

**INTEGRATED SAFEGUARDS DATA SHEET  
ADDITIONAL FINANCING**

**Report No.: ISDSA1127**

**Date ISDS Prepared/Updated:** 18-Mar-2015

**Date ISDS Approved/Disclosed:** 19-Mar-2015

**I. BASIC INFORMATION**

**1. Basic Project Data**

<b>Country:</b>	Ghana	<b>Project ID:</b>	P147878
		<b>Parent Project ID:</b>	P074191
<b>Project Name:</b>	GEDAP Second Additional Financing (P147878)		
<b>Parent Project Name:</b>	Ghana: Energy Development and Access Project (P074191)		
<b>Task Team Leader(s):</b>	Sunil W. Mathrani		
<b>Estimated Appraisal Date:</b>	04-Mar-2015	<b>Estimated Board Date:</b>	30-Apr-2015
<b>Managing Unit:</b>	GEEDR	<b>Lending Instrument:</b>	Investment Project Financing
<b>Sector(s):</b>	Transmission and Distribution of Electricity (100%)		
<b>Theme(s):</b>	Infrastructure services for private sector development (70%), Other public sector governance (30%)		
<b>Is this project processed under OP 8.50 (Emergency Recovery) or OP 8.00 (Rapid Response to Crises and Emergencies)?</b>			No
<b>Financing (In USD Million)</b>			
Total Project Cost:	60.00	Total Bank Financing:	60.00
Financing Gap:	0.00		
<b>Financing Source</b>			<b>Amount</b>
BORROWER/RECIPIENT			0.00
International Development Association (IDA)			60.00
Total			60.00
<b>Environmental Category:</b>	B - Partial Assessment		
<b>Is this a Repeater project?</b>	No		

**2. Project Development Objective(s)**

**A. Original Project Development Objectives – Parent**

To improve the operational efficiency of the electricity distribution system and increase the population's access to electricity.

**B. Current Project Development Objectives – Parent**

**C. Proposed Project Development Objectives – Additional Financing (AF)**

**3. Project Description**

Proposed Project Development Objectives - Additional Financing (AF): The PDO of the AF will remain the same as those of the original GEDAP.

The original project has three components: (A) Sector and institutional development; (B) electricity distribution improvement; and (C) electricity access and renewable energy. It is almost fully disbursed and virtually all activities have been completed.

In June 2010 IDA approved a first additional financing of US\$ 70 million to concentrate efforts on improving ECG's operational performance in high loss regions (Ashanti East & West) through the following new components that were added to the original project and which were concentrated on: (i) Distribution upgrade and (ii) commercial and technical capacity upgrade that included a program for replacement of faulty meters and implementation of a loss reduction program, a new customer management system and revenue improvement measures. The current closing date of the project is July 31, 2015 and activities under the first AF are also nearing completion, with about 75% of the Credit disbursed on 15 February 2015.

The implementation status for the components under the original project is as follows:

Component A: Sector and institutional development:

1. Four sector entities (the Ministry of Energy, ECG and the two energy sector regulators, the PURC and the Energy Commission), were supported by this component from the original project. Implementation has been mixed. The Renewable Energy Act was approved by Parliament in late 2011 as a result of work carried out under GEDAP. Renewable resource assessments have been completed for biomass energy, wind, and mini-/micro-hydro electricity generation. Tariff studies and utility benchmarking were carried out by the PURC, along with capacity building activities for several oversight agencies. However, while measures to enhance ECG's operational performance helped to reduce losses, this did not achieve the expected improvements in ECG's financial performance.

Component B: Electricity distribution improvement:

2. This component has been completed. It has helped to upgrade the ECG distribution system in order to contain or reduce technical energy losses on the network and improve the quality of supply to consumers. A recent (2012) loss-reduction study estimated these to be about 11 percent, which is considered to be reasonable and which could not have been achieved absent these interventions under the original project scope. As a result overall losses have been brought down from 26% to around 22%.

Component C: Electricity access and renewable development:

3. Implementation of activities under this component is proceeding well. ECG and the Northern Electricity Distribution Company (NEDCO) have connected over 140,000 households to their distribution networks. In addition, the program of providing solar photovoltaic (PV) systems has brought electricity to 15,000 remote rural households, while demonstrating a successful business model for distributing PV systems to communities where the grid is not expected to reach. One activity that is still under implementation is the construction of pilot mini- and micro-grids in inaccessible areas in and around Lake Volta. The construction of these systems is expected to be completed by the third quarter of 2015, and the contractor will operate them until July 2017 under a contract with the Ministry of Power.

