meter is installed •Customer pays for replacement of defective meters | <ul style="list-style-type: none"> •NEPA loses the meter rent •Several makes of meters will penetrate the market unless proper controls in place •Need to create additional meter test stations to test the meters procured by customers |
| Metering Contractor | <ul style="list-style-type: none"> •Responsibility of meter procurement and installation is passed on to an expert agency •They can arrange funding | <ul style="list-style-type: none"> •Difficult to find an agency willing to invest |

Metering Strategies for NEPA: Type of Meter

What type of Meters to be used?

| Type of Meters | Pros | Cons |
|-------------------|---|--|
| Mechanical | <ul style="list-style-type: none"> •Can continue with existing policies and practices | <ul style="list-style-type: none"> •Outdated technology, low accuracy •Prone to human errors in meter data capture •Large number of meter readers required •Can be easily tampered |
| Electronic | <ul style="list-style-type: none"> •High level of accuracy •Cheaper than mechanical meters if procured through international competitive bidding •Large numbers can be procured and installed in short period •Can be upgraded to AMR/Prepaid •Tamper proof •No training required for Meter Readers | <ul style="list-style-type: none"> •To be imported •Prone to human errors in meter data capture •Large number of meter readers required |

Metering Strategies for NEPA: Type of Meter

What type of Meters to be used?

| Type of Meters | Pros | Cons |
|----------------------------|---|---|
| Electronic with AMR | <ul style="list-style-type: none"> •Meter data can be captured accurately •Fixed network AMR enables outage management •Many other applications can be developed from the meter data •Enables time – of – use tariff, merit order dispatch, demand side management, load balancing etc •Tamper proof | <ul style="list-style-type: none"> •Different technologies are fast developing; hence a utility must choose one that is most appropriate for it •Bigger investment to be made in upgrading backend computer systems, billing software, communication system etc •Employees need training |
| Prepaid | <ul style="list-style-type: none"> •Improves utility's cash flow •Meter reading, billing and collection expenses are reduced •Customer usage data can be used for load research, distribution planning etc • Good method to deal with delinquent customers •Tamper proof | <ul style="list-style-type: none"> •Large vending network to be created •People (customer, employees, vending agents) to be trained •People may resist •Ethical issues to be considered |

Metering Strategies for NEPA: Procurement Procedure

How Meters should be procured?

| Options | Pros | Cons |
|--|--|--|
| Buy from Domestic Vendors | <ul style="list-style-type: none"> •Local availability •Savings in foreign exchange | <ul style="list-style-type: none"> •No domestic manufacturers for electronic meters •Cost may be high due to monopoly |
| Buy from a Foreign Manufacturer who will setup manufacturing facilities in Nigeria | <ul style="list-style-type: none"> •Local availability •Warranties can be ensured faster •Local employment creation | <ul style="list-style-type: none"> •Local manufacturing may not be cost effective due to low volumes •In electronic meters 70% cost is that of electronic components which in any case has to be imported •Can get locked-in with a technology that may go obsolete and the local unit will continue produce outdated meters •Prices can be high due to monopoly |
| Buy through International Competitive Bids | <ul style="list-style-type: none"> •Best option to get good quality product at competitive rates •Faster supplies from large manufacturers •Can go in for latest products any point of time | <ul style="list-style-type: none"> •No internal capacity in NEPA to finalize specifications, inspection etc – require consultants •Financing to be arranged by NEPA •Conditions of contracts to be carefully drawn to enforce warranties |

Metering Strategies for NEPA: Procurement Procedure

Should Meters be Stockpiled?

| Options | Pros | Cons |
|---------|---|---|
| Yes | <ul style="list-style-type: none"> •Entire metering program can be planned and controlled •All connections given after meters installed •Can procure large number of meters at economic prices •Consumers are happy | <ul style="list-style-type: none"> •NEPA need to arrange finance to buy and stockpile meters |
| No | <ul style="list-style-type: none"> •Meters are ordered after indent from customers •No financial burden on NEPA | <ul style="list-style-type: none"> •Always shortage of meters •New connections with out meters •No planned procurement actions can be taken in advance •Too expensive to buy from single manufacturer •Poor control on meter allocation and installation due to shortage always everywhere |

Metering Strategies for NEPA: Meter Reading Practices

How meter reading efficiency can be improved?

