



Millennium Development Authority (MiDA)

PRE-BID CONFERENCE

Upgrade of the Data Center & Communication Network for the Electricity Company of Ghana Limited (ECG)

December 11th 2018

Venue: Accra City Hotel, Barnes Road, Accra-North

Presented By

Tanko Mohammed

Information Technology Projects Manager, MiDA

OUTLINE OF PRESENTATION

- COMPACT II OVERVIEW
- INSTITUTIONAL ARRANGEMENTS
- OVERVIEW OF ECG
- DESCRIPTION OF THE SYSTEM

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COMPACT II OVERVIEW

Compact II (Power Compact):

An international treaty between the US Government represented by Millennium Challenge Corporation (MCC) and the Republic of Ghana represented by MiDA to develop the power sector.

Goal

The goal of the Compact is to reduce poverty through economic growth in Ghana

Objectives

- Increase private sector investment, productivity, and profitability of micro, small, medium and large scale businesses;
- Increase employment opportunities for men and women; and
- Raise earning potential from self-employment and improved outcomes for men and women.

Total Program Funds: US\$ 535.6M

Duration: 5 years from EIF

EIF Date: September 6, 2016

Compact Projects & Activities

The Six (6) Compact Projects are divided into two (2) broad areas:

Infrastructure/ Foundational Projects:

- ✓ ECG Financial & Operational Turnaround (EFOT)
- ✓ NEDCo Financial & Operational Turnaround (NFOT)
- ✓ Access
- ✓ Energy Efficiency & Demand Side Management

Reform/Policy Projects

- ✓ Regulatory Strengthening & Capacity Building
- ✓ Power Generation Sector Improvement
- ✓ Energy Efficiency & Demand Side Management

The scope of Data Center project falls under **Foundational Projects**.

Compact Projects & Activities – Cont'd

EFOT Project (US\$ 351.2MM)

Private Sector Participation (PSP)

Modernizing Utility Operations

Reduce Commercial Losses & Improve Revenue Collection

Technical Loss Reduction

Outage Reduction

NFOT Project (US \$65.7MM)

Private Sector Participation (PSP)

Modernizing Utility Operations

Reduce Commercial Losses & Improve Revenue Collection

Technical Loss Reduction

Outage Reduction

Regulatory Strengthening & Capacity Building (US \$5MM)

Sector Performance Monitoring Capacity Building

Tariff Review and Regulation

Access Project (US \$10MM)

Infrastructure Upgrades

Social Inclusiveness & Improved Partnerships

Power Generation Improvement (US \$16.3MM)

Operationalize "Gas to Power" value chain

Facilitate LNG Development

Strengthen Sector Planning & IPP Framework

EEDSM (US \$25.4MM)

Development & Enforcement of standards and labels

Improved Energy Auditing

Education and Public Information

Demand Side Management Infrastructure

Overview of the EFOT Project

Objectives:

- Ensure ECG runs on sound commercial principles to become creditworthy and effective off-taker under Power Purchase Agreements (PPA)
- Ensure ECG recovers its costs and invests in maintenance and expansion without requiring regular financial support from Government
- Reduce implicit subsidies (created by losses, underpricing and under billing)

EFOT Project Activities

Private Sector Participation

Transaction Advisory Services to implement PSP

Consultation with management and employees of ECG to gain support for PSP

Institutional set-up for Acceptable ECG PSP Transaction

Targeted communication strategy & outreach to gain support of stakeholders

Modernizing Utility Operations

GIS, ERP, Data Centre & Comm. Network & ECG Training Centre

Technical Assistance to ECG (TA)

Institutionalizing Gender Responsiveness

Loss Characterization Study

Tariff Applications

Commercial Loss Reduction

Normalizing customer connections to required standard

Strengthening Loss Control Unit

Installation of automated meter readers (AMR)

Replacement of legacy credit meters with pre-payment meters

Technical Loss Reduction

Update of engineering manuals & equipment specifications

Distribution Master Plan

LV Bifurcation

Reactive Power Compensation for Primary Substations

Construction of BSP, Primary substations and interconnecting lines.

