

**PROJECT INFORMATION DOCUMENT (PID)  
APPRAISAL STAGE**

Report No.: /

**AB467**

<b>Project Name</b>	Power and Water Project
<b>Region</b>	AFRICA
<b>Sector</b>	Power (57%);Water supply (25%);Sanitation (18%)
<b>Project ID</b>	P087203
<b>Borrower(s)</b>	REPUBLIC OF SIERRA LEONE
<b>Implementing Agency</b>	
<b>Environment Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Safeguard Classification</b>	<input type="checkbox"/> S <sub>1</sub> <input checked="" type="checkbox"/> S <sub>2</sub> <input type="checkbox"/> S <sub>3</sub> <input type="checkbox"/> S <sub>F</sub> <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	April 12, 2004
<b>Date of Appraisal Authorization</b>	April 14, 2004
<b>Date of Board Approval</b>	June 17, 2004

**1. Country and Sector Background**

During the period of civil unrest (1995-1999) the country's physical infrastructure, particularly electricity, water, and sanitation, suffered from widespread destruction and lack of maintenance. The sparse coverage and unreliability of infrastructure services are recognized as major impediments to sustainable economic growth and poverty reduction.

The proposed Power and Water Project is a multi-sector project, reflecting a comprehensive development approach. It is intended to address prioritized issues across various infrastructure services – water and sanitation, urban waste management and power – taking into account all other donor commitments and ongoing or planned programs.

The project supports the country's Interim Poverty Reduction Strategy Paper (I-PRSP) and the National Recovery Strategy, of which power, rural water supply and urban sanitation are key elements. The project would also directly support the Bank's Transitional Support Strategy (TSS), under the "Accelerating Economic Growth" pillar in the lending program for FY 04. The Government has written on several occasions to request Bank support for this operation. The Ministry of Energy and Power (MoEP) presently has a multi-dimensional focus on the development of the country's power and water supply – a critical initiative for commercial, industrial and service delivery in the country.

**Power.** Currently, the constrained interconnected power system in the Western Area of Sierra Leone (of 27.2 MW nominal capacity) is characterized by daily massive blackouts, high tariffs (approximately US\$ 0.19/kWh), very high losses (in excess of 40%) and low collections. The Government adopted major recommendations to undertake major sector reforms encompassing revising the NPA Act (1982), setting up an independent regulator of the sector as well as a policy planning and coordination unit within the MoEP, and instituting a sectoral public-private partnership, through instituting a performance-oriented management contract for NPA.

**Water.** Recent survey reports estimate that only around 30% of the rural population has access to safe drinking water supply from either water points, gravity fed systems, spring boxes, or rain water harvesting, etc. Basic sanitation coverage is estimated to have been reduced from 30%, in 1990, to less than 20% as of the year 2000. This desperate situation of the sector shows that there is need for financial assistance to implement programs to improve the situation. In rural areas, communities are served primarily by unprotected shallow wells, lakes and rivers. Solid and liquid wastes, human and animal excreta, all contribute to contaminating ground water sources.

**2. Objectives**

The project's development objective is to improve sustainable access to essential power, rural water supply and sanitation, and urban solid waste management services. The following outcomes will be sought:

- **Power:** Residents of Western Freetown will have a more stable power supply and a more sustainable platform for future adequate power supplies (including the 50 MW Bumbuna hydroelectric project, which is expected to be commissioned in late 2006). Over the longer term, a national power grid will provide electricity to more people in a more efficient and cost effective way, boosting economic and social development capacity with widespread, reliable and affordable electrical power. The Project will also ensure the sustained financial viability of the NPA, while establishing a sector management and regulatory framework, conducive to private, strategic partners' participation in the future development of the power sector;
- **RWS:** Rural residents in targeted Districts will have clean drinking water and adequate rural sanitation facilities, contributing to improved health;
- **SWM:** Freetown residents will have a reliable, sustainable, affordable, socially acceptable and environmentally safe solid waste collection and disposal system, leading to improved general health and living conditions; and
- **UWS:** The urban water supply utility, GVWC, will be managed in a more commercially-oriented way, and will improve the quality of service it provides to Freetown's water consumers.

