Updated
ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK
UPDATED FOR COVID-19 RESPONSE

FEBRUARY 2014
UPDATED on MAY 2020
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EXECUTIVE SUMMARY

Introduction
The Government of Sierra Leone (GoSL) has secured credit from the World Bank to implement the Energy Sector Utility Reform Project (ESURP). The International Development Association (IDA) provided an initial funding of USD forty (40) million and additional financing of USD 50 million towards the implementation of the project. This brings the total financing by IDA to USD ninety (90) million for ESURP Parent and AF. The main objective of ESURP is to upgrade the distribution lines, reduce losses in electricity supply to Freetown, and improve commercial performance of EDSA. This project involve the upgrading and rehabilitation of key primary Medium Voltage (MV) network infrastructure, including aged MV substations and feeder lines in the Greater Freetown area. Due to decades of neglect, primary MV substations are in a state of disrepair, substation batteries and circuit breakers are mostly not functional, and DC supplies nonoperational. Sections of the system are overloaded, protection relays are faulty and there is a serious risk of infrastructure damage occurring because of protection system or circuit breaker failure. The envisaged upgrade will require that certain existing links to be replaced with appropriately sized cables/overhead lines, and will help reduced technical losses and enhance reliability. Appropriately matching needed investments in MV feeder upgrade to appropriate investments in corresponding substations will enable systematic system upgrade and protection of infrastructure. The upgrade will also be complementary to network investments effected under the SLIDF energy access project and forms part of a systematic approach to rehabilitate the Freetown network on an incremental basis. In particular, it should be noted there has been an increase in demand in certain areas from newly established commercial operations and consideration is given to expanding the network to meet this demand.

The coronavirus disease (COVID-19) since its outbreak in December, 2019 continues to spread rapidly across the world and despite the declaration by the World Health Organization as a global pandemic on 11th March, 2020, the number of countries with reported cases of COVID-19 has increased. Sierra Leone recorded its first confirmed case of COVID-19 on 31st March, 2020 and the number of cases has since risen to 178 with 9 deaths as of 4th May, 2020. The World Bank is providing support to Governments for preparedness planning to provide optimal medical care, maintain essential health services and to minimize risks for patients and health personnel. The ESURP is therefore being restructured in response to COVID-19 crisis to ensure quality and reliable electricity supply to existing health and quarantine facilities which are essential for the functioning of intensive care units, laboratories and prevention of further transmission. The proposed changes are summarized as follows: (a) introduction of a new standalone COVID-19 response component (Component 4); (b) create a CERC (componet5) to finance a future event of emergency with zero allocation (c) change in the scope and costs of activities. Specifically,
activities will be reduced under Component 2; (d) reallocation of the proceeds of the credits to the newly COVID-19 response component and change in Disbursement Estimates; (e) change in Economic and Financial Analysis (f) revision and update of the Results Framework.

Consequently, an updated ESMF is required to assist the borrower in identifying the type of environmental and social assessment that should be carried out for urgent infrastructure works such as construction PV/storage back up generation in isolated health centers and construction of special feeders and installation of transformers for identified health centers in interconnected network under component 4

**Purpose of the ESMF**
The general framework for the assessment and management of environmental and social safeguards of developments/projects in Sierra Leone is provided in the Environmental Assessment (EA) Regulations. Some development partners however, have their respective Environmental and Social (E&S) safeguards procedures and policies which must be followed for projects funded by them. As part of the funding arrangements for the Sierra Leone Energy Sector Utility Reform Project therefore, the World Bank’s E&S safeguards policies (OP/BP 4.01) must apply. This requires the preparation of an Environmental and Social Management Framework (ESMF). The features of the Sierra Leone Energy Sector Utility Reform Project which make an ESMF the appropriate requirement under the Bank’s OP/BP 4.01 are listed below.

The Sierra Leone Energy Sector Utility Reform Project has:

- A number of sub-projects and components;
- Various developmental stages to be carried out in modules;
- Sub-projects spread over a wide geographic area;
- Implementation phases and duration spread over 5 years; and
- Design of the sub-projects and exact locations for implementation, as well as impacts are not yet determined at this stage.

The ESMF spells out the E&S safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects under the Sierra Leone Energy Sector Utility Reform Project meet the national and local E&S requirements, and also consistent with OP 4.01 and OP 4.12 (of the Bank). The ESMF sets out principles and processes within which the sub-projects are implemented agreeable to all parties. The other objectives of the ESMF include:

- Assessment of potential adverse E&S impacts commonly associated with the sub-projects and the way to avoid, minimize or mitigate them;
- Establishment of clear procedures and methodologies for the E&S planning, review, approval and implementation of sub-projects;
• Development of an EA screening/initial assessment system to be used for sub-projects; and
• Specification of roles and responsibilities and the necessary reporting procedures for managing and monitoring sub-project E&S concerns.

Policy, Legal and Administrative Framework

Ministry of Environment
There is an overall institutional and legal framework for the management and protection of our environment in the national context. The responsibility for the management and protection of the environment presently lies with the new Ministry of Environment, which oversees the Environmental Protection Agency (EPA), National Protected Areas Authority (NPAA), Nuclear Safety and Radiation in Sierra Leone, and Standards Bureau. The political head of the Ministry is the Minister and has the superseding mandate to handle all matters as regards the environment.

The Department of the Environment (DOE) prior to the creation of the new Ministry of Environment developed with World Bank Support, the national Environmental Action Plan (NEAP). It is presented into two volumes. Volume 1 analyses the environmental issues in Sierra Leone and the recommended interventions. Volume 2 contains the environmental proposals. A National Environmental Policy (NEP) has been prepared. The goals, objectives and strategies of the (NEP) are outlined below:

Policy Goals
The goal of the national Environmental Policy is to achieve sustainable development in Sierra Leone through sound environmental management.

The Environmental Protection Act
The environmental protection Act (EPA) 2000 empowers the Department of the environment to perform the following tasks amongst others:

➢ Screen projects for Environmental Impact Assessment (EIA)
➢ Issuance of environmental Impact Assessment Licenses
➢ Formulate or promote the formulation of, and monitor the implementation of environmental policies, programs, projects, standards and regulations.

National Environment Protection Board
The EPA 2000 also provides for the establishment of an environmental protection Board with the following functions:
o Facilities coordination, cooperation and collaboration among government ministries, local authorities and other agencies in areas of environmental protection;

o Review national and sectoral policies and make such recommendations or proposal it make think necessary to the Minister.

o Review environmental impact assessments prepared pursuant to this Act and make appropriate recommendations to the Director.

o Investigate or cause to be investigated, any activity, occurrence or transaction which it considers is likely to have or result in harmful consequences to the environment and advise on measures necessary to prevent or minimize such consequences;

o Advise the Minister on areas of environmental protection and control requiring special or additional measures indicating the priorities and specific goals to be achieved;

o Undertake or cause to be undertaken specific studies and research aimed at developing strategies for the protection of the environment and make appropriate recommendations to the Minister; and

o Consider any other matters which may be referred to it by the Minister and make appropriate recommendations or proposal thereon.

The report also discusses many relevant policies, Regulations and Requirements including Lands; labour and social security, sexual offences, HIV/AIDS policy.

**Project Description**

The project restructured comprises five (05) major components and which are as follows: (1) Distribution utility capacity enhancement and performance improvement; (2) Improvement of electricity supply in urban areas; (3) Sector planning assistance, project implementation support, and monitoring and evaluation (4) COVID-19 response component (5) Contingent Emergency Response Component (CERC) COVID-19

**Component 1. Distribution utility capacity enhancement and performance improvement**

This component through the initial financing supports the establishment of a fully functioning and effective national electricity distribution utility through a three-year performance-based management contract for the provision of utility management, operation, and capacity building. The additional financing continues to further support EDSA to strengthen its T&C management and continue to build the local capacity within the utility to ensure continued performance improvement and sustainability of the results. Improving T&C performance of EDSA is a necessary condition for the utility to become financially viable. The AF also will Incorporate a modern
Management Information System (MIS) required to assist EDSA to manage its business and improve its operational performance in the key areas of modernization of data and information management; production of standardized statements, reports, and documents in a timely manner; and attention and resolution of incidents in electricity supply to its customers. This will be achieved through the acquisition and incorporation of an integrated system comprising Enterprise Resource Planning (ERP), a Commercial Management System (CMS), an Incident Recording and Management System, and a Complaints and Grievance Redress Mechanism (GRM). Creating an avenue for public feedback and complaints of incidents in electricity supply, including reporting of power theft, illegal connections, and so on, will allow for real-time course correction, thereby leading to more responsive service delivery. The implementation of the MIS is one of the investment needs identified by the MC and approved by the EDSA Board in the investment plan for EDSA, but the MIS could not be implemented under the original project due to lack of funds. The AF will continue to fund Technical Assistance to EDSA.

Component 2. Improvement of electricity supply in urban areas.

The distribution grid requires well over $170 million of investment, in the Greater Freetown area alone. Some of the most urgently needed system investments are in the process of having specifications prepared under the recently approved Sierra Leone Infrastructure Trust Fund (SLIDF) energy access project, under which provision was also made for technical assistance that will be used to carry out a condition assessment of the entire Freetown distribution network and to develop a comprehensive investment plan of prioritized and optimal next investments. The plan, to be based on the assessment, system studies as well as the existing JICA funded load flow study, will exactly define network sections and equipment needing urgent upgrade to remove serious bottlenecks in the system and to upgrade quality of supply. Apart from forming the basis for investment under the IDA project, this systematic approach will ensure a sound basis for further financing of the network rehabilitation and upgrade going forward.

This component supports under the original financing s: (a) the reinforcement, rehabilitation and extension of the primary medium voltage (33 kV) distribution network; and (b) the reinforcement, rehabilitation and extension of priority secondary (11 kV) and low voltage distribution network. The investment will help increase the distribution capacity of the system and improve the quality and reliability of electricity supply. The additional financing activities under this component would finance the upgrading and expansion of the 33 kV, 11 kV, and LV network, including connection of new customers, and project management by EDSA.

Component 3. Sector planning assistance, project implementation support, and monitoring and evaluation
This component supports under the original financing (a): (i) policy formulation, planning, and capacity building of the MoE; (ii) the strengthening of the Project Management Unit (PMU) through the provision of technical advisory services, goods, non-consulting services, and training and operating costs; and (iii) the monitoring and assessing of the performance of the MC.

Owing to the enormity of the challenges in the sector, the Government as well as the utility with limited staff are often reactive rather than proactive, and in fire-fighting mode rather than strategic, with necessary focus in key areas which are pre-requisites for well-informed decision-making for prioritizing and selecting future public and private investments in generation, transmission and distribution. Technical assistance will be procured to strengthen utility/system planning and dispatch capabilities. This capability should also include regional opportunities and constraints. TA under the SLIDF for an Integrated Resource Plan study is currently under procurement, and will help identify promising opportunities, especially in generation. In addition, technical assistance under IDA will be provided for proper development of the most promising power investment opportunities emerging in generation, including feasibility of related transmission and distribution infrastructure.

**Component 4: COVID-19 response component**

This component is targeted to the activities that the GoSL requested to finance in line with to the government’s COVID-19 National Response Plan. These activities include: (i) acquisition of Critical Goods for business continuity of utilities during COVID-19; (ii) carrying out of urgent infrastructure works such as construction PV/storage back up generation in isolated heath centers and construction of special feeders and installation of transformers for identified health centers in interconnected network (iii) carrying out of urgent analytical work such as feasibility assessments for these activities, priority works identification, and works design development

**Component 5: Emergency Response Component (CERC)-C5 for future emergency:**

This component will be available if needed be to redeploy some of the project resources alongside those of other projects in the Sierra Leone’s project portfolio to respond to an emergency situation. The available resources would be made available to finance future emergency response activities and to address crisis and emergency needs. An Immediate Response Mechanism Coordinating Agency and expenditure management procedures will be defined in an Immediate Response Mechanism Operational Manual (IRM/OM), to be prepared separately and approved by the World Bank, in line with guidance provided under OP 10.00, paragraph 12. In case this component is used, the project will be restructured to allocate financing, revise the PDO and indicators, and detail implementation arrangements.
CERC component will finance “Critical Goods” including, medical equipment supplies, petroleum and fuel products, solar renewable energy equipment, construction materials, air, land, and water transport equipment, including spare parts and supplies, school equipment and supplies, construction equipment and industrial machinery, including spare parts and supplies, and telecommunication equipment.”