Outage Reduction

Outage management system

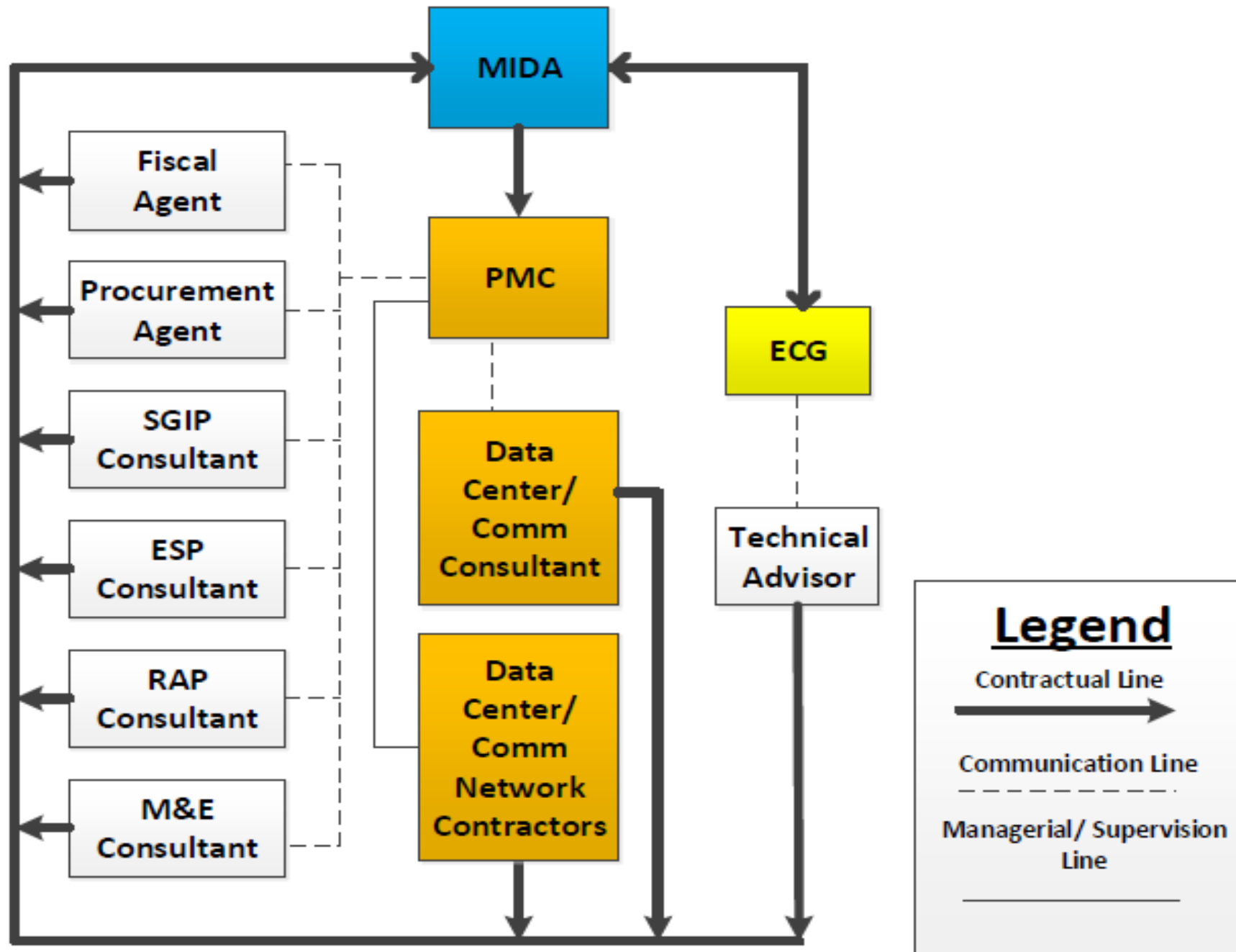
Feeder Sectionalizing and Automation

Provision of specialized vehicles, tools, and equipment.

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Data Center/Comm Network Organizational Chart



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OVERVIEW OF ECG

- Electricity Company of Ghana (ECG) is the single largest electricity distribution company in Ghana and operates mainly in the southern part of Ghana (**covers about 36% of Ghana's** land area).
- ECG **distributes over 70% of total** electricity generated in Ghana.
- The operational area is divided into eight **(8) regions** namely; Accra East, Accra West, Ashanti SBU, Central, Eastern, Tema, Volta & Western (note: there is one (1) additional region within Accra East Region called the Sub-Transmission region creating a ninth region. This is in charge of operations and maintenances of the sub-transmission network of ECG. It has not been subdivided into operational districts).
- Total customer population - 3,380,000 as at June 2016.
- Annual demand growth rate – 10%.