### **3. Rationale for Bank Involvement**

The identification of the Power and Water Project grew out of sector-specific assessments of immediate and longer term infrastructure needs, as Sierra Leone emerges from its post-conflict era. These assessments were based on recent experience and cumulative knowledge generated by several Bank projects, notably the Urban Water Supply Project, the Freetown Infrastructure Rehabilitation Project, and the Power Rehabilitation Project.

Given the breadth of infrastructure requirements and limited resources available, strategic choices were arrived at by establishing a broad overview of sector requirements and commitments by other development agencies. Important gaps in donor support were identified, with the aim of addressing immediate power, rural water supply and sanitation, and urban solid waste management needs, while supporting longer term efforts to strengthen institutional capabilities and introduce policy reforms. The comprehensive development framework, as opposed to single sector operations, reflects an effort to address infrastructure problems on a broad front, enabling the Bank to tackle targeted, critical needs across a range of essential infrastructure, which would otherwise not be covered by other donor programs at this stage.

### **4. Description**

#### **Component A: Power – US\$31.1 million (with US\$20 million for IDA)**

The total cost for the power component of the PWP is US\$31.1 million, out of which IDA financing is US\$20 million, including a US\$0.5 million of PPF repayment. IDA financing will cover the foreign currency costs of the following sub-components: (i) power sector reform (*US\$7.9 million*); (ii) capacity building and institutional strengthening and training (*US\$0.5 million*); (iii) infrastructure (*US\$11.5 million*); (iv) social impact and environmental mitigation for the Kingtom Power station and the T&D (33kV) transmission line (*US\$4.02 million*); and (v) project management and supervision for the infrastructure sub-component (*US\$0.550 million*). GoSL and NPA, and other financiers will cover the local costs of these sub-components.

#### **Component B: Water Supply, Sanitation and Solid Waste Management – US\$15 million**

(i) **Rural Community Water Supply and Sanitation Sub Component (US\$9.2 million):** This component will include rural water supply and sanitation interventions in four districts (Bo, Kenema, Bombali, and Tonkolili); (ii) **Freetown Solid Waste Management Sub Component – (US\$3.10 million):** This component will include: (i) emergency works aimed at cleaning and improving the hygiene situation in Freetown in the short term (three months from effectiveness); and (ii) the establishment of a more permanent solution to the city's solid waste management problem through establishment of the FSWMC; and (iii) **Urban Water Supply Sub Component (US\$2.7 million),** provides funding for reform consultancies in the area of financial management and business planning, enabling the implementation of commercial oriented reforms in GVWC; (ii) funding for emergency works in the Eastern parts of Freetown and meters installation to improve the cost recovery of the service delivery to the low-income communities; and (ii) funding for training and urgently needed equipment for GVWC.

## 5. Financing

Source:	(\$m.)
BORROWER/RECIPIENT	11.4
INTERNATIONAL DEVELOPMENT ASSOCIATION	35.0
Total	46.4

## 6. Implementation

Two Project Implementation Units (PIUs) will be established in order to efficiently manage the implementation of the Power and Water Project components. One PIU will implement the power component and one PIU will be established within SALWACO to implement the: (i) rural water supply component; (ii) urban water supply component in Freetown with GVWC; and (iii) the solid waste management investments targeted for Freetown.

It is envisaged and expected that these two PIUs would move towards integration into their respective parent agencies/ministries as the institutional reforms come to fruition. The PIUs will establish an exit strategy as a part of their function and responsibility.

## 7. Sustainability

The sustainability of the water and sanitation facilities rests on three key elements: (i)

(i) Community willingness and capacity to manage and sustain services: To help communities manage their services in the long-term, capacity will be strengthened in community-based organizations, operations and maintenance, financial management, hygiene education, and effective water usage and disposal; (ii) Availability of spare parts accessible by the communities: The establishment of a spare parts distribution system will be considered in order to ensure the sustainability of the water supply facilities and (iii) Good implementation and construction of facilities built, while transferring capacity to SALWACO, GVWC, and FSWMC.