**Description of the Project Environment**

The parent Sierra Leone Energy Sector Utility Reform Project is being implemented in the Western Area but the proposed restructuring will now expand the scope of the project to the country as a whole including the four major points of entry (POEs) in the country. The project area has a south-western equatorial climate. It experiences a bimodal rainfall pattern from April to July and October to December. There is a short dry season in August and a long period in January and February. The area is hot and humid with a relatively humidity of 90% in the night and 75% in the afternoon. The hottest month is March and the coldest is August. In the proposed project, the distribution lines will replace the existing lines and there is not likely to be new alignment. The proposed restructuring for the COVID-19 response will involve infrastructure works such as, back up generation and special electrical feeders and solar installation for existing and new health centers in the greater Freetown Area and regional capital cities as well as the country’s four main points of entry (POE). These activities do not raise the safeguard category or trigger any new safeguard risks or policies other than those already covered in the existing project. As such, the preparation and implementation of the activities under the COVID-19 emergency component arrangement will comply with all safeguard requirements of the parent project.

**Stakeholder consultations**

The following major stakeholders were consulted for role identification and for potential environmental and social impacts likely to arise from the Sierra Leone Energy Sector Utility Reform Project implementation:

- Electricity Distribution and Supply Authority (EDSA)
- Ministry of Energy
- Ministry of Lands, Housing and Country Planning
- Freetown City Council (FCC)
• Ministry of Water Resources
• Ministry of Environment
• Environmental Protection Agency (EPA);
• Ministry of Local Government
• District Council and local councils;
• Ministry of Health and Sanitation (MoHS);
• Ministry of Labour and Social Security (MLSS)
• Ministry of Basic and Senior Secondary Education
• Ministry of Technical and Higher Education
• Sierra Leone Roads Authority (SLRA)
• NGOs.
• Local communities

Environmental and Social Impact

The impacts have been categorized into beneficial and adverse. The beneficial impacts include:

• Improvement in national energy supply;
• Provide funds for urgent priorities induced by COVID-19 response which are essential in preventing disease and protecting human health
• Ensure quality and reliable electricity services to ensure the functioning of hospitals and health care facilities
• Provide adequate and reliable power supply to all EDSA customers in the Western Area.
• Reduction in the losses in the transmission and distribution of electricity
• Assure system integrity and security
• Eliminate or reduce hazards to public and occupational health and safety
• Provide necessary support for sustainable development of the country

The negative impacts include constructional waste, occupational health and safety, medical wastes, noise, emissions, pollution, traffic accidents and visual intrusion.
Table ES.1: Impact Matrix

<table>
<thead>
<tr>
<th>Activities</th>
<th>Bio-Physical Environment</th>
<th>Socio-Cultural Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Land/soil degradation</td>
<td>Cultural/Religious Heritage</td>
</tr>
<tr>
<td></td>
<td>Air quality</td>
<td>Visual Intrusion/Aesthetics</td>
</tr>
<tr>
<td></td>
<td>Noise</td>
<td>Electrical Infrastructures</td>
</tr>
<tr>
<td></td>
<td>Water Resources</td>
<td>Occupational/Public Health &amp; Safety</td>
</tr>
<tr>
<td></td>
<td>Land Use</td>
<td>Tourism</td>
</tr>
<tr>
<td>Pre-construction Phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secure Access to Tx. Routes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Secure Access to T &amp; D sites</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Clean up Substations/sites</td>
<td>0</td>
<td>0/1</td>
</tr>
<tr>
<td>Construction Phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Equipment to Site</td>
<td>1</td>
<td>0/1</td>
</tr>
<tr>
<td>Clearing RoW/Tower</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Excavating Foundations</td>
<td>1</td>
<td>0/1</td>
</tr>
<tr>
<td>Erecting Towers/Poles</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stringing Lines</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Construct Substation housing</td>
<td>1</td>
<td>0/1</td>
</tr>
<tr>
<td>Replace cables/conductors</td>
<td>1</td>
<td>0/1</td>
</tr>
<tr>
<td>Install new Transformers/generators and Eqpt.</td>
<td>1</td>
<td>0/1</td>
</tr>
<tr>
<td>Operation and Maintenance Phase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test and Commission System</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EMF effects</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vegetation Control</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Line Maintenance</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tower Maintenance</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Substation Eqpt. Maintenance</td>
<td>0/1</td>
<td>0</td>
</tr>
</tbody>
</table>

Key:  
0       No potential impact or not significant.  
1 or 0/1 Potential effect, expected to be less significant.  
2        Potential significant adverse impact.  
2+       Potential significant beneficial impact.
Environmental and Social Mitigation Principles
The ESMF considered a number of mitigation and enhancement measures and principles for implementation to ensure the Sierra Leone Energy Sector Utility Reform Project and sub-projects become socially acceptable, environmentally sound and sustainable. The measures include:

- Mitigation principles for the effects of land ownership, property and buildings loss;
- Mitigation principles on impact of noise;
- Prevention of Impact on Public Safety principles;
- Prevention of Impact on Occupational Health and Safety principles;
- HIV/AIDS prevention and management principles;
- Socio-cultural conflict prevention principles;
- Gender impacts mitigation principles;
- Substation, Cable theft/security principles.
- Chance find procedure principles
- Population influx control principles;
- Air quality control principles;
- Explosion control and health and safety principles;
- Mitigation as a result of operation of substation principles

Accidental spillage of oil, fuel and paints will be avoided as much possible. Any spilt materials will be quickly mopped up with rags and/or sawdust. The used sawdust and rags will be disposed of at appropriate public waste dumping sites.
<table>
<thead>
<tr>
<th>PROJECT ACTIVITY</th>
<th>POTENTIAL ENVIRONMENTAL IMPACTS</th>
<th>PROPOSED MITIGATION MEASURE(S) (including legislation &amp; regulations)</th>
<th>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</th>
<th>COST ESTIMATES</th>
<th>COMMENTS (eg. Secondary impacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrading Distribution Line</td>
<td>- Noise, dust, air pollutants, road accidents</td>
<td>- Replant disturbed sites</td>
<td>- Contractor</td>
<td>- Contractor's costs</td>
<td>- Appropriate contract clauses to be specified</td>
</tr>
<tr>
<td></td>
<td>- Loss of land use</td>
<td></td>
<td>- Contractor/EDSA</td>
<td>- Contractor's costs</td>
<td>- Approx. persons affected</td>
</tr>
<tr>
<td></td>
<td>- Soil erosion, sedimentation and runoff</td>
<td></td>
<td>- Contractor</td>
<td>- Contractor's costs</td>
<td>- Appropriate contract clauses to be specified</td>
</tr>
<tr>
<td></td>
<td>- Waste generation</td>
<td></td>
<td>- Contractor/EDSA</td>
<td>- Contractor’s costs</td>
<td>- Appropriate contract clauses to be specified</td>
</tr>
<tr>
<td></td>
<td>- Historical/cultural finds</td>
<td></td>
<td>- Contractor</td>
<td>- Contractor’s costs</td>
<td>- Appropriate contract clauses to be specified</td>
</tr>
<tr>
<td></td>
<td>- Health and safety risks workers doing upgrades</td>
<td></td>
<td>- Contractor</td>
<td>- Contractor’s costs</td>
<td>- N/A</td>
</tr>
<tr>
<td></td>
<td>- Visual intrusion</td>
<td></td>
<td>- EDSA</td>
<td>- Contractor’ costs</td>
<td>- Contractor’ costs</td>
</tr>
<tr>
<td>- Transport equipment to site</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Clearing RoW/tower route for safety of vendors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT ACTIVITY</td>
<td>POTENTIAL ENVIRONMENTAL IMPACTS</td>
<td>PROPOSED MITIGATION MEASURE(S)</td>
<td>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</td>
<td>COST ESTIMATES</td>
<td>COMMENTS (eg. Secondary impacts)</td>
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<td>---------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
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<td>---------------------------------------------------------------------</td>
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</tbody>
</table>
| - Stringing Lines and replacing existing cables/conductors                      | - Waste generation  
  - mostly metals, insulators etc.  
  - Left around as wastes  
  - Disposal of transformers and other items, oil leaks | - Improve alignment and tensioning  
  - Segregate and reuse, recycle or dispose as appropriate | - Contractor/ EDSA          | - Contract costs  
  - EDSA sells as scrap and gets revenue to offset costs | - Appropriate contract clauses to be specified |
| - Install new Transformers, generators, solar and Equipment                     |                                                                                               | - Adopt best practices and safety procedures |                                                                                     |                |                                  |
| Operation and Maintenance of the line                                            | - Loss of vegetation cover  
  - Loss of income from fruit trees                                                     | - Replant as necessary  
  - Compensate                                                                  | - EDSA  
  - EDSA                                                                       | - To be determined  
  - To be determined                                                               |                                  |
<p>| - Vegetation control                                                             |                                                                                               |                                |                                                                                     |                |                                  |</p>
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<tr>
<th>PROJECT ACTIVITY</th>
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<th>COST ESTIMATES</th>
<th>COMMENTS (eg. Secondary impacts)</th>
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| Maintenance of Right of Way and construction site | - Waste generation  
- Health and safety  
- Control encroachments | - Segregate and dispose as necessary  
- EDSA Safety rules and personnel protection | - EDSA  
- EDSA | - TBD | Annual maintenance cost (2 staff policing area) |
| Tower and solar maintenance | - Waste generation  
- Health and safety  
- Erosion effects on tower pads | - As above  
- Shore up affected towers | - EDSA  
- EDSA | - TBD | |
| Special issues | - EMF  
- Unknown health hazards | - Protect public from equipment  
- Public education | - EDSA | | |
| | - Health hazard  
- PCB in insulating oils | - Safe handling Procedures  
- Personnel Protection | - EDSA | | - Tests to be carried out to determine if PCB exists in EDSA systems  
- Training in environmental issues |
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<th>COMMENTS (eg. Secondary impacts)</th>
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| Use of SF6 equipment                                                           | Health hazards                                                                                | Safety Procedures  
- Training in environmental issues | EDSA                                                             |                | Training in environmental issues |
| Hazard management                                                              | Health and safety Hazards                                                                      | Training in environmental issues                                     | EDSA                                                             |                |                                  |
| Waste management, adequate supply of PPEs and protocols for waste management, enforcing and monitoring | Health, safety and pollution hazards                                                          | Training in environmental issues                                     | EDSA                                                             |                |                                  |
| Transformer and generator oil leaks                                            | Pollution hazards  
- Health and safety hazards | Construct bunds around transformers                                                               | EDSA                                                             |                  | TBD                              |
<p>| <strong>Construction and Operation of substation</strong>                                   |                                                                                               | Training in environmental issues                                     | EDSA/MoHS/Local management                                       |                |                                  |</p>
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<td>generators and solar</td>
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<td>Ground clearing</td>
<td>Waste generation</td>
<td>Training in environmental issues</td>
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<td>Setting up of bays, battery</td>
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<td>Drainage water supply and sanitation aspects</td>
<td>Pollution hazards</td>
<td>Training in environmental issues</td>
<td>EDSA/MoHs</td>
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**ESMF Implementation**

The successful implementation of the ESMF depends on the commitment of EDSA, MoHS and related institutions, the capacity within the institutions and the appropriate and functional institutional arrangements among others. The EDSA, MoHS, MoE and EPA have been involved in the preparation and the review of the ESMF. The key ESMF implementation areas and the relevant institutional roles as well as the institutional arrangement and collaboration for successful implementation of the ESMF of the Sierra Leone Energy Sector Utility Reform Project have been determined and outlined.

The E&S monitoring and reporting roles and responsibilities within institutions and among the stakeholders have been mapped out.
1.0 INTRODUCTION

1.1 Background

The Electricity Distribution and Supply Authority (EDSA), is a statutory body established by the Electricity Distribution and Supply Authority Act, 1982 (Act No. 3), incorporating the former Sierra Leone Electricity Corporation. EDSA is responsible for generation, transmission, distribution and sales of electricity throughout the country, with the exception of the Bo and Kenema Districts, which are served by the Bo Kenema Power Services (BKPS), an autonomous subsidiary of EDSA.

The rebel war (1991 – 2002) and its consequences have reduced the operations of EDSA to the Western Area, the peninsular on which the capital Freetown is situated.

Electricity Distribution and Supply Authority (EDSA), through the Government of Sierra Leone (GoSL) has acquired a credit facility from the International Bank for Reconstruction and Development (IBRD) for an energy access project known as the Sierra Leone Energy Sector Utility Reform Project. This project involve the upgrading and rehabilitation of key primary MV network infrastructure, including aged MV substations and feeder lines in the Greater Freetown area. Due to decades of neglect, primary MV substations are in a state of disrepair, substation batteries and circuit breakers are mostly not functional, and DC supplies nonoperational. Sections of the system are overloaded, protection relays are faulty and there is a serious risk of infrastructure damage occurring because of protection system or circuit breaker failure. The envisaged upgrade will require that certain existing links to be replaced with appropriately sized cables/overhead lines, and will help reduced technical losses and enhance reliability. Appropriately matching needed investments in MV feeder upgrade to appropriate investments in corresponding substations will enable systematic system upgrade and protection of infrastructure. The upgrade will also be complementary to network investments effected under the SLIDF energy access project and will form part of a systematic approach to rehabilitate the Freetown network on an incremental basis. In particular, it should be noted there has been an increase in demand in certain areas from newly established commercial operations and consideration will be given to expanding the network to meet this demand.