PROJECT LOCATIONS

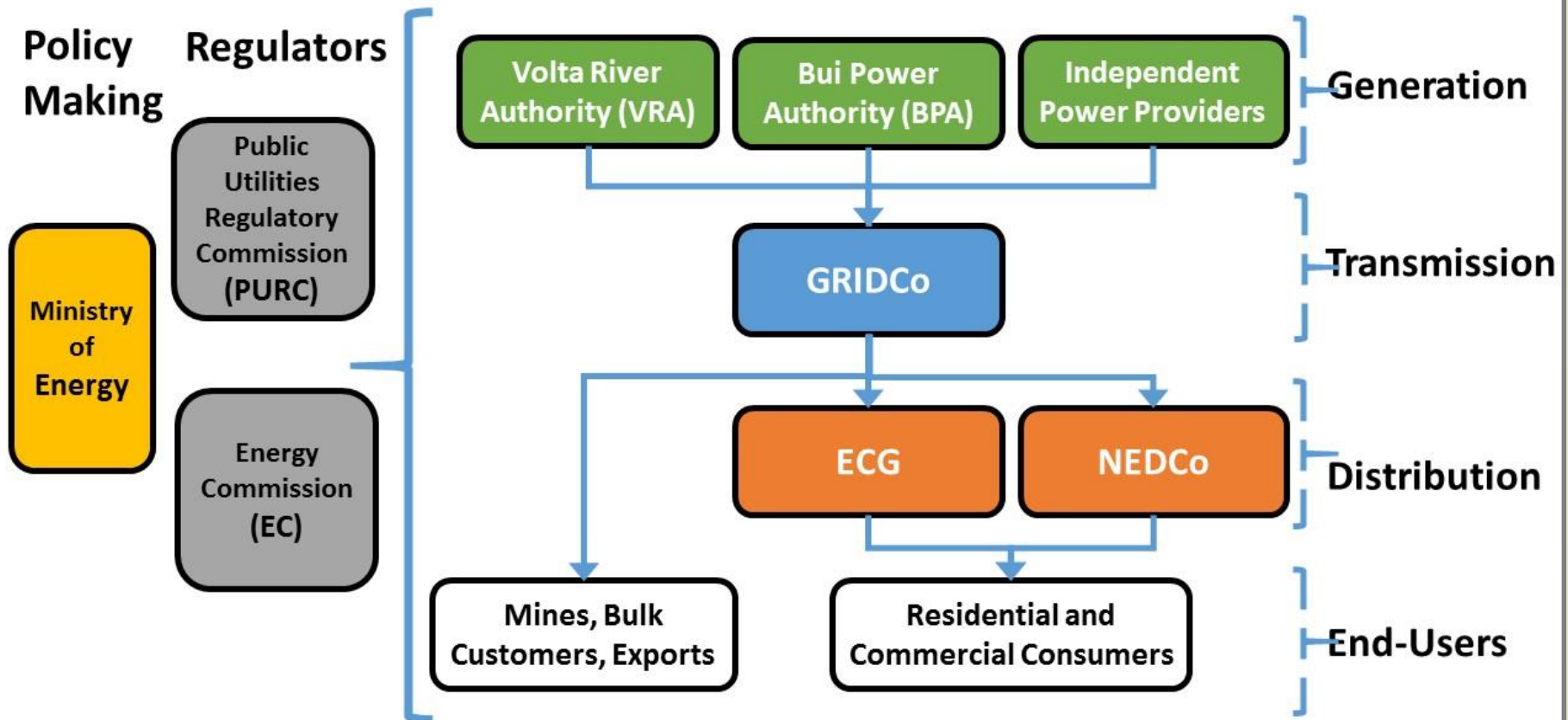
Map of Ghana showing Demarcation of ECG Operational Area



- Contractor is expected to make **periodic visits to ECG & MiDA offices** for workshops and meetings.
- The Data Center Project shall be designed and implemented for use **throughout the entire ECG operational area** in Ghana.