The sustainability of the power component is supported by GoSL's commitment to, and ownership of, the sector reform program. It mainly rests with the implementation of a number of policy actions and effective achievement of their respective objectives. These actions include the selection of a management contract for NPA and the promotion of economic tariffs for sales of power to improve both the efficiency of the management of its operations and long-term financial viability of the company. Other important policy actions contributing to the sustainability of the project include the revision of the Electricity Law and NPA Act and the establishment of a Regulatory Agency over the sector activities to create an enabling environment that is conducive to transparent private sector participation in the energy sector; and the creation of a National Energy Policy Planning and Coordinator Unit (NEPPCU) within the Ministry of Energy and Power (MoEP) to better plan for the least cost development of the sector.

## 8. Lessons Learned from Past Operations in the Country/Sector

The project preparation process included several studies providing lessons in project design. Additionally, the issues presented below include lessons derived from other Bank and DP projects as well as recent sector reviews.

### Water and Sanitation

***Rural Water Supply component:*** Based on previous interactions with the SALWACO (under the completed Urban Water Supply Project), the major lesson taken into account during project design is the need to address the company's technical and financial management capacity.

***Solid Waste Management component:*** This component is to support the establishment of a SWM company for Freetown, based on legal and technical expertise and incorporated along autonomous lines, free of political interferences. The process is to be completed within one year from credit effectiveness, and subsequent to an emergency cleanup of Freetown.

**Urban Water Supply component:** Several important lessons learnt during the urban water supply project are incorporated into this component. First, any future intervention with GVWC must address the establishment of sound institutional arrangements and strengthen the company's managerial capacity. This is addressed through the hiring of an external consultancy firm which will assist in the overall management of GVWC in collaboration with its current management.

**Policy:** Key to sustainable water supply and sanitation service provision is the development of a national policy and strategy. In addition, there is a need for a standardized baseline assessment tool to better estimate country coverage ratios. The project will cooperate with several NGOs which are already involved in this process, making use of the comparative advantage these institutions possess.

In post-conflict situations with significant destruction of infrastructure, and in which the physical aspects of power development take precedence over the institutional development aspects of power system development, it is impossible to move rapidly to the full privatization of a power utility, but rather concentrate on developing creative solutions to management contracting that could gradually pave the way for future privatization. The proposed project has incorporated this approach. Indeed, a management contract for NPA is being prepared as a first step toward its privatization.

Local efficient utility management contractors are likely to have an advantage over foreign managers in that they can be more adept in preparing and selling reform packages to the public. In designing the management contract, it has been accepted that local managers with proven record of success would be allowed to associate themselves with foreign managers, as authorized within the Bank's procurement guidelines.

## 9. Safeguard Policies (including public consultation)

The environmental category is "B" and the safeguard screening category is "S2" which means that there are recognizable adverse impacts on the bio-physical and human environment but that the impacts are evaluated to be of such nature that adequate measures can be put in place in order to minimize and mitigate the impacts. OP 4.01 and OP 4.12 are triggered by the project, as shown below, but there is also a possibility that OPN 11.03 and OP 4.37 may be triggered as the project proceeds and specific investments are identified and locations determined. The ESMF will then provide the appropriate guidance on how to meet the requirements of those policies.

<b>Safeguard Policies Triggered by the Project</b>	Yes	No
<a href="#">Environmental Assessment (OP/BP/GP 4.01)</a>	[x]	[ ]
Natural Habitats ( <a href="#">OP/BP 4.04</a> )	[ ]	[x]
Pest Management ( <a href="#">OP 4.09</a> )	[ ]	[x]
Cultural Property ( <a href="#">OPN 11.03</a> , being revised as OP 4.11)	[ ]	[x]
Involuntary Resettlement ( <a href="#">OP/BP 4.12</a> )	[x]	[ ]
Indigenous Peoples ( <a href="#">OD 4.20</a> , being revised as OP 4.10)	[ ]	[x]
Forests ( <a href="#">OP/BP 4.36</a> )	[ ]	[x]
Safety of Dams ( <a href="#">OP/BP 4.37</a> )	[ ]	[x]
Projects in Disputed Areas ( <a href="#">OP/BP/GP 7.60</a> )*	[ ]	[x]
Projects on International Waterways ( <a href="#">OP/BP/GP 7.50</a> )	[ ]	[x]

**Environmental Assessment:** The procedures for screening and assessment of the ESMF will be followed. The solid waste management plan provides for guidance on how to manage the

\* By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas

existing waste heaps and its future collection and management. The audit for Kingtom power plant and the EA for the Western Area will identify the environmental issues and provide for further mitigation measures. For the Western Area power distribution, the major issues are related to health and security while at Kingtom, the environmental issues are also related to air, soil and marine pollution.