As part of the World Bank requirement for safeguards to ensure that the project either avoids completely negative impacts or minimize such impacts, the project will have to prepare an Environmental and Social Management Framework (ESMF). The EDSA intends to use part of the credit for the development of the required Environmental and Social Policy Framework (ESMF).
1.2 Project Justification

The project will ensure quality power generation and distribution and create new infrastructure as the foundation for a vibrant power sector reform to evolve, thereby providing a new economic growth pole for Sierra Leone. The relatively more stable voltage and quality power generation and distribution will be the basis for generating much lower cost power than Sierra Leone currently has, thereby securing the competitiveness of Sierra Leone industry for accelerated economic development. It will also provide the basis for Sierra Leone to achieve its strategic objective of becoming a power sufficient and to resume its strategic role as energy efficient in the sub-region.

1.2 Justification for updating this ESMF

ESURP is a category B project and triggers the following safeguard policies: 1) Environmental Assessment OP/BP 4.01; (ii) Physical Cultural Resources OP/BP 4.11; and, (iii) Involuntary Resettlement OP/BP 4.12. The project is being restructured to respond to COVID-19. The main elements of the restructuring to introduce a COVID-19 Emergency Response Component and CERC component for future emergency and then reallocate proceeds from the other components to COVID-19 Emergency Response Component to support reliable power supply to health and quarantine facilities. The project will carry out urgent infrastructure works such as back up generation and special electrical feeders and solar installation for existing health centers in the Greater Freetown Area and regional capital cities as well as the country’s four main points of entry (POE) at Lungi International Airport, Gbalamuya and Jendema and Koindu where there are existing quarantine and isolation facilities. These activities do not raise the safeguard category or trigger any new safeguard risks or policies other than the policies that are already covered in the existing project. As such, the preparation and implementation of the activities under this COVID-19 emergency component arrangement will comply with all safeguard requirements of the parent project. The environmental and social footprints of the project are expected to be moderate with potential for inducing noise, solid wastes generation during construction activities, emissions, dusts and medical wastes including COVID-19 PPEs. Occupational safety and health of workers during construction, air pollution, and traffic accidents from truck movement, partial damages to assets or properties and temporal disturbances to livelihoods.

EDSA is updating the existing Environmental and Social Management Framework (ESMF) for these new components to include mitigation measures for the above risks. The updated ESMF would also and provide for the application of international best practice in COVID-19 response that includes infection during civil works, proper waste disposal mechanisms, proper handling of PPES, emergency response, road safety, labour management guidelines and Gender based violence (GBV) prevention and sexual harassment. The updated ESMF will provide guidance for
Environmental and Social Screening of the sites and design of each COVID-19 emergency response intervention and where impacts as envisioned in OP 4.01 and 4.12 and is determined, the project will prepare, disclose and implement site specific ESMP, RAP or ARAP before civil commence. Environmental and social Management Plan (ESMP) will be required as appropriate and will be prepared before project implementation. Rapid Assessment of the sites have indicated that Resettlement Action Plans might not be required as no new lands are required. The rehabilitation and construction are planned to take place in existing government lands. The disclosed parent ESMF will continue to be in use until the updated ESMF is approved in conjunction with international best practice and in line with WHO’s Coronavirus disease (COVID-19) technical guidance infection prevention and control/WASH.

The preparation and implementation of the relevant instruments are undertaken by EDSA Safeguards consultants. The PIT at EDSA either directly or through the Supervising Engineer, should request details in writing from the main Contractor of the measures being taken to address the risks such as the contractor appointing a health and safety officer at site (of course, depending on the size of the civil work). The officer will have the authority to issue directives for the purpose of maintaining the health and safety of all personnel authorized to enter and or work on the site and to take protective measures to prevent accidents.

1.3 Purpose and Scope of the updated ESMF

A general framework for Environmental Management (EM) of development projects is provided in the Environmental Assessment (EA) Regulations of the Legislative Instrument, LI (1652) of Sierra Leone. The GoSL’s development projects are usually supported by development partners such as the World Bank. The development partners usually have their Environmental and Social (E&S) safeguards which provide guidelines for the projects. As part of funding arrangements for the Sierra Leone Energy Sector Utility Reform Project therefore, the Bank’s E&S safeguards policies (OP/BP 4.01 - EA, and OP/BP 4.12 - Involuntary Resettlement) must apply. The Sierra Leone Energy Sector Utility Reform Project has the following attributes (quite distinct from project-specific level assessment):

- Various developmental stages to be carried out in modules;
- A number of components, sectors and sub-projects involved;
- Sub-projects encompass a wide geographic spread;
- Implementation duration spread over 5 years;
- Involvement of several institutions at the national, district and local levels and;
- Design of the sub-projects, types and numbers for implementation, are all not determined at this stage.
These attributes are typical of a program-type undertaking for which the appropriate level of EA is the Strategic Environmental Assessment (SEA) under the Sierra Leone EA Procedures. The term ESMF is used by the World Bank to depict operations with multiple sub-projects, various phases and spread over a long period - similar in concept to SEA.

According to the EA Regulations of Sierra Leone “the construction of substations, rehabilitation of distribution lines, construction and rehabilitation of hospitals and clinics are undertakings that requires registration and an environmental permit. Thus, the Sierra Leone Energy Sector Utility Reform Project falls under EIA mandatory of the EA Regulations. The Sierra Leone Energy Sector Utility Reform Project is classified as Category B under the World Bank’s EA Procedures.

The ESMF spells out the E&S safeguards, institutional arrangements and capacity required to use the framework. This ensures that sub-projects meet the national and local E&S requirements, and are consistent with OP 4.01 and OP 4.12, etc. and sets out principles and processes for the sub-projects agreeable to all parties. The other objectives of the ESMF include:

- Assessment of potential adverse E&S impacts commonly associated with sub-projects and the way to avoid, minimize or mitigate them;
- Establishment of clear procedures and methodologies for the E&S planning, review, approval and implementation of sub-projects;
- Development of an EA screening system for the sub-projects; and
- Specification of roles and responsibilities and the necessary reporting procedures for managing and monitoring sub-project E&S concerns.

1.4 Report Organization
This ESMF contains nine (9) main sections and appendices, preceded by the executive summary. The main sections are:

- Chapter One - General introduction to the ESMF; providing an overview of the objectives and justification of the project;
- Chapter Two - Overview of applicable legislations and policies;
- Chapter Three - Description of the project in terms of its location and main components;
- Chapter Four - Description of baseline conditions;
- Chapter Five - Description of the potential environmental and social impacts;
- Chapter six - Environmental and social mitigation principles;
- Chapter seven- ESMF Implementation; including:
  - Roles of stakeholders;
  - Institutional arrangement and inter-agency coordination;
  - Description of capacity building, training and technical assistance required to implement the ESMF; and
• An ESMF implementation budget;
  o Chapter eight - Decommissioning Plan
2.0  GENERAL POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK
The environmental policy and environmental assessment (EA) legislation and procedures of Sierra Leone and those of the World Bank, which are relevant to the project, are outlined below. In principle, the two are similar in many respects though the World Bank policies are more stringent. Hence, the policies of the World Bank override those of the Sierra Leone should any discrepancy arise.

2.1  Institutional Framework for Environmental Management
The responsibility for the management and protection of the environment presently lies within the new Ministry of Environment, which oversees the Environmental Protection Agency (EPA), National Protected Areas Authority (NPAA), Nuclear Safety and Radiation in Sierra Leone, and Standards Bureau. The political head of the Ministry is the Minister and has the superseding mandate to handle all matters as regards the environment. The administrative head is the Permanent Secretary who is responsible for coordinating the functions of the Ministry and departments within the ministry. He/She is also the principal adviser to the minister and the controller of the ministry’s budget. With assistance from the World Bank, the Environmental Protection Agency developed the National Environmental Action Plan (NEAP). The country has also prepared its first National Environmental Policy (NEP) with very clear goals, objectives and strategies as outlined below.

2.1.1 National Environmental Policy Goals
The goal of the National Environmental Policy is to achieve sustainable development in Sierra Leone through sound environmental management. The NEP recognizes the importance of the following:

- conservation and sustainable utilization of the national biological resources;
- establishing environmental protection standards, monitoring changes in, and publishing relevant data on environmental quality and resource use;
- providing for prior EIA of proposed activity likely to have an adverse effect on the environment;
- cooperation with other countries and agencies for optimal use, prevention or abatement and protection from the transboundary transfer of natural resources and
- raising public awareness and promote understanding of environmental issues and problems and to encourage individual and community participation in environmental improvement efforts which are all essential in addressing the issues of Biosafety.

The following sectoral policies are highlighted within the NEP:

- Land Tenure, Land Use, and Soil Conservation;
- Water Resources Management;
- Forestry and Wildlife;
• Biodiversity and Cultural Heritage;
• Air Quality and Noise;
• Sanitation and Waste Management;
• Toxic and Hazardous Substances;
• Mining and Mineral Resources;
• Coastal and Marine Resources;
• Working Environment (Occupational Health and Safety);
• Energy Production and Use.

This project involves the rehabilitation of existing lines, construction of new transmission lines, and carrying out urgent infrastructure works such as back up generation, special electrical feeders and solar installation for existing health centers in the Greater Freetown Area and regional capital cities as well as the country’s four main points of entry (POE) where there are existing quarantine and isolation facilities. These activities will raise some environmental concerns, which the NEP speaks to for the attainment of sustainable development through the implementation of sound environmental management systems.

2.1.2 National Environmental Policy Objectives

• Secure for all Sierra Leoneans a quality environment adequate for their health and well-being.
• Conserve and use the environment and natural resources for benefit of present and future generations.
• Restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere; preserve biological diversity and the principle of optimum sustainable yield in the use of living natural resources and ecosystems.
• Raise public awareness on environmental issues and promote understanding of the essential linkages between the environment and development, and encourage individual and community participation in environmental improvement efforts.

2.1.3 Strategies:

These strategies will be pursued in order to achieve the policy goals and objectives:

• Establish and/or strengthen environmental protection standards, monitor changes in and publish relevant data on environmental quality and resource use
• Manage environmental impact assessment (EIA) of proposed activities which may significantly affect the environment or use of a natural resource, and provide relevant information, in a timely manner, to persons likely to be significantly affected by a planned activities and grant them equal access and due process in administrative and judicial proceedings
• Promote environmental management through the creation of administrative and infrastructure support with appropriate financial backing
• Co-operate in good faith with other countries and agencies to achieve optimal use of trans-boundary natural resources and effective trans-boundary environmental protection.

2.1.4 Environmental Protection Agency Act, 2008 and Environmental Protection Agency (Amendment) Act, 2010
The Environmental Protection Agency Act, 2008 established the Sierra Leone Environmental Protection Agency (SLEPA), to provide for the effective protection of the environment and for other related matters. This Act mandates the EPA among others to:
• Advise the minister on the formulation of policies on all aspects of the environment and in particular make recommendations for the protection of the environment.
• Issue environmental permits and pollution abatement notices for controlling the volume, types, constituents and effects of waste discharges, emissions, deposits or other sources of pollutants of substances which are hazardous or potentially dangerous to the quality of the environment or any segment of the environment.
• Prescribe standards and guidelines relating to ambient air, water and soil quality, the pollution of air, water and land and other forms of environmental pollution including the discharge of waste and the control of toxic substances.
• Ensure compliance with any environmental impact assessment procedures laid down in the planning and execution of development projects, including compliance in respect of existing projects.
• Impose and collect environmental protection levies in accordance with this Act or regulations made under this Act.
• Sections 24 of the Act lists project activities requiring an Environmental Impact Assessment license which include infrastructural projects such as roads and bridges. Sections 25 and 26 describe factors for determining whether a project requires an environmental impact assessment and the contents of the environmental impact assessment respectively. The Act describes the procedures to be followed to obtain permits for both existing and proposed undertakings through the conduct of environmental impact assessments.
• The Environmental Protection Agency (Amendment) Act, 2010 sought to give executive powers to the Board.

2.2 Other Relevant National Policies

2.2.1 Energy Efficiency Policy of Sierra Leone 2016
The vision of the energy efficiency policy is for Sierra Leone to achieve a modern, reliable, cost-effective, sustainable and efficient energy system by 2030, which is based on a diversified energy mix, a vibrant energy technology industry and provides modern energy services at affordable prices to end consumers. This Policy aims to improve on energy access while transforming the energy sector towards greater sustainability, which aims at reducing inefficient consumption, frees up power supply capacity, and provide greater access to electricity for consumers.