| Options | Pros | Cons |
|--|---|---|
| Automated Meter Reading Practices | <ul style="list-style-type: none"> •Best solution | <ul style="list-style-type: none"> •Require large investments on meters and associated infrastructure •Large number of meter readers becomes redundant |
| Reduce Man-Meter interference | <ul style="list-style-type: none"> •Reading through hand-held devices can reduce human errors and ensure that the meter reader actually goes up to the meter | <ul style="list-style-type: none"> •Require large investments in hand-held devices and backend data transfer systems •Meter readers require training |
| Engage Meter Reading Contractors | <ul style="list-style-type: none"> •Will be cost effective to outsource this service locally in each area | <ul style="list-style-type: none"> •Existing meter readers becomes redundant •Require proper monitoring mechanism to prevent malpractices •NEPA to find money to pay the contractor |
| Use Prepaid Meters | <ul style="list-style-type: none"> •Ideal solution to solve meter reading related issues •Improves the cash-flow of NEPA | <ul style="list-style-type: none"> •The whole country can not be converted to prepaid regime •Require extensive network of vending facilities •Require training for customer, employees and vending agents |
| Associate Students, Voluntary Bodies, Residents Associations etc | <ul style="list-style-type: none"> •More economical than engaging contractors •Improved customer confidence and participation | <ul style="list-style-type: none"> •Require proper monitoring mechanism to prevent malpractices •NEPA to motivate the local bodies in better cooperation in return of higher levels of service |

Metering Strategies for NEPA: Recommendations

| Issues | Recommendations |
|--------------------------------|--|
| Meter Ownership | <ul style="list-style-type: none"> •All MD Meters may be owned by the Customer; NEPA may procure and install and maintain •All Non-MD Meters may be owned by NEPA; Collect refundable security deposit from customer; Charge reasonable monthly meter rent; NEPA to stock meters in all field units |
| Type of Meters | <ul style="list-style-type: none"> •Stop using Mechanical Meters •Procure AMR meters for MD customers (fixed network with telephone dialup modem) •Procure digital electronic meters (capable of migration to AMR / Prepaid) for all Non-MD customers •Appoint a metering consultant to undertake detailed countrywide studies to formulate comprehensive metering strategies, select appropriate technology and areas where AMR and prepaid can be introduced in a phased manner |
| Meter Reading Practices | <ul style="list-style-type: none"> •Continue with the existing NEPA employees; Do not recruit fresh meter readers; Meters readers can be better utilized if they are brought under Maintenance Department •Those becoming redundant due to introduction of AMR/prepaid meters may be used for bill distribution etc till they retire •Train fresh employees in new types of meters •Solicit cooperation/help of Residents Associations, Voluntary Organizations, Student Bodies etc in meter reading and bill distribution where ever possible |

Metering Strategies for NEPA: Recommendations

| Issues | Recommendations |
|-----------------------|---|
| Procurement Procedure | <ul style="list-style-type: none"> •Type of meters may be finalized and tentative cost estimate prepared after ascertaining the prices from several manufactures (check websites / price lists etc) •All meters may be procured through international competitive bidding •Tender notices to be published in international media and bids to be accepted only from manufacturers |
| Meter Stockpile | <ul style="list-style-type: none"> •NEPA should stockpile enough meters that all new connections are given only after installation of meters |
| Cost | <ul style="list-style-type: none"> •Average cost of single phase digital electronic meter in international market is US\$ 10-12 •In China digital electronic meters are sold under US\$ 5 |
| Billing Software | <ul style="list-style-type: none"> •NEPA to buy a modern billing and cash management software running on windows operating system urgently |
| 100% Metering | <ul style="list-style-type: none"> •NEPA to issue a policy document stating that (a) 100% connections to be metered; (b) All connections with out meters will be provided meters within XX months; (c) All defective meters will be replaced within XX months; (d) No more new connections will be given without meters after a set date. |
| Financing | <ul style="list-style-type: none"> •Procurement of MD meters to be funded by the customer •Arrange commercial loans for procurement of meters and stock the meters; suppliers credit may be negotiated where ever possible •Use meter deposit and meter rent for servicing meter procurement loans •Explore possibilities of engaging Metering Contractors |