4. The activities under the first Additional Financing were included under a new Component D, Expanded Capacity for Electricity Distribution Improvement which was added to the original project scope. The implementation status is as follows:  
Distribution system upgrade. Substation and medium-voltage line works are progressing satisfactorily and will be completed by Credit closure.

Commercial and technical capacity upgrade. Seven district offices/customer service centers have been built to deal with the growth in customer population. Implementation of a new, company-wide Commercial Management System (CMS) is well under way and is expected to be completed by September 2015. The installation of 140,000 meters in the Ashanti region will begin on March 1, 2015.

The proposed AF will scale up and expand the activities under the GEDAP and the first additional financing. The activities comprise (a) revenue protection program targeting ECG's revenues from large and medium customers, (b) bulk metering for medium voltage networks, (c) an incident management system (IMS) to support effective management and resolution of outages and incidents in electricity supply, and (d) technical assistance and project management support. The bulk of the proposed activities would be focus on improving revenue and commercial loss reduction.

The specific activities would be as follows:

(a) Revenue protection program (RPP, US\$30 million). RPP is focused on the systematic recording and monitoring of consumption of ECG's largest users to protect revenues from sales to large and medium customers. Around 4 percent of ECG's high value customers represent 60 percent of total energy (kWh) billed. They include the medium and high voltage customers and the largest low voltage customers. Sustainable protection of the revenues generated by these customers is the key focus of the RPP. The aim is to achieve zero non-technical losses in this segment by completion of the activity.

Recovery and protection of the revenues generated by large customers will be achieved by managing their consumption (metering, reading and billing) through advanced metering infrastructure (AMI). The AMI includes consumption metering systems and communications devices at each customer premises, including communication devices that make possible to periodically transmit their records to remote points where they are systematically analyzed, processed and monitored by metering control centers (MCCs). The MCCs will be supported with a meter data management (MDM) software designed to monitor, timely detect and correct any eventual irregular condition in electricity use.

At present ECG has incorporated AMI to remotely record consumption of its large customers

supplied in high and medium voltage. However, the company has not implemented the MCCs as permanent organizational units responsible for revenue protection. The existing MDM is outdated, and needs to be replaced by a software package specifically designed to enable systematic monitoring of consumption for the purpose of revenue protection.

The RPP to be implemented by ECG will comprise: (i) installation/relocation of AMI infrastructure at the customer's premises of at least 80,000 users with recorded monthly consumption above 600 kWh; (ii) creation of the MCCs as new organizational units within the company; and (iii) incorporation of a state-of-the-art MDM software package and training of the operators of the MCCs for systematic monitoring of consumption of the target customers. Meters prone to energy theft and/or direct unmetered connection to the grids will be relocated.

(b) Bulk metering - medium voltage distribution networks (US\$21 million). This component will include the deployment of bulk metering AMI infrastructure in the four regional medium voltage distribution networks operated by ECG. The meters will be installed in feeders, distribution transformers and export-import metering at regional and district boundaries. Data provided by the AMI systems will be managed by the MCCs.

ECG has started a bulk metering program in the Accra region, but the scope needs to be expanded to other critical areas of the distribution network. The AMI based bulk metering system will enable accurate metering and accounting of energy flows in four regional medium voltage distribution networks. This would enable the identification of high loss areas and targeting of specific loss reduction programs. It will also enable accountability of regional and district managers for losses in their operational areas.

(c) Incorporation of an Incidents Management System (IMS, US\$1.9 million). This component comprises an IT application to support management and resolution of outages and incidents in electricity supply at all levels but will in particular focus on low voltage distribution networks. Incidents at low voltage level cannot be detected through the SCADA system for operation and supervision of high and medium voltage networks. The IMS will be accompanied by the establishment of a network assets and supply database, which include data on medium voltage networks and on each customer's connection to the corresponding transformer station. The IMS will allow a centralized, reliable and continuous management of customers' claims. The system will be interconnected with the Commercial Management System (CMS), currently being implemented under the first GEDAP AF.

(d) Technical Assistance and Project Management Support (US\$3.1 million). This component comprises: (i) construction of customer service centers; (ii) project management support activities; and (iii) provision of technical assistance/consultancy services. Technical assistance activities include consultancy services for (i) preparation of a 10 year Master Plan for the development of the distribution infrastructure; (ii) cost assessment of unserved energy to ECG; (iii) suppressed demand study; and (iv) feasibility studies for possible upgrade of sub-transmission facilities currently operating at 11kV and 33kV to higher voltages to reduce technical losses.