2.2.2 National Lands Policy, 2015
The National Land Policy is very important in the process of land acquisition and Chapter 9, Sections 9.1 and 9.2 make specific policy pronouncement in terms of specific mechanisms for resolving special land issues in terms of redistribution and resettlement. After the coming into force of this Policy the sovereign title to Government/State lands and public lands shall vest in the National Lands Commission as follows:

- as to Government/State lands in trust for the citizens of Sierra Leone as a whole;
- as to public lands in trust for the citizens of Sierra Leone as a whole or in trust for the particular community that originally owned the land as prescribed by the statute or other law creating the same; and

The sovereign title to private lands shall henceforth vest as follows:

- as to land held under freehold tenure in the Western Area in the individual, group of individuals or Corporate entity absolutely;
- as to communal lands in the Provinces in the new Chiefdom Lands Committee (instead of the Chiefdom Council) in trust for the particular community concerned;
- as to family lands held under family tenure in the Province in the family as a unit;
- as to land held under Customary tenure in the Provinces in the Chiefdom Lands Committee/Village Area Lands Committee or the family which made the grant of usufructuary rights in perpetuity to the groups or individuals or corporate entity subject to the grantor’s residuary rights.

According to the policy, the acquisition must be necessary for the interest of:

- defense;
- public safety;
- public order;
- public morality;
- public health;
- town and country planning; and
- development and utilization of the property to promote the public benefit.
The policy aims at managing land, proving guidelines on land categorization and its natural resources in accordance with sustainable resource management principles, which is important to this ESURP project in the area of land acquisition for substation construction.

2.2.4 National Workplace HIV/AIDS Policy
The broad objectives of the policy among others, are to provide protection from discrimination in the workplace to people living with HIV and AIDS; prevent HIV and AIDS spread amongst workers; and provide care, support and counselling for those infected and affected.

2.3 National Legislations and Regulations
There are several other relevant national legislations and Regulations as follows:

2.3.1 Constitution of Sierra Leone, 1991
The 1991 constitution is silent on Environmental related issues, which was not topical in our jurisdiction during the framing of the constitution but includes provisions to protect the rights of individuals to private property, and also sets principles under which citizens may be deprived of their property in the public interest as described in Section 21. It also makes provision for the prompt payment of adequate compensation and access to the court or other impartial and independent authority for the determination of the landowner’s interest or right, and the amount of any compensation to which he/she is entitled and for the purpose of obtaining prompt payment of that compensation. From 2013 to 2016, the country undertook a constitutional review process where the environment or EIA made headlines in that document. The country still awaits a referendum to make it the new rulebook on Environmental and natural resources management.

2.3.2 Ministry of Lands, Housing and Country Planning (MLHCP)
The Ministry is responsible for handling all matters as regards land acquisition and resettlement, although other institutions plan and implement resettlement activities. It provides advisory services to the public on land matters as well as physical planning and management of lands in the country. The Administrative head is the permanent Secretary who is responsible for coordinating the function of the departments within the Ministry viz. department of Lands and Country Planning (DLCP), and Department of surveys and Lands (DSL) and. He is also the Principal Adviser to the Minister and the Vote Controller of the Ministry’s budget.

2.3.3 Local Government Act, 2004
The Act establishes the Local Council (LC) as the highest political authority in the locality and confers legislative and executive powers to be exercised in accordance with this Act. The Act
empowers the councils to provide control and management of street traders including registration and license to operate collection of taxes. This Act in its First Schedule under Section 2 establishes the localities, namely: districts, towns and cities. Part II of this schedule also establishes the number of Paramount Chiefs in each LC. The Third Schedule establishes the functions devolved to the LCs. The Fourth and Fifth Schedules establish departments under each LC, and a Valuation List and Rate Books respectively.

2.3.4 Ministry of Labour and Social Security (MLSS)
The mandate of the Ministry of Labour and Social Security (MLSS) is to develop and administer Labour and Social Security regulations and policies, maintain cordial industrial Relations among operatives in the labor market, ensure Occupational Health and Safety (OHS) in work places and provide Social Security. The Ministry develops and implements policies and programmes relating to employment creation, promotion of Occupational Safety and Health at work places, provision of social security, and fostering harmonious Industrial Relations by Carrying out the following activities:

- Employment promotion
- Labour Inspection
- Employment and labour market policies
- Workers Compensation
- Support the operations of the Industrial Court
- Elimination of Child labour
- Occupational Safety and Health Inspection
- Human Resource development for middle level manpower
- Strengthening Capacity for Labour Administration
- Social Protection and Safety Net for the vulnerable
- Labour Migration Management

2.3.5 The Sexual Offences Act, 2019
The Parliament of Sierra Leone on 19 September passed into law with some amendments “The Sexual Offences Act, 2019”. This law amends The Sexual Offenses Act of 2012 and provides for the increase of the maximum penalty for rape and sexual penetration of a child from fifteen years to life imprisonment; and make provision for the introduction of aggravated sexual assaults.

2.3.6 Factories Act 1974
The Factories, Act mandates the Factories Inspectorate Department to register factories, health and cleanliness in establishments, keeping of records, notification of occupational accidents and diseases, and offences and penalties. The Act ensure that internationally accepted standards of providing safety, health and welfare of persons are adhered to. It defines a factory to include any
premises (whether in or not in a building) in which one or more persons are employed in manual labour, among others.

2.3.6 Employment & Labour Law 2020
The purpose of the Labour Act is to amend and consolidate existing laws relating to labour, employers, trade unions and industrial relations. The Act covers common issues in employment and labour law regulations such as - terms and conditions of employment, employee representation and industrial relations, discrimination, maternity and family leave rights and business sales. It provides for the rights and duties of employers and workers; legal or illegal strike; guarantees trade unions and freedom of associations and establishes the Ministry of Labour to mediate and act in respect of all labour issues. The Act explicitly states that it is the duty of an employer to ensure that every worker works under satisfactory, safe and healthy conditions.

2.3.7 National guidelines to control COVID-19
The Government of Sierra has since recording its first COVID-19 case on 31st March developed a National Response Plan aimed at tracing, isolating, testing and treating people with COVID-19. The government has out systems and workforce in place to find, isolate, test and treat every positive case. Then contact trace all primary and secondary contacts and quarantine them.

2.4 World Bank Requirements
As part of the conditions of financing, the Bank triggered a number of its Environmental and Social Safeguards policies. The World Bank Safeguards Policies relevant to this project are as follows:

2.4.1 Environmental Assessment (OP 4.01)

The OP 4.01 requires among others that screening for potential impacts is carried out early, in order to determine the level of EA to assess and mitigate potential adverse impacts.

The EA ensures that appropriate levels of environmental and social assessment are carried out as part of the project design, including public consultation process, especially for Category A and B projects. The OP 4.01 is applicable to all components of Banks financed projects, even for co-financed components.

2.4.2 Physical Cultural Resources (OP 4.11)
The policy is premised on the Bank assisting countries to avoid or mitigate adverse impacts on physical cultural resources from development projects that it finances. The impacts on physical cultural resources resulting from project activities, including mitigation measures, may not contravene either the borrower’s national legislation, or its obligations under relevant international environmental treaties and agreements.

2.4.3 Involuntary Resettlement (OP/BP 4.12)

The policy of involuntary resettlement is intended to assist displaced people arising from developing projects, in order not to impoverish any affected people within the area of influence of projects. An action plan that at least restores the standard of living must be instituted, in cases where resettlement is inevitable or loss of assets and impacts on livelihood occurs. Public consultation of “re-settlers” as well as the host communities is significant for the successful resettlement process and implementation of the action plan, in order to incorporate appropriate choices. It includes requirements that:

- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development projects, providing sufficient investment resources to enable persons displaced by the project to share in project benefits.
- Displaced persons should be meaningfully consulted and should have opportunities to participate in planning and implementing resettlement projects.
- Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.

According to OP 4.12, the resettlement plan should include measures to ensure that the displaced persons are:

- Informed about their options and rights pertaining to resettlement.
- Consulted on, offered choices among and provided with technically and economically feasible resettlement alternatives.
- Provided prompt and effective compensation at full replacement cost for losses of assets attributed directly to the project.

If the impacts include physical relocation, the resettlement plan should include measures to ensure that the displaced persons are:

- Provided assistance (such as moving allowances) during relocation.
• Provided with residential housing, or housing sites, or as required, agricultural sites for which a combination of productive potential, location advantages, and other factors is at least equivalent to the advantages of the old site.
• Provided with support to restore their livelihood and standard of living, provided with development assistance such as land preparation, credit facilities, and training and job opportunities.

The location of subprojects are now generally known after completing a rapid environmental and social risk and impacts assessment and there are no issues of land acquisition for the restructured project. However, should the case of involuntary resettlement arise the framework to tackle such issues is addressed in this updated ESMF.

2.5 International and Regional Requirements.
In addition to national requirements, there are relevant international and regional requirements discussed as follows:

2.5.1 International Labour Organisation Conventions;
(a) Discrimination (Employment and occupation) Convention, 1958
The convention is labeled C111 under the ILO. It affirms that all human beings, irrespective of race, creed or sex, have the right to pursue both their material well-being and their spiritual development in conditions of freedom and dignity, of economic security and equal opportunity.

(b) Worst Forms of Child Labour Convention, 1999
The convention (labeled C182) aims at ensuring effective elimination of the worst forms of child labor, taking into account the importance of free basic education and the need to remove the children concerned from all such work and to provide for their rehabilitation and social integration while addressing the needs of their families. It also recognizes that child labour is to a great extent caused by poverty and with long-term solution lying in sustained economic growth leading to social progress, in particular poverty alleviation and universal education.

2.5.2 African Convention on the Conservation of Nature and Natural Resources, 1967
The African convention on the conservation of nature and natural resources (1967) enshrines that contracting States shall undertake to adopt the measures necessary to ensure conservation, utilization and development of soil, water, flora and fauna resources in accordance with scientific principles and with due regard to the best interests of the people. To this end:
• The contracting States shall take effective measures for conservation and improvement of the soil and shall in particular combat erosion and misuse of the soil;
• The contracting States shall establish policies for conservation, utilization and development of underground and surface water, and shall endeavour to guarantee for their populations a sufficient and continuous supply of suitable water. Where surface or underground water resources are shared by two or more of the contracting States, the latter shall act in consultation, and if the need arises, set up inter-State Commissions to study and resolve problems arising from the joint use of these resources, and for the joint development and conservation thereof;

• The contracting States shall take all necessary measures for the protection of flora and to ensure its best utilization and development;

• The Contracting States shall ensure conservation, wise use and development of faunal resources and their environment, within the framework of land-use planning and of economic and social development. Management shall be carried out in accordance with plans based on scientific principles and also adopt adequate legislation on hunting, capture and fishing; and

• The Contracting States recognize that it is important and urgent to accord a special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival. Where such a species is represented only in the territory of one Contracting State, that State has a particular responsibility for its protection.

2.5.3 Convention on the Conservation of Migratory Species of Wild Animals, 1988;
The contracting parties to this convention recognizing that wild animals in their innumerable forms are an irreplaceable part of the earth’s natural system which must be conserved for the good of mankind; aware that each generation of man holds the resources of the earth for future generations and has an obligation to ensure that this legacy is conserved and, where utilized, is used wisely; conscious of the ever-growing value of wild animals from environmental, ecological, genetic, scientific, aesthetic, recreational, cultural, educational, social and economic points of view; concerned particularly with those species of wild animals that migrate across or outside national jurisdictional boundaries; recognizes that the states are and must be the protectors of the migratory species of wild animals that live within or pass through their national jurisdictional boundaries and are convinced that conservation and effective management of migratory species of wild animals require the concerted action of all states within the national jurisdictional boundaries of which such species spend any part of their life cycle.
2.5.4 Convention concerning the Protection of the World Cultural and Natural Heritage, 1972

State Party to this Convention recognizes that the duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage and situated on its territory, belongs primarily to that State. It will do all it can to this end, to the utmost of its own resources and, where appropriate, with any international assistance and co-operation, in particular, financial, artistic, scientific and technical, which it may be able to obtain.

2.5.5 WHO’s Coronavirus disease (COVID-19) technical Guidance: Infection and Control/WASH

The update of the ESMF is guided by the first edition on infection prevention and control (IPC) strategies for use when infection is suspected and other WHO country and technical guidance COVID-19 documents including but not limited to the following:

- Infection Prevention and Control for the safe management of a dead body in the context of COVID-19
- IPC guidance for long-term care facilities in the context of COVID-19
- Health workers exposure risk assessment and management in the context of COVID-19
- Rational Use of PPEs for COVID-19
- Advice on the Use of Masks
- Water, sanitation, hygiene and waste management for COVID-19
3.0 DESCRIPTION OF THE SIERRA LEONE ENERGY SECTOR UTILITY REFORM PROJECT

The Sierra Leone Energy Sector Utility Reform Project has five components: (1) Distribution utility capacity enhancement and performance improvement; (2) Improvement of electricity supply in urban areas; (3) Sector planning assistance, project implementation support, and monitoring and evaluation (4) COVID-19 response component; and (5) Emergency response component (CERC)-C% for future emergency.