Ghana's Power Sector & Role of ECG

The Energy Sector in Ghana



Role of ECG

- ❖ Transmit, supply, and distribute electricity;
- ❖ Purchase energy in bulk from Volta River Authority (VRA) or other supplier for distribution;
- ❖ Construct, assemble, repair, maintain, and operate substations, electrical appliances, fittings, and installations;
- ❖ Execute and supervise national electrification programs on behalf of the GoG; and
- ❖ Carry out activities incidental or conducive to the attainment of the above objectives

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Description of the System for which Bids are invited: 1 of 2

The Upgrade of Data Center and Communication Network includes Disaster Recovery Sites for the Electricity Company of Ghana Limited (ECG). It consists of:

- 1. Supply and installation of network hardware and servers for the upgrade of the existing primary and secondary data centers.**

The key objectives of the upgrade are:

- 1) Greater capacity
- 2) Higher Availability by providing component redundancy and sites redundancy through automatic failovers.
- 3) Enhanced Security by ensuring enterprise resources are protected from external users, but also from ECG internal users and partners.

- 2. Supply and installation of network and servers for the new Data Recovery Room in Kumasi.**

- 1) Critical applications will be provided by the Supplier at this site for quick recoverability in case of disaster at the Data Centers

Description of the System for which Bids are invited:

2 of 2

3. **Upgrade of the communication network in order to support new applications by other Suppliers, such as VoIP, SCADA, centralized enterprise wide applications such as ERP, CMS, MMS, by:**
 - 1) *Providing more bandwidth*
 - 2) *Implementing advanced WAN services such as QoS, Encryption, Advanced WAN routing such as BGP*
 - 3) *A greater integration of SCADA to the WAN network.*

4. **Upgrade of the HVAC and power systems of the existing Data Centers as required by the new infrastructure addition.**

Note: The Supplier will be completely responsible for delivering fully functional, modular, scalable, secure, data centers, a disaster recovery center, and WAN upgrade works that achieve the required levels of performance within the total price declared for the Contract Works.

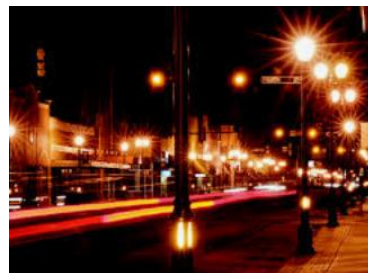
THANK YOU





Upgrade of ECG DCCN (Data Center and Communication Network)

Client: Millennium Development Authority ("MiDA"), Ghana



Content

1. Introduction

2. Project Scope

3. Technology & Standard

4. System Performance

5. Timeframe

Introduction



Project:

Upgrade of Data Center Communication Network for Electricity Company of Ghana (ECG)

Client:

Millennium Development Authority (“MiDA”), Ghana

Implementing Entity:

ECG, Ghana

Consultant:

Oumar Ndiaye : ond4444@gmail.com

Procurement Agent (Managing the procurement)

Charles Kendall and Partner (CKP)

Project Goal / Objective

The Compact goal :

- Program is to reduce poverty through economic growth in Ghana.

The objective of “EFOT”:

- Improve the quality and reliability of electricity service delivery by ECG.

The objective of DCCN:

- Upgrade current ECG Data Centers
- Deploy a new DR room
- Upgrade current Communication Network

PROJECT SCOPE



Project scope:

- Upgrade current ECG Data Centers by:
 - Retrofitting HVAC, Power system to support new hardware
 - Supply, Deliver, Install and configure new equipment in the primary and secondary DC to support:
 - High Availability thru reliability, resiliency and redundancy
 - Integrate legacy DC to new DC

- Deploy new DR room
 - Build new HVAC, Power system to support new hardware
 - Supply, Deliver, Install and configure new equipment in the DR room
 - Configure new equipment in the DR room to support:
 - Recoverability in case of a DR

Project scope:

- Upgrade the Communication Network of ECG:
 - Supply, Deliver, Install and Configure WAN equipment in the WAN network to support:
 - High Availability thru reliability, resiliency and redundancy
 - Support Advanced services such as VoIP
 - Integrate Remotes sites to DC and DR