Attachment D: Presentation on Outsourcing DisCo Management

Options for DisCo Management Outsourcing

1

Overview of Presentation

- DisCo Management Options
 - Status Quo
 - Concession
 - Management Contract
 - Management Advisor
 - Pros and Cons
 - Effectiveness Comparison
- Management Contract: *Organization Options*
 - Option A: covers entire Zone
 - Option B: at District only
 - Option C: Hybrid
 - Management Advisor Option
 - Pros and Cons

2

Overview of Presentation (Continued)

- International Examples
 - NITEL Management Contract
 - NEPA RCM
 - TANESCO (Tanzania) Management Contract
 - SAPP Management Advisor
- Will a Management Contract Help?
- Conclusions

3

DisCo Management Options

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Concession

- Overview
 - Contractor controls company, but does not own assets
 - Contractor keeps collected revenue
 - Makes lease payment for use of assets
 - Profit = Revenue – Cost
 - Multi-year Business Plan and performance targets
 - Contractor must invest
 - 10-20 year term
 - Subject to regulatory oversight
- Examples
 - NEPA Thermal Plant Rehabilitate-Operate-Transfer (ROT)
 - Water (Manila, Latin America, U.S., China, India, etc)
 - Uganda distribution concession is under negotiation
 - Not many examples of concessions for electricity distribution

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Management Contract

- Overview
 - Contractor manages the business
 - Staff provided by NEPA
 - Contractor compensation covers fees, expenses and bonus
 - Collected revenue remitted to NEPA HQ
 - Budgets decided by NEPA, not Contractor
 - Some investment required from Contractor
 - Indicative business plan prepared by Contractor
 - 2-3 year term with option to extend
- Examples
 - NITEL
 - NEPA RCM (limited span of control)
 - TANESCO (Tanzania)
 - Increasingly common in Africa and Asia

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Advantages of Management Contract

- Minimal conflict with privatization program
 - BPE buy-in essential
 - BPE should manage contract negotiation and award (e.g. NITEL)
- Improved practices and performance
- New ideas can break up entrenched bureaucracy
- Training for future managers
- Manageable downside risk
 - Contract costs recovered if contractor performs
 - Quick termination possible
- Can be implemented quickly
- No requirement for GoN financial guarantees

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Necessary Conditions for Successful Management Contract

- Autonomy from NEPA bureaucracy
- Financial independence
- Broad span of executive control
- Performance based compensation
- Political support
- Funds available for identified priority investments, including metering
- New billing system
- Important to gain NEPA buy-in to counter doubts about RCM

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Management Advisor

- Overview
 - Resident management expert(s) provided by Contractor
 - Compensation covers fees and expenses
 - No investment by Contractor
 - 2-4 year term
- Examples
 - Full time advisors common in Africa and Persian Gulf
 - Uganda, Tanzania, Mozambique, Southern Africa Power Pool, others

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Pros and Cons

| | Status Quo | Concession | Management Contract | Management Advisor |
|------|---|---|--|---|
| Pros | <ul style="list-style-type: none"> • Minimal employee opposition | <ul style="list-style-type: none"> • Best chance for major improvements • Contractor has free hand • Profit incentive • Attracts capital investment | <ul style="list-style-type: none"> • Good chance for improvements • Contractor has bonus incentive • Provides training and succession planning | <ul style="list-style-type: none"> • Cost effective • Potential for immediate improvement using best practices • Provides training |
| Cons | <ul style="list-style-type: none"> • Continuing poor performance | <ul style="list-style-type: none"> • Too few willing and qualified contractors • Potential for political and employee opposition • NERC not in place | <ul style="list-style-type: none"> • Contractor has restricted span of control • Conflicts with NEPA over budgets, control, coordination and payments • Employee opposition | <ul style="list-style-type: none"> • Contractor relatively powerless • Difficult to break up bureaucracy • No capital investment • Powerless to mobilize support of NEPA staff at all levels • Minimal improvement on status quo |