**Component 1. Distribution utility capacity enhancement and performance improvement**

This component through the initial financing supports the establishment of a fully functioning and effective national electricity distribution utility through a three-year performance-based management contract for the provision of utility management, operation, and capacity building. The additional financing continues to further support EDSA to strengthen its T&С management and continue to build the local capacity within the utility to ensure continued performance improvement and sustainability of the results. Improving T&С performance of EDSA is a necessary condition for the utility to become financially viable. The AF also will incorporate a modern Management Information System (MIS) required to assist EDSA to manage its business and improve its operational performance in the key areas of modernization of data and information management; production of standardized statements, reports, and documents in a timely manner; and attention and resolution of incidents in electricity supply to its customers. This will be achieved through the acquisition and incorporation of an integrated system comprising Enterprise Resource Planning (ERP), a Commercial Management System (CMS), an Incident Recording and Management System, and a Complaints and Grievance Redress Mechanism (GRM). Creating an avenue for public feedback and complaints of incidents in electricity supply, including reporting of power theft, illegal connections, and so on, will allow for real-time course correction, thereby leading to more responsive service delivery. The implementation of the MIS is one of the investment needs identified by the MC and approved by the EDSA Board in the investment plan for EDSA, but the MIS could not be implemented under the original project due to lack of funds. The AF will continue to fund Technical Assistance to EDSA.

**Component 2. Improvement of electricity supply in urban areas.**

The distribution grid requires well over $170 million of investment, in the Greater Freetown area alone. Some of the most urgently needed system investments are in the process of having specifications prepared under the recently approved Sierra Leone Infrastructure Trust Fund (SLIDF) energy access project, under which provision was also made for technical assistance that will be used to carry out a condition assessment of the entire Freetown distribution network and to develop a comprehensive investment plan of prioritized and optimal next investments. The plan, to be based on the assessment, system studies as well as the existing JICA funded load flow...
study, will exactly define network sections and equipment needing urgent upgrade to remove serious bottlenecks in the system and to upgrade quality of supply. Apart from forming the basis for investment under the IDA project, this systematic approach will ensure a sound basis for further financing of the network rehabilitation and upgrade going forward.

This component supports under the original financing s: (a) the reinforcement, rehabilitation and extension of the primary medium voltage (33 kV) distribution network; and (b) the reinforcement, rehabilitation and extension of priority secondary (11 kV) and low voltage distribution network. The investment will help increase the distribution capacity of the system and improve the quality and reliability of electricity supply. The additional financing activities under this component would finance the upgrading and expansion of the 33 kV, 11 kV, and LV network, including connection of new customers, and project management by EDSA.

**Component 3. Sector planning assistance, project implementation support, and monitoring and evaluation**

This component supports under the original financing (a): (i) policy formulation, planning, and capacity building of the MoE; (ii) the strengthening of the Project Management Unit (PMU) through the provision of technical advisory services, goods, non-consulting services, and training and operating costs; and (iii) the monitoring and assessing of the performance of the MC.

Owing to the enormity of the challenges in the sector, the Government as well as the utility with limited staff are often reactive rather than proactive, and in fire-fighting mode rather than strategic, with necessary focus in key areas which are pre-requisites for well-informed decision-making for prioritizing and selecting future public and private investments in generation, transmission and distribution. Technical assistance will be procured to strengthen utility/system planning and dispatch capabilities. This capability should also include regional opportunities and constraints. TA under the SLIDF for an Integrated Resource Plan study is currently under procurement, and will help identify promising opportunities, especially in generation. In addition, technical assistance under IDA will be provided for proper development of the most promising power investment opportunities emerging in generation, including feasibility of related transmission and distribution infrastructure.

**Component 4: COVID-19 response component**

This component targeted to the activities that the GoSL requested to finance in line with to the government’s COVID-19 National Response Plan. These activities include:(i) acquisition of Critical Goods for business continuity of utilities during COVID-19; (ii) carrying out of urgent infrastructure works such as construction PV/storage back up generation in isolated heath centers and construction of special feeders and installation of transformers for identified health
centers in interconnected network (iii) carrying out of urgent analytical work such as feasibility assessments for these activities, priority works identification, and works design development

Component 5: Emergency Response Component (CERC) for future emergency:

This component will be available if need be to redeploy some of the project resources alongside those of other projects in the Sierra Leone’s project portfolio to respond to an emergency. The available resources would be made available to finance future emergency response activities and to address crisis and emergency needs. An Immediate Response Mechanism Coordinating Agency and expenditure management procedures will be defined in an Immediate Response Mechanism Operational Manual (IRM/OM), to be prepared separately and approved by the World Bank, in line with guidance provided under OP 10.00, paragraph 12. In case this component is used, the project will be restructured to allocate financing, revise the PDO and indicators, and detail implementation arrangements.

Based on the project description, overall environmental and social footprints of the project are expected to be moderate. No significant and/or irreversible adverse social and environmental impacts have been identified. The new component 4 activities will involve disconnection and installation of new transformers, and excavation and erection poles for feeder lines, minor works in existing facilities for solar installation etc. Most distribution lines and substation are on existing land (Over-head lines) as well as within the existing RoW, thereby minimizing the adverse impacts resulting from completely new location, alignment or new towers/poles. The primary environmental impacts include noise, emissions and dusts and solid wastes generated during construction activities. The other impacts include occupational safety and health of workers during construction, public safety and health caused by inappropriate PPEs, partial damages to assets/properties and temporal disruption of income sources as a result of the lines construction activities. The civil works will involve work force and flow of goods and services during construction. This may be a potential source for the spread of COVID-19 among workers and the communities. This ESMF provides guidance on the assessment and managing of E&S risks and impacts that may occur with the new components. Critically, the project will include mitigation measure to address the risk of COVID-19 infection during civil works. The project will undertake a rapid Environmental and social screening of the sites and design of each intervention and where impacts as envisioned in OP 4.12 is determined, the project will prepare, disclose and implement site specific RAP or ARAP before civil works can commence.
4.0 DESCRIPTION OF THE PROJECT ENVIRONMENT

This section presents a description of the existing environment, comprising the bio-physical and socio-economic conditions of the proposed project area. The envisaged interventions under the new component related to Contingent Emergency Response will require change in scope to not only include the Greater Freetown Area but also regional cities, towns and the Country’s four main entry points of Lungi, Gbalamuya, Jendema and Koindu. The activities will involve infrastructure and range of operations that are aimed at ensuring that the construction and rehabilitation is completed in time and operational as required Preliminary visits to some of the project sites around the country show that the restructuring is going to involve rehabilitation, provision of safe sanitation, water facilities, incinerators, waste management measures etc. The sub projects would require ESMPs and public disclosure that would be included in the Works contract of the sub project.

4.1 Methodology for Data Collection

Various techniques were applied for collecting data on the project environment. These included document review, institutional consultations, focus group discussions and field surveys of the existing environment. An account of the existing physical and biological environment and socio-economic conditions (ethnic groups, culture, economic activities, etc.) were assembled. These formed part of the baseline information and the information obtained used in the environmental analysis/assessment. Samples of the questionnaires and the outcomes of the consultations and stakeholder involvements are attached in Appendix 3.

The description of baseline information relevant to the project covers:

1. The project district;
2. Land use categories;
3. Population characteristics;
4. Socio-economic;
5. Cultural resources;
6. Health;
7. Natural resources;
8. Climate; and
9. Air quality

4.2 General

Sierra Leone is a small West African country located at latitude 8 300 N and longitude 11300 W, Bordered on the north and east by Guinea for about 652 km, on the south by Liberia for about 306km and on the west by the Atlantic Ocean. Sierra Leone has a total surface area of 71,740 sq.
Km of which the total land area is 71,620 sq. km and 120 sq. km is water. The country got its name from the 15-century Portuguese explorer, who was the first to sight and map Freetown Harbor. The original Portuguese name of Serra Lyoa (Lion Mountains) referred to the range of hills that surrounds the harbor. Sierra Leone can be divided into four distinct physical regions. The country is divided into five (5) administrative regions: the Northern, Eastern, Southern, North-Western provinces and the Western Area. The parent ESURP focused entirely on the Western Area. However, the COVID-19 Emergency Response Component will carry out urgent infrastructure works such as back up generation and special electrical feeders and solar installation for existing health centers in the Greater Freetown Area and regional capital cities as well as the country’s four main points of entry (POE) at Lungi International Airport, Gbalamuya and Jendema and Koindu where there are existing quarantine and isolation facilities.

Generally, the coastal area is a low-lying plain extended inland from the Atlantic Ocean. The area closest to the ocean is a largely swampy region; however, the Sierra Leone Peninsula, where Freetown is situated, is dominated by hills. To the east, the land rises from the coastal plain to a plateau in the north and to hilly terrain in the south. Sierra Leone is a constitutional republic with a directly elected president by its people. It consists of four provinces split into sixteen (16) districts (previously 14 districts).

4.3 Climate

The climate of the Western Area is similar to the rest of the country, which is a typical tropical climate. The mean temperature in the Freetown area is about 27°C in January and 26°C in July. Annual rainfall averages more than 3800 mm along the coast with most of the rains falling from May to October. The rains are usually accompanied by thunderstorms. The dry season, from November to April, has high day and night temperatures with low humidity.

The T & D network in the Western Area has suffered considerable damage from storms. Winds speeds in the coastal area are relatively high at an average of 3 – 4 m/s. During the rainy period. Strong squalls develop which can cause damage to structures such as buildings and transmission towers. This situation is of concern in the hilly slopes of Freetown where the transmission systems tend to get damaged during the storms and create hazardous conditions for the public.

4.4 Land Use

Freetown is sited on the Southern bank of the estuary of the Sierra Leone Fiver. The city lies on sloping ground at the foot of a range of hills. It is bordered on the North and the East by the Sierra Leone River, to the South by the hills, and to the West by the Atlantic Ocean.
Fig. 2, obtained during consultations with the Ministry of Lands, Town and Country Planning and Environment, shows the land use pattern in the Greater Freetown area and projected up to 2011. The route for the 33 kV transmission network lies mostly within the coastal low lands, which slow at high density of occupancy.

The lack of adequate planning and development control over the years, as well as constraints to development posed by the conflict (1991-2002) has led to rather inefficient land use. The residential settlements are expanding on the coastal lowlands with increasing encroachment on the hill slopes. Generally, conditions of housing in the central parts of the city have deteriorated due to overcrowding in the low income areas. Commercial activities are concentrated in the central business district and development of shops. Offices and workshops are expanding along the roads leading to the city centre. Industrial activities, on the other hand, are concentrated in the eastern part of the city. All these developments place excessive demands on utility services and have a direct bearing on the expectations of the T & D rehabilitation and reinforcements.

4.5 Population Characteristics

The current estimated population of Sierra Leone is around 7,092,113 according to the 2015 Housing and Population Census results., of which Western Area Urban has an estimated population of 1,055,964 comprising 528,207 males and 527,757 females while Western Rural district has an estimated population of 444,270 consisting of 221,351 men and 222,919 women. This represents nearly a fourfold increase over the level existing before the civil conflict, which officially ended in 2002. Many people from the rural areas moved into Freetown for refuge during the conflict. This has resulted in considerable pressure on land resources in the Freetown and has particular significance for the protection of RoW of the 33 kV and 161 kV transmission lines. The project would be implemented nationwide and in all 19 Local Councils (LCs).

The country’s population is made of many ethnic groups the largest and most prominent being the Mende, Temne, Limba, Fula, Kuranko, Susu, Yalunka, Loko, Mandinga, Kono, Kisi and the Creoles. The population density of about 58 persons per sq. km is relatively high as compared to other countries in Sub-Saharan Africa. The population is concentrated in some particular regions of the country including the Freetown Peninsula and the Kono, Kenema and Bo districts. The northern part of the country is sparsely populated. A large section of the population is unemployed, especially among the youth. An estimated 68 percent live close to the forest or forest regrowth area on which they depend for their livelihood. A brief description of the country’s physical and social setting is described in the sections below.
4.6 Climate

The climate is tropical and is characterized by alternating rainy and dry seasons. Conditions are generally hot and humid. Mean monthly temperatures range from 25°C to 28°C in low-lying coastal areas; inland the range may be from 23°C to 28°C. In the northeast, where extremes of temperature are greater, mean daily minimums fall to 13°C in January, and mean daily maximums rise to 32°C in March. During the rainy season, from May to October, humid air masses from the Atlantic dominate. Precipitation is greater on the coast than inland, with as much as 5,080 mm of rain fall annually on the Peninsula Mountains, while the northeast receives about 2,032 mm a year. The mean annual and seasonal rainfall distribution pattern is as follows:

- Coastal areas receive more than 3,000 mm rain per year with the Western Area recording up to 5000 mm.
- North-central and south eastern regions receive between 2,500 and 3,000 mm.
- The North receives from 2,500 to less than 2,000 mm.
- Distinctly higher rainfall values above 3000 mm are recorded around Makeni, Mabonto and Bumbuna areas presumably due to the relief influence of the Sula Mountain scarp to the east.