**Resettlement:** *For the water component*, a small amount of land will be needed for boreholes, pumping stations, storage tanks and communal water points. Construction of these facilities as well as pipelines can result in temporary or permanent loss of land, crops and other means of income generation. A Resettlement Policy Framework (RPF) has been prepared to provide guidance on how to compensate affected people in such cases. *The power component* is expected to have greater impact as it will be implemented in Freetown and will require substantial land acquisition. Therefore, a Resettlement Action Plan (RAP) is being prepared for people and property affected by the 33 kV sub-transmission line from Kingtom to Black Hall sub-stations. The RPF will also provide guidance on compensation issues at locations which have not yet been determined, mainly in the Western parts of Freetown.

**Cultural Property:** There is a remote chance that cultural artifacts may be discovered during the excavation of pipe trenches and foundations. The ESMF addresses the issue, and construction contracts will specify actions that contractors must take when possible cultural artifacts are unearthed. Likewise any cultural property which will potentially be affected during implementation of power component activities, will be addressed by the environmental management plan.

**Safety of Dams:** The ESMF sets out the procedures which must be followed if a participating town intends to draw water from a reservoir controlled by an existing or new dam.

The ESMF and RPF identify potential adverse social and environmental impacts that could result from village WSS facilities and measures to mitigate them. Both the ESMF and RPF will include procedures to follow during the planning, design and construction of sub-projects. Each sub-project will be required to prepare a proposal that sets out the proposed: (i) scope of the facilities; (ii) the institutional and financial arrangements to sustain it; (iii) mitigation measures for adverse social and environmental impacts that may arise from the construction and use of the facilities; and (iv) compensation plan for those who lose income as a result of the project. The EIA for both Kingtom Power Station and Western Area, the RAP and the RPF, which have been prepared for the power component, have identified the present and future impact of project activities. The EIA contain environmental management plans which spell out the mitigation measures to be put in place. The resettlement instruments, likewise, describe in detail how affected people will be compensated for their losses.

The borrower's capacity to implement environmental and social mitigation measures (as described in the environmental management plans and RAP) is at present limited. Therefore, the PIUs will be enforced with environmental and resettlement specialists which receive training in order to more successfully ensure that the mitigation plans are adequately implemented by the safeguard policies.

Consultations have been held with different stakeholders. In particular, the potentially affected people have been consulted on an individual basis as well as in public meetings. For the power component, the fact that a substantial number of people would have been affected, led to a likely re-routing of one of the transmission lines (the 161 kV line from Kingtom to Wilberforce

Junction). The safeguard instruments are at their final stage of completion but have not yet been approved by ASPEN, and, therefore, not yet disclosed at the Infoshop or in country.

10. List of Factual Technical Documents

For the Power Component:

- Power Planning Associates, UK, Requirement for monitoring of NPA's Financial Recovery Plan-Inception Report February 2004 and Interim Report March 2004

- Power Planning Associates, UK, Assessment of Rehabilitation and Reinforcement of NPA Western Area Grid, Distribution System and Loss Reduction - Inception Report February 2004 and Interim Report March 2004

- Electricity Supply Board Ireland (ESBI), Ireland, Assessment of Operational Requirements of Kingtom Generating Station – Inception Report March 2004

- Refast, Tema - Ghana, Environmental Impact Assessment (EIA) of the 33 kV and 161 kV Transmission and Distribution Network of the Western Area – Inception Report March 2004

- Paul T. Willcott, Private Consultant – Canada, Assessment Study for a Resettlement Action Plan (RAP) for the Western Area 33 kV and 161 kV T&D – Inception Report March 2004

- Lahmeyer International GmbH, Germany, Environmental Audit of the Kingtom Generating Station – Inception Report March 2004 and Draft Final Report March 2004

For the Water and Sanitation Component:

- Solid Waste Management Study for Freetown, Sierra Leone, submitted by Dave Sood, Consultant

- Rural Water Supply and Sanitation Component of the Sierra Leone Infrastructure Development Project (Draft Final Report), submitted by Djagal Interantional Consultant

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