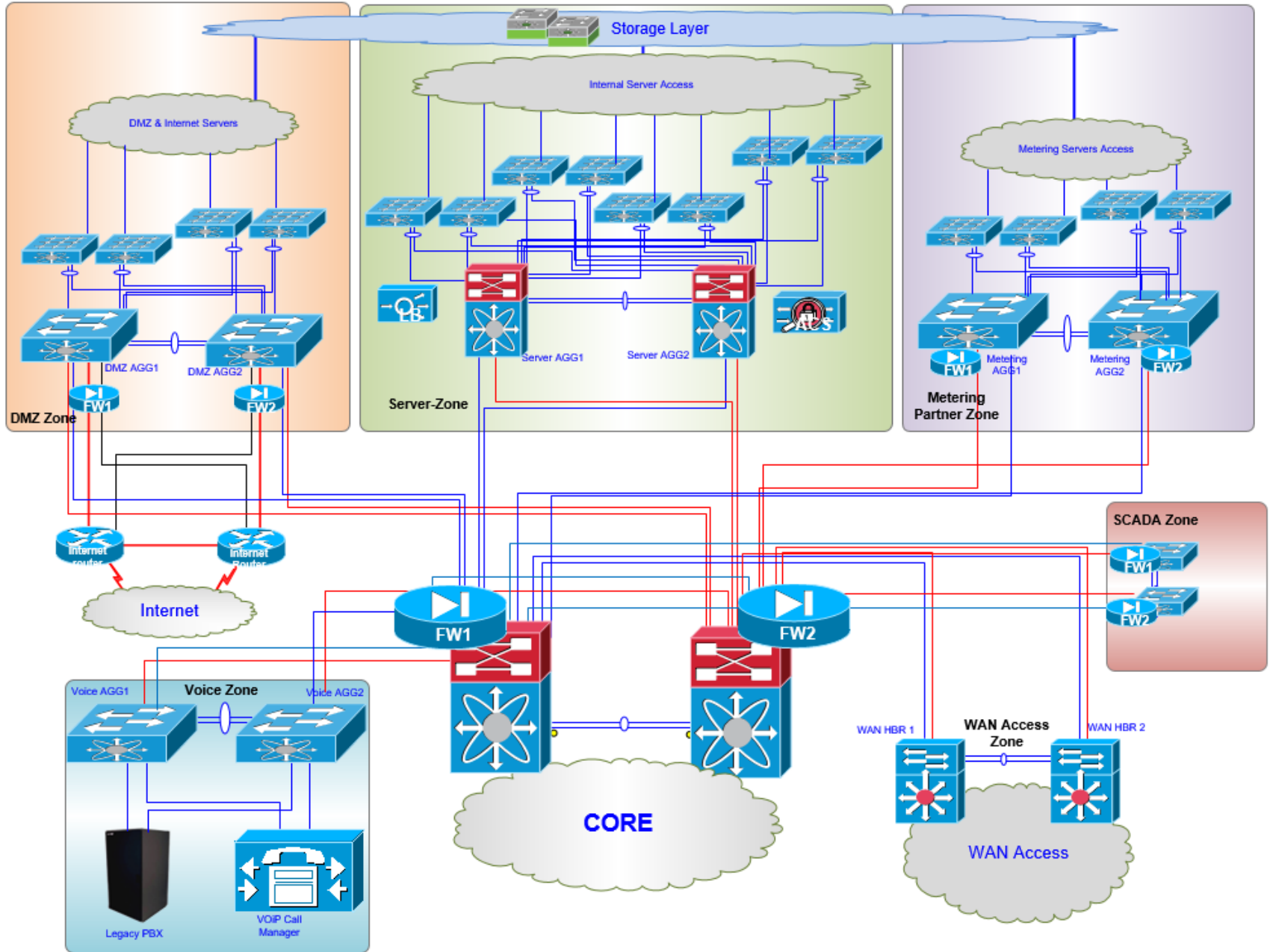
Project scope Sites:

- Primary DC in Project Office Accra
 - Operational today
- Secondary in Legon, Accra
 - Barely Operational
- DR room in Kumasi
 - Not Operational
- Remote WAN sites in various cities across Ghana

Technology and Standards



Architecture



For standards, refer to section VII of IFB.

Forward thinking solution that will remain applicable for the next five to 10 years:

- Ease in Infrastructure Management
- Resource Mobility
- Virtualization
- Software Defined Infrastructure (SDN, SDWAN, SDS)

System Performance



System Performance Criteria

- The System must guarantee the following efficiencies:
 - The system high availability - 99.95%
 - Low recovering time (4 hours maximum after failure.)