The dry season, from November to April, is characterized by the dry harmattan that blows from the Sahara. The rainy season tends to have cooler daily maximum temperatures than the dry season by about 60°C. The relative humidity, however, may be as high as 90 percent for considerable periods, particularly during the wettest months, from July to September.

4.7 Soils and Hydrology

The country’s drainage pattern is dense. Numerous rivers have their sources from the well-waters of the Fouta Djallon highlands of Guinea and flow in a general northeast to southwest direction across Sierra Leone. Their middle courses are interrupted by rapids that restrict navigability to only a short distance inland. River levels show considerable seasonal fluctuations. The drainage system has nine major rivers and a series of minor coastal creeks and tidal streams. From north to south, the principal rivers are the Great Scarlies, Little Scarlies, Rokel (which is known in its lower courses as the Sierra Leone River) Gbangbaia, Jong, Sewa, Wanjie, Moa, and Mano. The Great Scarlies and Moa form portions of the border with Guinea, while the Mano River forms much of the country’s frontier with Liberia. In most areas, the dominant soils are of the weathered and leached lateritic (iron bearing) type. Red to yellow-brown in color, they contain oxides of iron and aluminium and are acidic. Kaolin clays are important in some areas, and when cultivated a light, readily workable, free-draining soil results, whose productivity depends largely on the nutrients provided from the vegetation previously cleared and burned. In
coastal plains lateritic soils developed on sandy deposits are agriculturally poor, but those derived from basic igneous rocks are somewhat better.

4.8 Natural Resources

Sierra Leone is a country blessed with abundant mineral resources, which include: diamonds, chromite, rutile (among the largest reserves in the World), iron ore, titanium ores, bauxite, columbite (a black mineral of iron and columbium) pyrochlore, gold, platinum, and manazite. Forests cover more than one-fourth of the country, the most important area of which is the Gola Forest Reserve, a tract of primary tropical rain forests, near the Liberian border.

4.9 Wetlands

The Convention on Wetlands came into force for Sierra Leone on 13 April 2000. Sierra Leone presently has one site designated as a Wetland of International Importance, which is the Sierra Leone River Estuary, with a surface area of 295,000 hectares. The Estuary, near Freetown Peninsula, is dominated by mangrove swamps, with lowland coastal plains to the north. As it enters the Atlantic Ocean, the estuary widens to 11 about 16 km and deepens to form a natural harbor and is said to be the third largest in the world. Of Sierra Leone’s total mangrove, 19 percent is included within the site. The site exceeds the 1 percent threshold for at least eight bird species, namely Ringed and Kentish Plovers, Sanderling, Curlew Sandpiper, Whimbrel, Greenshank and Redshank, and Western Reef Heron; and is a breeding habitat for some of these birds.

4.10 Socio-Economic Features

According to the UNDP Report on Sierra Leone’s progress in Human Development (2018), the country’s Human Development Index (HDI) for 2018 is 0.438, placing the country at 181 out of 189 countries and territories. According to this survey, Sierra Leone’s HDI value of 0.430 is still below the 0.507 average for Sub Saharan Africa.

The report further shows that 57.9% of the population of Sierra Leone (approximately 7,092,113 people) is multi-dimensionally poor while an additional 19.6% are classified as vulnerable to multi-dimensionally poor. Between 1990 and 2018, Sierra Leone’s HDI value increased from 0.270 to 0.438, an increase of 62.2%, life expectancy at birth increased by 15.7 years, many years of schooling increased by 2.0 years and expected years of schooling increased by 5.2 years. The Gender Development Index (GDI) calculated for 166 countries and the HDI value is 0.411 in contrast with 0.465 for males, resulting in a GDI value of 0.882. Sierra Leone has a Gender Inequality Index (GII) of 0.644, ranking it 153 out of 162 countries in the 2018 index. Gender inequality remains very high, only 12.3% Parliamentary seats are held.
by women, and 19.9% of adult women have reached at least a secondary level of education compared to 32.9% of their male counterparts. For every 100,000 live births, 1360.0 women die from pregnancy related causes; and the adolescent birth rate is 112.8 births per 1,000 women of ages 15-19. Female participation in the labour market is 57.7 percent compared to 58.5 for men. The economy has always been based on the exploitation of natural resources, notably agricultural, marine and mineral resources.

The agricultural sector including forestry, fishing, crop farming, and animal production is the largest industrial sector, employing 59.2% of the employed population. The next major industry is services at 31.1%, followed by industrial (manufacturing, utilities, construction and mining) accounting for 9.6%

### 4.11 Land Tenure

Land tenure in the Republic of Sierra Leone is characterized by a dual ownership structure. Land is either State (publicly) owned or privately owned. The right of the state to public land is inalienable and indefeasible. Rights of occupation over public land may be granted under warrant. The state has the power, conferred by the Unoccupied Lands Act, Cap 117, to take possession of unoccupied land. Land tenure in the Western Area traces its history from the British Colonial administration. The area settled by the freed slaves was declared a Colony of the British Empire, and the settlers, having lived in England and having experienced the English way of life and system of governance, were more inclined to live their lives like the British. As a result of this and other socio-political considerations, British concepts of tenure were introduced in the colony (Western Area). Since the land on which the freed slaves were resettled was purchased in the name of the British monarch, the settlers were therefore tenants of the British Crown and the title passed on to them was the tenancy in fee simple or freehold. After independence in 1961 the Government of Sierra Leone replaced the crown as the “landlord” of the Western Area and the freehold system was allowed to persist.

In the provinces, customary law co-exists with statute. The recognition of the force of customary law in the provinces is established by section 76 (1) of the Courts Act 1965. Through customary law, ownership of land is vested in the chiefdoms and communities; and cannot be owned freehold. Land always belongs to the communities under the different forms of tenure under customary law. This principle is established by the Chiefdom Councils Act as well as by Section 28 (d) of the Local Government Act 1994.

The 2015 National Land Policy also provides for the compulsory acquisition of land in the public interest. The principles of the land policy include among others: the consideration of land as a common national or communal property resource held in trust for the people and which must be used in the long-term interest of the people of Sierra Leone. The principle holds where it does not violate existing rights of private ownership. Compensation to be paid for lands acquired through compulsory government acquisition will be fair and adequate and will be determined,
among other things, through negotiations that take into consideration government investment in the area. Local Authorities (City and District Councils) may negotiate for land for project development purposes, but all such grants should be properly documented and processed.

4.11.1 Family Interests
The absolute interest in land is vested in families. The Paramount Chief is regarded as the custodian of the land on behalf of the entire Chiefdom, but decisions regarding land are the preserve of heads of families. The administration of the community interest is vested in the heads of the land-owning families, who are aided by a Council of Elders. Of important, every member of the family has an inherent right to occupy and use any part of the family land.

4.11.2 Individual Interest
Where a family member wishes to cultivate any part of the family land, he/she has to obtain special permission from the family head who would normally allocate land to him/her. In some societies, the individual has to pay (locally referred to as kola or “handshake”) the family head as acknowledgement of the land granted to him/her. The grant, however, does not confer ownership of the land but only the right to use the land.
5.0 POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

5.1 Methodology for Impact Identification

The potential environmental and social impacts likely to arise as a result of the Sierra Leone Energy Sector Utility Reform Project were identified by matching the project components with the surrounding environmental and socio-cultural resources. This section presents both the likely positive and negative impacts that can arise from the activities of the project. The project activities considered may be grouped into three (3) sets of project activities as follows:

- Activities related to the works on the 33 kV and 161 kV overhead transmission lines
- Activities related to the rehabilitation and reinforcement of the components of the distribution network
- Activities related to loss reduction.

5.2 Beneficial Impacts

The Sierra Leone Energy Sector Utility Reform Project will bring various benefits to its immediate communities and region and the nation as a whole. The following benefits have been expatiated in this section:

- Provide adequate and reliable power supply to all EDSA customers in the Western Area and to health and quarantine centers.
- Reduce the losses in the transmission and distribution of electricity
- Assure system integrity and security
- Eliminate or reduce hazards to public and occupational health and safety
- Provide necessary support for sustainable development of the country

5.2.1 Improvement in the National Energy Supply

Currently, the power sector in Sierra Leone faces five key challenges: (i) security of supply: reliable and Efficient Electricity Supply to customers; (ii) to cope with the increase in the electricity demand from its current (and future) customer base by rehabilitating and expanding its Generation and Transmission Capacity; (iii) to provide Access to Electricity to the vast majority of the population in urban and rural areas, (iv) to make energy sector financially viable, and (v) to build capacity of sector institutions and key stakeholders. The Sierra Leone Energy Sector Utility Reform Project will provide adequate and reliable power supply to all EDSA customers in the Western Area, reduce the losses in the transmission and distribution of electricity, assure system integrity and security, eliminate or reduce hazards to public and occupational health and safety and provide necessary support for sustainable development of the country.
The restructuring of the project aim to carry out urgent infrastructure such as back up generation and special electrical feeders and solar installation for existing health centres in the Greater Freetown Area and regional capital cities as well as the country’s four main point of entries at Lungi International Airport, Gbalamuya Jendema and Koidu to support existing quarantine and isolation facilities

5.2.2 Loss reduction
This different between the energy generated by EDSA and that sold to customers is considered loss within the distribution system. Although the reliability of the distribution network has improved because of the ongoing implementation of the parent ESURP and AF, system losses have somewhat fluctuated with average losses reducing from 40 percent in 2016 to 38.8 percent in the last 12 months. These impacts adversely on EDSA operations. Reduction in technical losses is expected to occur as a result of the proposed rehabilitation and reinforcement of the distribution network. Upgrading from 11kV to 33kV sub-transmission should enhance this objective. Distribution grid works under original financing are ongoing. It is expected that the two lots (Lot I and Lot II) will be completed by July 2020 and May/June 2020 respectively. The Advanced Metering Infrastructure (AMI) contract signed in March 2020. The Works under the additional financing (AF) are being delayed but still also ongoing. Notably (i) the bidding documents for 33/11kV Substations and 33kV Sub-transmission Lines were launched with April 16th of submission deadline and (ii) the bidding documents for 11/0.4kV Distribution lines and Customer Connection are under review. All project activities will be completed by the closing date of the project in 2022.

Non-technical losses involve non-payment by customers and faulty metering, billing and collection procedures. The proposal is to improve the commercial operations and introducing pre-payment meters reduce electricity bill non-payment and new customer service centers are to be built.

Individually, these activities do not raise issues of significant environmental concern, however the cumulative effects of some related aspects such as generation of waste material, disposal of old meters etc could be of concern.

5.2.3 Creation of Employment Opportunities
The Sierra Leone Energy Sector Utility Reform Project would create jobs for professionals, skilled as well as unskilled labour at the constructional and operational stages. The services of artisans, site clearers, construction workers, electrical engineers and geodetic engineers, plant operators and environmental health and safety officers will be required to construct and effectively implement the project. Community members will have the opportunity to work as unskilled
labourers with the possibility of the company upgrading their skills in order for them to take up more challenging positions. Other jobs such as provision of catering and other services as well as the sale of groceries will accrue as indirect benefits.

The availability of steady power supply would be advantageous to the general populace as investors can set up factories and employ the citizens.

5.2.4 Reduction in Emissions
The project will reduce emissions from the burning of LCO and D2. The sources of the electrical power would be from Bumbuna and will therefore eliminate the release of NOx, SOx and most of the harmful gases. This will go a long way in producing clean air and reducing the potential adverse impacts on air quality and greenhouse gas emissions of these power plants generating sets.

5.3 Potential Adverse Impacts
The following likely adverse impacts on the environment and socio-cultural resources of the project area were considered:

5.3.1 Planning and design phase
This phase will involve mobilization of equipment, materials, and personnel together with final design to commence after all the necessary safeguards and permits have been secured. This will include establishing offices, procuring construction materials and workforce and is anticipated to last approximately weeks after contract signing. The impacts are very minimal and transient in nature.