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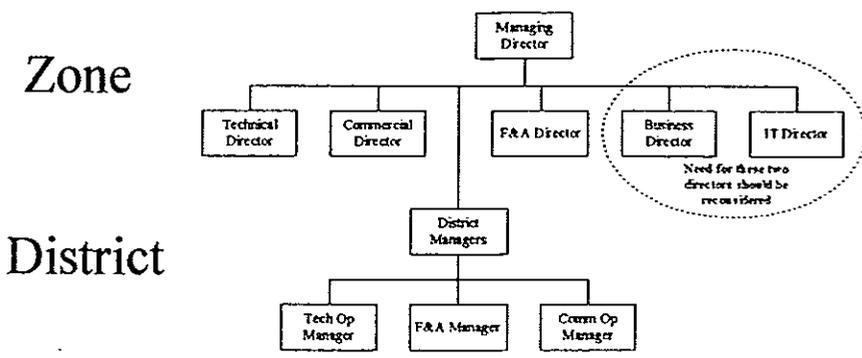
54

Effectiveness Comparison

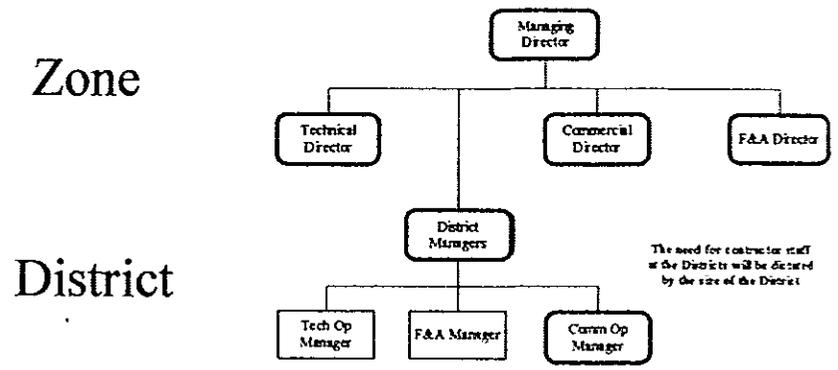
| | Concession | Management Contract | Management Advisor | Status Quo |
|------------------------------------|------------|---------------------|--------------------|------------|
| Technical competence | ■ | ■ | ■ | ■ |
| Efficient work processes | ■ | ■ | □ | □ |
| Adequate span of control | ■ | □ | | □ |
| Follow through | ■ | ■ | | |
| Support of staff and union | □ | □ | ■ | ■ |
| Local knowledge | □ | □ | □ | ■ |
| Initiative | ■ | ■ | □ | |
| New ideas and management practices | ■ | ■ | ■ | |
| Autonomy from HQ interference | ■ | □ | | |
| Access to investment capital | ■ | □ | | |
| Lasting impact | ■ | □ | | |
| Automation and computerization | ■ | ■ | □ | |

Management Contract Organization Options

DisCo Management Structure per NEPA DisCo Set-up Team



DisCo Management Contract Org Option A: Covers Entire Zone

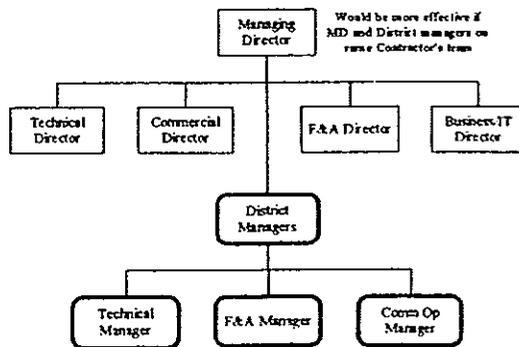


Note: Boxes shown in bold outline indicate positions allocated to Contractor.

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DisCo Management Contract Organization Option B: at District

Zone



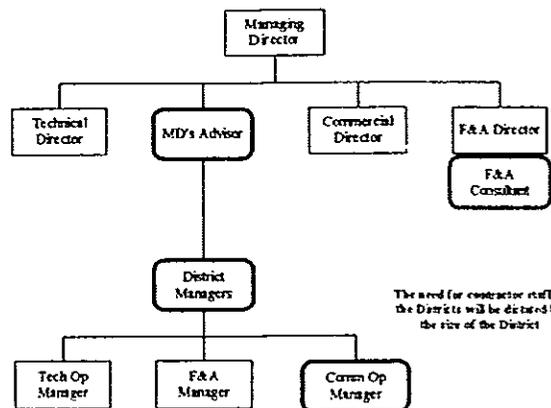
District

Note: Boxes shown in bold outline indicate positions allocated to Contractor.