Timeframe



Timeframe

Line Item No.	Subsystem / Item	Site / Site Code	Delivery (Bidder to specify in the Preliminary Project Plan)	Installation (weeks from Effective Date)	Acceptance (weeks from Effective Date)
0	Project Plan	--		--	W2
0.1	DCCN Design and Supplier's Documents	--			W8
0.2	Notice to Supplier that DCCN Design and Supplier's Documents are Approved	--			W12
1	Subsystem	PO		--	--
1.1	Power and HVAC BMS	"		W16	W20
1.2	Cabling and Rack Installation	"		W16	W20
1.3	DC and DR Hardware & General-Purpose Software Installation, including DCIM	"		W20	W23
2.0	Remote Sites installation and configuration	All Remote Sites		W23	W25
2.1	SCADA Hardware and Software Installation	All SCADA Sites		W25	W28
2.2	Migration of existing server to the data center	PO		W28	W38
2.3	Testing			W38	W42
2.4	Operational Acceptance of the System as an integrated whole	"		W42	W44
2.5	Training			W44	W48
2.6	Project Close out				W49
3.0	Warranty Period			W49	W205

49 Weeks

Thank you for your attention

QUESTIONS AND CLARIFICATIONS





Millennium Development Authority (MiDA)

PRESENTED BY PROCUREMENT AGENT

DATE: 11TH DECEMBER 2018

INVITATION FOR BIDS

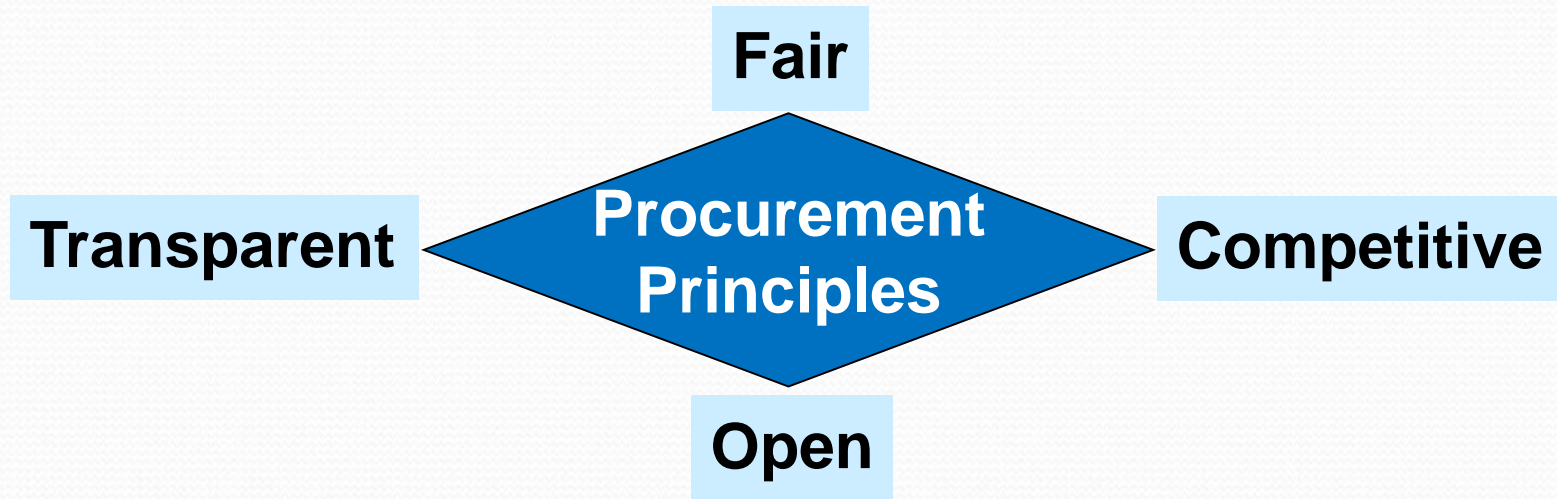
MCC STANDARD BIDDING DOCUMENT ADAPTED FROM IDA/WORLD BANK STANDARD DOCUMENTS BUT ADAPTED TO SUIT MCC

REMEMBER THIS IS UNTIED AID AND COMPETITION IS OPEN WORLDWIDE

IMPORTANT FOR INTERESTED BIDDERS TO READ THE IFB CAREFULLY AS THIS NEW MCC IT SERVICES (NCS) SBD HAS ONLY BEEN EFFECTIVE FROM AUGUST 2016.