5.3.2 Construction Phase
As with most projects of this nature, construction phase impacts are generally of a transient nature and will be felt mainly during the actual period of construction. The issues involved in the Transmission and Distribution and transformer station, urgent infrastructure such as back up generation and special electrical feeders and solar installation for existing health centers, and construction phase are:

a) Transportation of equipment and materials to site
This would involve medium to heavy duty trucks carrying loads to the various construction sites along the tower route and to substation sites. Some of the materials will travel considerable distance of about 500-800 km per trip. The road network to most of the sites is quite adequate although some areas could be difficult. The impacts associated with the transportation would include
  • Noise from truck movements
• Emissions from vehicle exhausts
• Dust emission from haulage of sand
• Damage to road surfaces and dust generation where roads are not paved
• Possible road accidents including falling objects from trucks.
• Vehicular pedestrian conflicts

These impacts would affect soil, air quality, surface water, ambient noise, land use and occupational/public health and safety

b) Clearing Transmission Lines Right-of-Way (RoW) and Tower Routes/Spots
This involves mainly vegetation clearing and removal of all unauthorized structures. All trees directly in the way of the lines shall be suitably lopped or completely removed as required for safety. Using the prescribed standards, no structures are permitted directly beneath the 161 kV, 33 kV or 11 kV lines. Spots for erecting towers shall be suitably cleared and graded. The impacts arising from this activity include:
• Exposure of soils to erosion and degradation from runoff
• Noise from grading machinery
• Sediments and runoff from exposed soil surfaces polluting receiving water bodies
• Loss of use of land in RoW by existing users

(c) Excavating Foundations and Erecting towers and Poles and laying of cables
This involves works at selected spots where towers and poles are to be located. About 40% the towers are already in place and excavation works will be limited. In the case of the wooden poles, existing poles will be replaced with new ones at the same spots. Typical excavation for mounting the towers and poles will be up to 2 m deep for towers and 1 m deep for poles and the soil will be reused for backfilling. Tower pads will be of concrete construction to avoid direct contact between the metal parts and the soils which trend to be acidic. The erection of towers and new wood poles will enhance the status of the electrical infrastructure in the T & D network, which is a beneficial impact. A further benefit is that of towers serving as perches for birds. The adverse impacts associated with these works such as noise and dust generation are similar to those discussed earlier. Workers assembling tower members and poles have to work at heights of up to 10 m and beyond and there is the risk of slipping/falling. Adequate personnel safety equipment including safety climbing belts and appropriate clothing shall be provided for all workers engaged in such activities. Other concerns include:
• Waste Generation
• Chance archaeological finds during excavations
(d) Stringing of lines and replacement of existing cables and conductors –
This activity will be mostly carried out manually. There may be the need to use mobile cranes to assist with the replacement of damaged conductors on the 161 kV line. Some of the 33 kV towers are located in cemeteries and working on the them will require careful monitoring to avoid damaging any grave/tombs. The stringing process will pose occupational health and safety hazards. A major impacts of erecting and stringing towers/poles is the visual intrusion impact. During the filed survey, it was observed that many of the LV overhead lines are strung haphazardly creating aesthetic problems particularly within the eastern parts of the city. The impact caused by visual intrusion is mainly associated with the LV overhead lines and can be significant in areas intended as tourist attractions. In many parts of Freetown, the poor physical planning and development has resulted in indiscriminately scattered overhead lines, which are visually disruptive. Overhead lines may create collision hazards to birds; birds which tend to rest on power lines may be affected by heat and electric fields. This type of impact may be considered as residual.

The other significant impact expected from this activity is the large amounts of waste to be generated from replacing huge quantity of damaged conductors. In addition, the wooden cores of the new conductors which will be used for the stringing and replacements will remain as waste material. Other wastes will include broken and damaged insulators and other similar equipment.

(e) Clearing Transmission Lines Right-of-Way (RoW) and Tower Routes/Spots – this involves mainly vegetation clearing and removal of all unauthorized structures. All trees directly in the way of the lines shall be suitably lopped or completely removed as required for safety. Using the prescribed standards (see Annex 4), no structure are permitted directly beneath the 161 kV, 33 kV or 11 kV lines. Spots for erecting towers shall be suitably cleared and graded.

The impacts arising from this activity include:
- Exposure of soils to erosion and degradation from runoff
- Noise from grading machinery
- Sediments and runoff from exposed soil surfaces polluting receiving water bodies
- Loss of use of land in RoW by existing users

(f) Excavating Foundations and Erecting towers and Poles – this involves works at selected spots where towers and poles are to be located. About 40% the towers are already in place and excavation works will be limited. In the case of the wooden poles, existing poles will be replaced with new ones at the same spots. Typical excavation for mounting the towers and poles will be up to 2 m deep for towers and 1 m deep for poles and the soil
will be reused for backfilling. Tower pads will be of concrete construction to avoid direct contact between the metal parts and the soils which tend to be acidic.

The erection of towers and new wood poles will enhance the status of the electrical infrastructure in the T & D network, which is a beneficial impact. A further benefit is that of towers serving as perches for birds.

The adverse impacts associated with these works such as noise and dust generation are similar to those discussed earlier. Other concerns include:

- Waste Generation
- Chance archaeological finds during excavations
- Safety of workers assembling tower members.

Usually during excavations there is a possibility of encountering buried items of archaeological or cultural/historical significance. Any such finds shall be duly notified to the authorities of appropriate action.

Workers assembling tower members and poles have to work at heights of up to 10 m and beyond and there is the risk of slipping/falling. Adequate personnel safety equipment including safety climbing belts and appropriate clothing shall be provided for all workers engaged in such activities.

(g) Environmental and social issues of the restructured project

The overall environmental and social footprints of the project are generally similar to Parent ESURP and AF, and expected to be moderate with potential for inducing noise, emissions, dusts and solid wastes generated during construction activities as well as COVID-19 PPEs which could be considered as wastes. The other impacts relate to occupational safety and health of workers during construction air pollution, and traffic accidents, caused by truck movements, partial damages to assets/properties and temporal disruption of income sources because of the construction activities.

(h) Land acquisition and displacement or loss of economic activities

Although land acquisitions are not expected based on preliminary rapid assessment of the proposed sites, the rehabilitation works and movement of materials might lead to economic displacement of people in the project influence area. These potential negative impacts have necessitated the provision in this ESMF for compliance with World Bank Operational (OP 4.12) on Involuntary Resettlement to appropriately assess potential social issues of individual sites and provide mitigation measures for addressing the impacts.

(l) Occupational health and safety
This has the potential of exposing workers to COVID-19, health hazards and operations and the provision of adequate PPEs will be critical in mitigating the occupational and health impacts. Other general risks associated with construction sites include slips and falls, moving trucks, transport and use equipment, high noise levels, installation of facilities. Mitigation should include Health and Safety officers on site at all times, training, including relevant provision in contracts of the Contractors, provide the right PPEs to all workers, use signage and barricades at risky sites. Transport of materials and site-specific trainings for PPEs, waste management, health and safety issues are preferably best before the height of the rainy seasons when some of the roads become very difficult to use.

5.3.3 Potential Impacts on HIV/AIDS

Transmission of the disease is largely through sexual activity. Promiscuity and marital unfaithfulness is predominant among people who travel from their homes to stay at another place, be it for the reason of work or other. The project is likely to attract migrants into catchment communities who may seek to engage in casual sexual activities, and may attract sex workers. Casual sex with multiple partners is the vehicle for the spread of HIV/AIDS. An increased number of individuals participating in these high-risk behaviors increase the risk of infection for existing community members, especially the women who offer sex favors for money.

The Ministry of Health (MoH) national sentinel surveys on HIV/AIDS in 2005 indicated that the most affected age groups are those between 20-34 years. Workers in the construction sectors largely fall into this age group and therefore any impact of the epidemic on the age group will likely affect the productivity of this sector, which is needed for the implementation of the Sierra Leone Energy Sector Utility Reform Project. Despite a reduction in prevalence of the infection in 2010/2011 in the country indicated that the situation is stabilising, there is still a need for concerted action to maintain those interventions that have led to this reduction.

5.3.4 Potential impact on spread of COVID 19

Activities directly related to the project or induced by the project could pose high risk for spread of COVID 19. These include: 1) project activities requiring workers to enter health facilities and isolation and quarantine facilities 2) workers directly dealing with waste management 3) large number of workers working and living in camps and in close proximity to camps 4) labour and population influx to project areas 5) unregulated movement of workers and others in and out of project sites 6) risky social interaction between local community and workers (absence of social distancing) 4) poor hygiene and sanitation conditions on site.
5.3.5 Conflict with Social and Cultural Values
People from different geographical and social environments have different beliefs and views concerning religion, sacred objects and traditional practices. Thus, the convergence of many people at communities in the project area has the potential to generate conflict between the migrants and the local inhabitants, who may insist on the observance of their values and traditional practices by the migrant community. Thus, the existing community cohesion in the Project area could be adversely impacted. The interaction could also lead to transformation resulting in new businesses and people with differing social value systems.

5.3.6 Gender, GBV/ Sexual Exploitation and Abuse/ Sexual Harassment
The traditional family system sets roles for men as the providers and the women as the supporters. Women are dependent on the men who most often abuse this role and tend to be dictatorial. The issue is about power play where the advantage lies with the men for the reason that they are more economically independent than the women. Men are often preferred for employment in development projects; and with the coming of the Sierra Leone Energy Sector Utility Reform Project and subsequent swell of industrialization in the District, this trend could worsen. In the face of present admonishing of women empowerment, this could be a setback as the women in the project communities may be further suppressed into the throes of economic dependency.

The project is located in crowded urban/peri-urban areas with proximity to local low income earning communities. The potential for sexual interaction between project workers and communities can exacerbate the risk of Sexual Exploitation and Abuse/ Sexual Harassment and transactional sex. Search for job opportunities may lead to demanding sexual favors that result in abuse of girls and women.

5.4 Operational phase
These impacts will arise from the operation of the transformers and substations

5.4.1 Transformer oils
The presence of transformers on the premises of substations introduces the potential environmental impacts inherent in transformer oils. Polychlorobiphenyls (PCBs) are harmful substances to the environment. They are not produced during electricity generation or distribution, but are contained in certain equipment, mainly in transformers and condensers. These are often purchases from the manufacturers of electrical equipment who use them because of their perfect dielectric properties. The transformer oils shall be collected and handled adequately. Qualified agencies or approved by the SPC, Ministry of Energy or EDSA shall be engaged for that activities. EDSA will ensure that the new transformers are free from PCB
containing oils. Modern day/new transformers are free from PCB oil as they contain mineral oil. Annex 1 Regulations for the Prevention of Pollution by Oil, Annex 2 Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk of International Convention for the Prevention of Pollution from Ships (MARPOL) will be referred. The transformers to be purchased will be required to meet all applicable safety standards and will be enclosed in separate secondary containment structures that will prevent any accidental spills or routine leakages that may occur from being released to the environment. The transformers will be serviced outside the country.

5.4.2 Fire hazards
The presence, storage and use of oils, fuels and other flammable products on the premises of substations and work sites may give rise to hazards of fire outbreaks. In addition, there always is a likelihood of fire outbreaks in substations and work sites that are sited in areas where bushes surround them. Some mitigation measures have been proposed for this impact.

5.4.3 Noise
Assessments of existing substations in the Freetown municipality indicate that generated noise could be heard up to only about 60 m from substation sites. Additional noise in the surrounding area may be heard from generators in the substations, but these are fitted with silencers. Additional noise and vibration will be caused during work on solar and other related infrastructure. The noise level will however be maintained well within the guideline value for residential areas and other work sites of between 35 ~ 40 dB. Existing trees around the proposed substations and areas of operation that will not pose threats to the incoming or outgoing transmission lines will be left in place to act as noise buffer to would-be residents in the future and to road users. No further mitigation for generated noise from substations will be proposed.

5.4.5 Avifauna
Potential impacts by/on bird species present in the area associated with the construction and operation of a substation include electrocutions and disturbance during the construction and maintenance of the substation. The distribution grade T-lines are not expected to cause any impediment for the locally known avifauna.
Other problems include electrical faults caused by bird excreta when roosting or breeding on electricity infrastructure within the substation. Mitigating measures have been proposed for this potential impact.

5.4.6 Substation security and public safety
The substations will be located in relatively built up area. Due to the voltages to be handled by the stations, it is important that they are made secure at all times and that unauthorized persons
are kept away from the premises. The substations shall be suitably fenced to ward off persons from the premises. In addition, Security officers shall man the substations at all times to ensure security and report all incidents that might be out of the ordinary for prompt action. In addition, suitable warning signs indicating the dangers within shall be placed at regular intervals on the fencing to warn would-be encroachers.

5.4.8 Explosion, Health and Safety Risks
Explosion would be a major risk of the Sierra Leone Energy Sector Utility Reform Project due to the blowing up of transformer stations. Fire/explosion at transformer stations could have serious implications for human health as well as the plant quality of power supply. Fire will also introduce more CO₂ into the atmosphere, increasing GHG emissions and affecting climate change. The workers would be most at risk in the case of an explosion.

Accidents constitute one of the most important risks in any construction resulting in injuries. These are likely to arise from moving machinery in the course of operation, unguarded parts of equipment and a disregard for health and safety measures. These may pose risks to the workers. Other sources of injuries are excessive noise, vibration and heat, and also lubricants some of which contain solvents with potential to cause skin irritation and allergies, respiratory disorders and acute poisoning.