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DisCo Management Contract Organization Option C: Hybrid

Zone



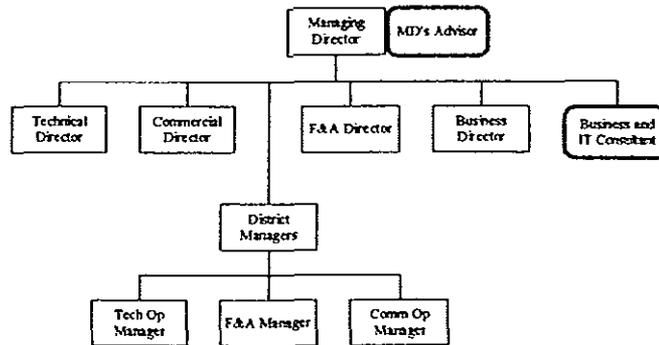
District

The need for contractor staff at the Districts will be dictated by the size of the District

Note: Boxes shown in bold outline indicate positions allocated to Contractor.

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DisCo Management Advisor



Note: Boxes shown in bold outline indicate positions allocated to Contractor.

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Organization Options Pros and Cons

| | Option A: at Zone and District | Option B: at District only | Option C: Hybrid |
|------|---|---|---|
| Pros | <ul style="list-style-type: none"> Contractor has maximum executive control More influence company-wide Can standardize practices across all Districts | <ul style="list-style-type: none"> Districts are closest to on-the-ground problems | <ul style="list-style-type: none"> Reserves top positions at Zone for NEPA Contractor has influence at Zone and control at District |
| Cons | <ul style="list-style-type: none"> Resistance from incumbent managers at the Zones and Districts | <ul style="list-style-type: none"> Less control over budgeting Contractor in a weak position vis-à-vis the Zone and other Districts Contractor's practices may conflict with the rest of the Zone More Contractor staff required, more costly than Option A Buried under NEPA bureaucracy Most Districts under \$6 million in annual revenue; too small | <ul style="list-style-type: none"> Still under NEPA bureaucracy |

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International Examples

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International Examples NITEL Management Contract

- 3-year contract beginning March 2003
- Pentascope (Netherlands telecoms consultancy) provides 6 executive directors; 3 for NITEL and 3 for MTEL; CEO, CFO and Technical
- Consultants for
 - Business Plan
 - Network plan
 - Marketing plan and customer systems
 - HR and training
 - Tariff and financial
- Contract planned and negotiated by BPE
- Compensation: 1) 50% management/consult fees; 2) 50% bonus
- Performance targets for infrastructure, EBIT, faults, collections etc

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International Examples NITEL Management Contract

- Labor issues addressed through negotiated cooperation agreements with the union (no retrenchment) and with incumbent managers
- Balance sheet and pension fund restructured and agreed with GoN; debt to GoN converted to equity
- BPE allocated funding up front for mobilization and consultancies
- Pentascope was required to produce a binding 3-year Business Plan
- CEO authority limit raised from 70,000 Naira to \$250,000
- Formed executive planning committee of 3 Pentascope reps, 2 BPE, 1 Ministry, can approve projects up to \$1 Million
- No Government or Ministry interference – Pentascope to operate like a private company
- Pentascope to train managers to take over in 3 years
- Initial problems: Pentascope's span of control; GoN interference; payment of mobilization fee and advance on consultancies

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International Examples NEPA RCM Program

- 3-year contracts with possible extension
- Covers billing, metering and marketing at the District level
- RCM contractors provide 4 managers: District Marketing Manager, IT, Commercial, Technical
- Reports to NEPA HQ Marketing Sector (not Zone GM)
- Has authority over District marketing staff
- Contractor expected to invest up to \$700,000 of own capital for vehicles, computers, systems etc; some Contractors have not done it
- NEPA provides bare-bones imprest for operating costs
- Contractual performance bonus up to 25% of collections above target
- Target Performance Ratio = Billing Ratio x Collection Ratio

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International Examples NEPA RCM Program - Issues

- Awkward relationship with Zone and other Districts in the same Zone, because contractor reports to NEPA HQ
- Too many players in single Zone
- Interference by NEPA management; mistrust on both sides
- NEPA staff resentment
- Contractor has no hire/fire authority
- Poor coordination between RCM marketing side and distribution side
- NEPA HQ slow to pay RCM invoices to recoup invested capital
- No capital budget provided by NEPA
- Acute shortage of meters, which are procured at NEPA.HQ *one*
- Outdated billing software and no provision for new software
- Performance measure tricky to quantify
- No performance bonuses have been paid to date
- For small Districts, RCM fees eat up too much of the savings
- No sharing of lessons learned; contractor capabilities under used