#### **4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

The project covers the entire country.

#### **5. Environmental and Social Safeguards Specialists**

Demba Balde (GSURR)

Thomas E. Walton (GENDR)

<b>6. Safeguard Policies</b>	<b>Triggered?</b>	<b>Explanation (Optional)</b>
Environmental Assessment OP/BP 4.01	No	The AF activities does not trigger this policy.
Natural Habitats OP/BP 4.04	No	The proposed AF does not include any activity that triggers this policy.
Forests OP/BP 4.36	No	No activities are expected to trigger this policy.
Pest Management OP 4.09	No	The AF does not involve activities related to pest management.
Physical Cultural Resources OP/BP 4.11	No	No excavations, demolitions or physical work are undertaken under the AF. Therefore, this policy is not triggered.
Indigenous Peoples OP/BP 4.10	No	The planned activities under the AF do not involve indigenous people.
Involuntary Resettlement OP/BP 4.12	No	No land acquisition leading to involuntary resettlement and/or restrictions of access is envisaged
Safety of Dams OP/BP 4.37	No	N/A
Projects on International Waterways OP/BP 7.50	No	N/A
Projects in Disputed Areas OP/BP 7.60	No	N/A

## **II. Key Safeguard Policy Issues and Their Management**

### ***A. Summary of Key Safeguard Issues***

<p><b>1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:</b></p> <p>The proposed AF mainly focuses on purchasing materials, software and technical assistance to improve revenue and commercial loss reduction of the system. There are no adverse and irreversible environmental or social impacts expected due to the implementation of the activities planned under the AF. There are no Bank Safeguard Policy Triggered. However the category of the AF is kept as B like the Parent Project". The parent project (P074191) was part of the pilot use of the country's safeguard systems. As such, OP/BP 4.01 and 4.11 were not triggered, and environmental management has been carried out according to Ghanaian laws and procedures. After evaluation of Borrower capacity, country systems were not used to meet the requirements of OP 4.04 on Natural Habitat, OP 4.12 on Involuntary Resettlement, and OP 4.37 on Safety of Dams as they were not found to be up to Standards. The project legal agreements required adherence to OP 4.04 and 4.37 if those policies are triggered by any subprojects (which they were not). The Borrower prepared a Resettlement Policy Framework (RPF) which was disclosed at the Infoshop and In-country on 2/20/2007. The project has not required the preparation of RAPs.</p>
<p><b>2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:</b></p>

<b>3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.</b>
Not considered.
<b>4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.</b>
The Borrower will use the existing Project Management Unit for this additional financing which has experience in safeguards implementation. In addition, the project management team will benefit support from the World Bank Safeguard team when required.
<b>5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.</b>

***B. Disclosure Requirements***

<b>If the project triggers the Pest Management and/or Physical Cultural Resources policies, the respective issues are to be addressed and disclosed as part of the Environmental Assessment/Audit/or EMP.</b>
<b>If in-country disclosure of any of the above documents is not expected, please explain why:</b>
In this Additional Financing, no Safeguards Policy was triggered.

***C. Compliance Monitoring Indicators at the Corporate Level***

<b>The World Bank Policy on Disclosure of Information</b>		
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [ <input type="checkbox"/> ]	No [ <input checked="" type="checkbox"/> ] NA [ <input type="checkbox"/> ]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [ <input type="checkbox"/> ]	No [ <input checked="" type="checkbox"/> ] NA [ <input type="checkbox"/> ]
<b>All Safeguard Policies</b>		
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [ <input type="checkbox"/> ]	No [ <input type="checkbox"/> ] NA [ <input checked="" type="checkbox"/> ]
Have costs related to safeguard policy measures been included in the project cost?	Yes [ <input type="checkbox"/> ]	No [ <input type="checkbox"/> ] NA [ <input checked="" type="checkbox"/> ]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [ <input type="checkbox"/> ]	No [ <input type="checkbox"/> ] NA [ <input checked="" type="checkbox"/> ]
Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?	Yes [ <input checked="" type="checkbox"/> ]	No [ <input type="checkbox"/> ] NA [ <input type="checkbox"/> ]

**III. APPROVALS**

Task Team Leader(s):	Name: Sunil W. Mathrani
<b><i>Approved By</i></b>	

Practice Manager/ Manager:	Name: Meike van Ginneken (PMGR)	Date: 19-Mar-2015
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