IF IN DOUBT ON ANY ISSUE(S) ALWAYS ASK FOR CLARIFICATION

MiDA PROCUREMENT PRINCIPLES



- Procurement Agent to ensure integrity of the process
- Open competition wherever possible
- No geographic or national preferences
- Government-Owned Enterprises (ITB Clause 5.4)
- Independent and suitably qualified Evaluation Panels
- MCC and MiDA Board of Directors approvals over certain thresholds
- Price Reasonableness Analysis
- Contractor Past Performance Reports
- Reference Checks
- Bid Challenge System (www.mida.gov.gh) and Debriefings

PART 1 - SECTION I

INSTRUCTIONS TO BIDDERS

READ CAREFULLY, AND IN PARTICULAR NOTE

ITB CLAUSE 13 DOCUMENTS COMPRISING THE BID:

- ❖ All Bidding Forms in Section IV
- ❖ All Price Schedules in Section IV- [in google link provided in IFB](#)
- ❖ Bid Security – please refer to the Bid Data Sheet(BDS ITB 17)
- ❖ Written authorization of signatory to commit ..Bidder(BDS ITB 19.2)
- ❖ Attachment 1 : Bidders Eligibility
- ❖ Attachment 2 : Bidders Qualifications
- ❖ Attachment 3 : Eligibility of Goods and Services
- ❖ Attachment 4 : Conformity of the Information System to the IFB
- ❖ Attachment 5 : Proposed Subcontractors
- ❖ Attachment 6 : Intellectual Property (Software & Material List)
- ❖ Joint Venture/Association Agreement(s)
- ❖ Any change in the legal structure of the Bidder after the Bid submission?

PART 1 - SECTION I

INSTRUCTIONS TO BIDDERS

READ CAREFULLY, AND IN PARTICULAR NOTE

CLAUSE 17 : BID SECURITY

- ❖ Shall be a demand guarantee and either an unconditional bank guarantee or an irrevocable letter of credit
- ❖ If the financial institution is from outside of Ghana the Bid Security must be confirmed by a correspondent financial institution in Ghana, satisfactory to the Purchaser (MiDA), to make the Bid Security enforceable
- ❖ Shall have a value of One-Hundred-and-Twenty-Five Thousand United States Dollars (US\$ 125,000)
- ❖ Shall be valid until **13th July, 2019 – 120 (+28)** days after Bid Submission

PART 1 - SECTION I

INSTRUCTIONS TO BIDDERS READ CAREFULLY, AND IN PARTICULAR NOTE

ITB CLAUSE 20

The Inner and Outer Envelopes shall:

- ❖ Bear the full name and address of the Bidder
- ❖ Be addressed to MiDA as shown in the Bid Data Sheet (ITB 20.2(b))
- ❖ Be clearly marked with the name and reference for the assignment – also see Bid Data Sheet ITB 1.2;
- ❖ Bear a warning not to open before the time and date for Bid Opening specified in the Bid Data Sheet (ITB 24.1).

PART 1 - SECTIONS II AND III

Section 2 – The Bid Data Sheet (BDS) supersedes the related clauses from the Instructions to Bidders. Please ensure that the BDS is read carefully.

Please note ITB 21.1 that Bids must be submitted no later than **15:00 hours Ghana time on 15th February, 2019.**

Section 3 – The Bid Review, Evaluation Criteria and Bidder Qualification Requirements contains all the criteria that the Purchaser shall use to review Bids, post qualify Bidders and select the winning Bid.

SECTION III - THE BID REVIEW, EVALUATION CRITERIA AND BIDDER QUALIFICATION

- ❖ 1. Bid Review
 - ❖ 1.1 Administrative Review and
 - ❖ 1.2 Responsiveness determination
- ❖ 2. Evaluation of Bids
 - ❖ 2.1 Price Review and
 - ❖ 2.2 Price Reasonableness Determination
 - ❖ 2.3 Technical Evaluation (pass mark $\geq 80\%$)
 - ❖ Combined Scoring (Price plus Technical Score & Ranking)
- ❖ 3. Qualification Review and References and Past Performance Review (1st Ranked etc.)
 - ❖ Bidder References
 - ❖ Bidder Past Performance
 - ❖ Bidder Qualification (4.1 Eligibility, 4.2 Historical Contract Non-Performance, 4.3 Financial Situation & 4.4 Experience)

SECTION IV – BIDDING FORMS

Section IV starts with Notes to Bidders on Working with the Bidding Forms – please follow the instructions carefully.