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International Examples NEPA RCM - Conclusions

- Need to increase span of authority
 - Capital and expense budgets
 - Spending limits
 - Meter maintenance and reconnection fees
 - Staff deployment
 - Meter procurement
 - Wires side?
- Contractor invoices should be out of hands of HQ F&A (can be handled by forthcoming Market Operator)
- Contractor should produce binding Business Plan
- Need consultant for company-wide metering and billing strategy
- Need mechanism to share lessons learned across all Zones
- **Would be more effective if contract covers all distribution and marketing functions at Zone and Districts**

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International Examples TANESCO (Tanzania)

- TANESCO is the national electric utility (G,T&D)
- Management Contract awarded to NETGroup (S.A.)
- 4 top executive managers
 - Managing Director
 - Technical
 - D&M
 - Finance
- 2 year term with 1 year optional extension
- Management fee plus significant success fee (50:50)
- Full control of company
- Detailed performance targets: Losses, collection rate, connections, fuel consumption, customer service, etc

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International Examples TANESCO (Tanzania) - Results

- Collections up from 76% to 90% over 18 months
- Losses down from 27% to 23%
- Leakages of funds and unauthorized payments stopped
- Expenses reduced
- Better prices from suppliers
- Supplier invoices settled on time
- Manpower cut by 15%
- Staff resentment still problematic

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International Examples SAPP Management Advisor

- Contractor provides resident advisor to So. Africa Power Pool Coordination Center in Harare
- 2-year initial term; annual renewal
- Time and materials contract
- Contractor serves as Managing Director for first 2 years; trains successor; moves to backup role for remainder of contract
- Contractor seen as team member; minimal opposition from incumbent staff

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Will a Management Contract Help?

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Will a Management Contract Help?

| Issue | Cause | Remedy | Will Mgmt Contract Help? |
|------------------------|--|--|--------------------------|
| Lack of funds | Poor collections; inefficient use of resources; low tariffs | Improve collections; increase tariffs | Yes |
| Poor internal controls | Entrenched bureaucracy | New ideas and best practices; strict management controls | Yes |
| Billing software | Outdated software | Implement new systems | Yes |
| Interference from HQ | Bureaucracy; entrenched interests; inefficient treasury function | Break up entrenched interests | Yes |
| Unmotivated staff | Overstaffing; complacency | Carrot and stick incentives | Yes |

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Will a Management Contract Help?

| Issue | Cause | Remedy | Will Mgmt Contract Help? |
|------------------------------|--|---|--------------------------|
| Poor Collections Performance | Customers do not want to pay because of poor service | Customer Education; pre-paid meters | No |
| | Bills "fixed" by corrupt staff | Better internal controls | Yes |
| | Erroneous bills; poor billing and metering practices | New billing procedures; automation; internal controls | Yes |
| | Logistical difficulties with cash centers | New approaches to reduce inconvenience to customers | Maybe |
| | Poverty | None | No |
| | Customer mobility; no forwarding address | Involve landlords; collect deposits up front; pre-paid meters | Maybe |

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Will a Management Contract Help?

| Issue | Cause | Remedy | Will Mgmt Contract Help? |
|---------------------|---|---|--------------------------|
| Inadequate Metering | Acute shortage of retail meters | Allocate funds; competitive procurement; company-wide metering strategy | Maybe |
| | Outdated meters still in use | Develop metering strategy | Yes |
| | Faulty meters and delays in fixing meters | Develop metering strategy | Yes |
| | Long billing and collection cycle | New billing and collection practices | Yes |
| | Readings "doctored" by corrupt NEPA staff | Better internal controls | Yes |
| | Human error | Automation | Maybe |

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Conclusions

- A management contract could improve DisCo performance
- Recommend Option A: Contractor manages Zone and Districts
- Need upfront agreement on:
 - Binding Business Plan
 - Contractor investment
 - Procurement of meters
 - Streamlined payment of invoices
 - Transparent incentives
 - Span of control
 - Non-interference
- BPE has to buy in and should conduct tender and negotiations

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