The Forms include:

- ❖ 1. Bid Submission Form
- ❖ 2. Price Schedule Forms – **Check google link in IFB**
- ❖ 3. Bidder Qualifications Forms
- ❖ 4. Technical Bid Forms

You must respond to all of the Forms provided.

SECTIONS V, VI AND VII

SECTION V – GENERAL CONDITIONS OF CONTRACT (These cannot be changed)

SECTION VI CONTAINS

- PARTICULAR CONDITIONS OF CONTRACT (PCC)
- ANNEX A – MCC ADDITIONAL PROVISIONS (These cannot be changed)
- CONTRACT AGREEMENT AND APPENDICES 1-7, FORMS OF GUARANTEES, CERTIFICATES AND FORMS

SECTION VII - CONTAINS THE PURCHASER'S REQUIREMENTS

CLARIFICATION QUESTIONS AND RESPONSES

CLARIFICATION QUESTIONS MUST BE SENT **BY E-MAIL** NO LATER THAN CLOSE OF BUSINESS ON **10TH JANUARY, 2019** TO:

paghana@charleskendall.com

and

procurement@mida.gov.gh

YOU MUST USE THESE ADDRESSES TO SOLICIT A WRITTEN RESPONSE TO YOUR QUESTIONS INCLUDING THOSE RAISED AT THIS MEETING.

RESPONSES TO ALL QUESTIONS WILL BE ISSUED ALONG WITH THE MINUTES OF THE PRE-PROPOSAL MEETING, AND ANY ADDENDUM TO THE IFB, NO LATER THAN **18TH JANUARY, 2019**.

SUBMISSIONS

MiDA PROCUREMENT

4TH FLOOR HERITAGE TOWER

INSIDE THE TENDER BOX

SUBMISSION FORM ON TENDER BOX TO BE COMPLETED.

SUBMISSIONS DUE BY 15:00 HOURS GHANA TIME ON 15th FEBRUARY, 2019. A PUBLIC OPENING FOLLOWS IMMEDIATELY AFTER.

LATE SUBMISSIONS WILL NOT BE ACCEPTED.

COMMON CHALLENGES

- ❖ Clarification questions not asked by due date and time
- ❖ Bids submitted late
- ❖ Courier packages not clearly marked
- ❖ Bids not signed
- ❖ Written authorization of signatory to commit the Bidder not provided
- ❖ Bid Envelopes not correctly marked
- ❖ JV or Association documents not provided
- ❖ Government-Owned Entities form not completed and/or signed
- ❖ Bid Security in the wrong format, value and/or validity and /or not supported by correspondent financial institution where required
- ❖ Bid forms not completed correctly and/or submitted
- ❖ Purchaser's requirements & Implementation Schedule not responded to in full
- ❖ References not provided for Bidder and/or Key Personnel
- ❖ Incorrect and/or no email addresses provided for References
- ❖ Missing the Google link

SPECIFIC CHALLENGES

IT Services

- ❖ Bidders assume SOW based on experiences rather than the specific Purchaser's Requirements in Section VII
- ❖ Lack of appreciation of nature of Supply & Installation requiring fully functioning Information System (IS) (up to commissioning, training, technical support, maintenance, repair, and other services necessary for proper operation); Ref: BDS ITB 1.1 (u)
- ❖ IFB mistaken for Supply of Information System (IS) only (i.e. just the physical delivery of technology)
- ❖ DCCN in overall ECG Smart Metering vision not appreciated (now & the future); e.g. linkage to CIS, MMS, GIS, OMS, ERP etc.
- ❖ Prices not provided in the format of Price Schedule Forms which has been aligned with the Payment Schedule
- ❖ Prices not quoted CIP (note named places??), and not excluding all Taxes & contributions – BDS ITB 14.4 (a), 14.5 & 14.8
- ❖ Pricing 5 - Yrs. Recurrent Costs Tables: (i) 3 Yrs. Warranty Period ii) 2 Yrs. Post Warranty Period (BDS ITB 14.7) and note Compact End Date of 6th September 2021.



Thank You.

Any Questions?