5.4.9 Cable theft/Sabotage and Security Issues
Deliberate cable theft/damages could be attempted through blow-ups, cut-ins, and thefts. Already, the cables are being damaged by road construction activities which could be aggravated as a result of dissatisfaction with consultations or compensation payments.

Potential also exist for attacks on construction workers, other transmission line facilities which may result in major obstacles for the production and transmission of the electrical energy. These impacts could result in disruption in quality electricity supplies to the communities and unexpected power cuts. Illegal connections may also result in fire outbreaks which could be widespread leading to destruction of lives and property.
ENVIRONMENTAL AND SOCIAL MITIGATION PRINCIPLES

The ESMF offers options available and principles for preventing, minimizing or managing various environmental and social impacts as an integral part of the Sierra Leone Energy Sector Utility Reform Project planning and management. This section provides impact mitigation principles for the potential adverse Project impacts identified in section 5. The following impact mitigation principles were considered:

- Mitigation principles for the effects of land ownership, property and buildings loss;
- Mitigation principles on impact of noise;
- Prevention of Impact on Public/community Health and Safety principles;
- Prevention of Impact on Occupational Health and Safety principles;
- HIV/AIDS prevention and management principles;
- COVID 19 Control and mitigation principles;
- Socio-cultural conflict prevention principles;
- Gender, GBV (SES/AH) mitigation principles;
- Substation, Cable theft/security principles.
- Chance find procedure principles
- Population influx control principles;
- Air quality control principles;
- Explosion control and health and safety principles;
- Mitigation as a result of operation of substation principles

6.1 Mitigation Principles against the Effects of Land Loss

As discussed in earlier section, the restructuring is not expected because the expropriation of land, or compulsory land acquisition, for such a project could result in:

- Temporary loss of income of petty traders operating within RoW, loss of land and structures;
- loss of livelihood for others in the Project area;
- social stress and conflicts; and
- additional independent power producers expected in the near future would mean additional land losses.

To prevent or reduce the impacts of land acquisition and loss of property, the new component will be implemented in existing facilities and EDSA will adopt the principles of transparency and fairness. In the event of expropriation, or compulsory land acquisitions, then the relevant regulations and OP4.12 would be followed. To provide transparency, and ensure key members feel engaged in the process EDSA will:
• Involve community leaders such as chiefs, opinion leaders and district and local council members in the land acquisition process;

• Collaborate with MoHS

• Collaborate with NGOS to ensure members of the community fully understand the benefits of the Project and are properly informed about its various aspects.

• Liaise with the Town and Country Planning department to ensure that all future related developments of the project are within the area designated by the Council

• Assist the planning unit of the Council to undertake proper planning and allocation of zone for specific development schemes in the communities.

To ensure that local community members are treated in a fair manner during the land acquisition process, EDSA will:

• Ensure compensation rates for land-owners reflect replacement cost;

• Educate affected community members on the alternative forms of livelihood available to them, and provide support to ensure a smooth transition to these alternative livelihoods.

6.1.1 Land ownership/land-use issues

Land ownership issues are not expected to arise or persist during this phase of the project. In case where property issues arise, efforts should be made during the constructional operational phase to locate and resolve any issues. Prompt compensation payment will then be affected.

6.1.1.2 Grievance resolution

Grievances are sometimes raised by some project-affected persons (PAPs) during this phase of the project. Grievance resolution procedures have therefore been put in place with the sole objective of minimizing disputes that may arise in relation to the compensation payments. Each tier of the complaint should be dealt with in two weeks of feedback and action and if unresolved moved to the next tier with the PA having the option of seeking redress in the courts of Law. The grievance/dispute processing and settlement mechanisms will be based on the following:

• Traditional dispute resolution

Dissatisfied claimants would be invited for negotiation together with the traditional authorities of the area or District and local Councils in order to arrive at acceptable figures. This process had been employed at the survey stage to resolve grievances that arose from joint ownership of land, tenant-landlord conflicts and boundary between farm disputes. Mediation took place in the
palaces of the traditional rulers. Resolutions were amicably arrived at to the satisfaction of all in less than two weeks.

- **Submission of counter proposals**
  The second stage of the mechanism is to request the claimant to submit counter proposals supported by valuation opinion prepared by private values of their choice. The private reports will be considered by EDSA in conjunction with the Land Valuation Board, the witness NGO and the PAP (with his/her counsel, if any) to ensure that claimants are treated fairly.

At such meetings, efforts will be made to arrive at amicable settlements in order to endure that the third stage of the dispute resolution is not triggered.

- **Resort to Legal action**
PAPs may, in the event of dissatisfaction with the decisions taken in the instances discussed above or without resort to any of the instances above resort to legal action to have the dissatisfaction resolved. Given the mechanisms described above, it is unlikely that disputes will end up in the law courts.

The project level GRM is finalized and operational for the parent ESURP and the Additional Financing and has recorded two grievances so far. The two grievances have been addressed. One of them was about ownership of the land at Lumley for one of the already housing a small substation that was to be rehabilitated but it turned out that the site was not appropriate. There is now a new substation at a different location that is almost complete. The other was about a pole that was to be erected and the PAP was concerned that the excavation work might affect his underground store but this was amicably resolved by having a discussion at the site with all parties including the property owner, contractors, supervising engineer, environmental and social management specialist. We agreed on a more careful approach and to avoid the areas of concern and all parties were happy with the outcome. The mechanism will be updated appropriately for the restructured project to accommodate emerging issues around GBV for confidential reporting and referral to service providers. The important lesson is to have a practical, functional mechanism that can be respond to complaints in a timely manner. The project level GRM below will continue to be applicable to the restructuring.
6.2 Rural Economy Enhancement Principles

A major concern related to development projects involving displacement of people or disruption of their income earning activity is for the affected people not to be left off worse than they used to be. Project proponents are supposed to ensure that the livelihoods of affected persons are restored and the general economic outlook of the catchment communities is enhanced. Measures that can be put in place to alleviate the possible negative impacts of a project such as the Sierra Leone Energy Sector Utility Reform Project on the people include:

- Exhaustive consultation with affected persons and the community as a whole to inform them of the implications of the project on their economic activities; Appropriate valuation of size of affected properties (i.e., land) and payment of realistic compensation;
- Setting up of a livelihood restoration committee by EDSA to explore the economic outlook of the communities, identify potential vibrant areas for business and advise affected persons on the best alternative to their lost livelihoods; and
- Making provisions for people to be employed at both construction and operation stages of the Sierra Leone Energy Sector Utility Reform Project.

6.3 Population Influx Control Principles

With the main motivation behind migration of people into project catchment communities being employment, a recruitment control program when properly put in place by EDSA could help minimize the numbers that troop into the project communities. The expected end result will be
to give prominence to the local community during employment, thereby discouraging the influx of in-migrants into the project area. This can be achieved by the following:

- Establishment of a recruitment committee to include appointed officials from EDSA and prominent persons representing the interests of the communities; and
- Conducting the recruitment exercise based on criteria to ensure that the indigenes form the majority of the quota allocated for, for instance, unskilled labour; and
- Establishment of clear criteria that describe the desired characteristics and priorities for use by the recruitment committee when hiring employees.

The above measures would reduce the overall extent of influx but cannot prevent the menace in entirety as the promise of indirect jobs is too attractive to be resisted by migrants. As communities become congested the main concerns of increased exposure to COVID-19 and increased pressure on existing toilet and other sanitary facilities, water, schools and healthcare facilities will be of great concern to the inhabitants. EDSA will intervene by:

- Identifying the basic community infrastructural needs through consultation with the communities; and
- Providing, as part of their corporate responsibilities, amenities such as water, wash facilities including soap, toilet facilities to schools etc.

6.4 HIV/AIDS Prevention and Management Principles

To ensure the intensive education on the issues of transmission and prevention of HIV/AIDs as recommended by Sierra Leone AIDS Commission and ILO, the EDSA will work in collaboration with the Health Directorate of the Ministry of Health to increase education of workers and the townsfolk on safe sex practices, condom use, abstinence and remaining faithful to one partner. EDSA shall ensure that the appropriate tools to collect, analyze and organize the information needed to maintain a safe and healthy working environment are made available and used in the workplace. Highlights of the principles to be followed by workers are set out below, based on ILO guidelines and those of the Sierra Leone AIDS Commission:

- HIV/AIDS prevention and treatment guidelines for community/workplace will be prepared;
- HIV/AIDS prevention clauses will be incorporated into works contracts;
- There should be no discrimination or stigma against workers on the basis of real or perceived HIV status;
- Refusal of employment or dismissal should not be based on HIV status, nevertheless testing for HIV should be carried out as specified in the code;
- Relations with infected/potential workers will be governed by the basic human rights as enshrined in the Constitution of Sierra Leone;
• Due care and confidentiality will be exercised in handling information on HIV status of workers bound by the rules of confidentiality set out in existing ILO instrument; and
• Prevention programs on HIV by contractors will include education and information provision, peer counseling, condom use promotion and distribution, and facilitation of voluntary counseling and testing and support for behavioural change.

6.5 COVID-19 risk mitigation principles

COVID-19 is highly and measures should be taken to ensure these activities do not spread the virus further to workers and the community. The following principles would mitigate COVID-19 risks include the following:
• Measures to mitigate the risks of COVID-19 should follow national guidelines, WHO guidelines and other relevant guidelines
• Provide adequate, clean drinking water and for general sanitation including regular hand washing
• Identify works and workers most exposed to COVID-19 take measures to minimize risks such as implementing effective risk communication to workers and community regarding COVID-19 following WHO guidelines and enforce the appropriate use and disposal of PPE where needed.
• Regular check and keep record of temperature of workers and others at construction site
• Provide a triage area safe and away before entering construction sites and other sites
• Regular daily briefings prior to commencing work focusing on Covid 19 specific considerations for issues around etiquette, coughing, hygiene and social distancing measures for workers
• Ensuring work environment meet the necessary welfare and hygiene requirement to prevent the spread of the virus and regulate movement in and out of project sites and workers camps with designated entrance and exit from project sites and registration of incoming and outgoing workers.
• Health and safety personnel to be on site at all time and enforce prevention and control of COVID-19 and collaborate with local health service providers
• Establish protocols for communicating medical emergency and provide support to strengthen medical and emergency response capacity of the service providers.
• Prevent a sick worker from entering the construction area/site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days
• Avoid large gatherings and follow national guidance for community consultation by diversifying communication methods and feedback mechanisms using appropriate media and technology. Also, device ways to directly engage one-on-one with project affected persons
• Require workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor if they have symptoms or are feeling unwell
• Provide reporting mechanism for workers and personnel to raise safety related issues

6.6 Socio-Cultural Conflict Prevention Principles
EDSA will observe all local customs at the construction and operational phases of the Sierra Leone Energy Sector Utility Reform Project. It will also liaise with the traditional leaders of the project communities to hold civic education sessions in the communities on their customs, beliefs and practices in order to re-emphasize the obligation for their observance by everyone living in those communities. The following will be observed:

• Cultural resources uncovered during land clearing will handed to traditional authorities to be preserved;
• Shrines and sacred groves that lie in the demarcated area will be appropriately relocated;
• EDSA will collaborate with traditional authorities in identifying and avoiding damage to cultural sites and resources; and
• Important cultural sites will be marked and fenced during land clearing.

6.7 Gender, GBV/ Sexual Exploitation and Abuse/ Sexual Harassment Impacts Mitigation Principles
The proponent in accordance with its obligations as stipulated in Schedule 2, Clause 2 (e) of the Sierra Leone National Petroleum Company Act (1983) will ensure that the adverse impact on women and children due to the project are minimized or completely eliminated. Measures that will be taken are:

• Provision of opportunities for employment of females;
• Promotion of women empowerment programs like provision of safe drinking water, job/skills training, H&S officer to focus on gender and equal opportunities; and
• Facilitation of education for children and determine minimum age for labor participation and monitor labor hire.
• Incorporate into bidding documents requirements for the management of Sexual Exploitation and Abuse/ Sexual Harassment.
• Include code of conduct as part for contractors and workers conduct with clear language for prohibition of SEA/SH and punitive measure
• Provide SEA/SH briefing during induction and briefing to workers prior to commencement of works
• Update project GRM for confidential reporting and referral to service providers.
6.8 **Air Quality Control Principles**

The EDSA would have to collaborate with EPA to develop air quality management plans which will, among others aim at the reducing adverse impacts on air quality. To reduce impacts from dust generation the following principles must be followed:

- Water dousing to minimize dust;
- Contract specifications to include dust control measures;
- Covering of hauling trucks carrying sand to avoid dust emission; and
- Ensuring effective use of water to control dust emission during construction.

To reduce impacts of emissions the following principles should be adhered to:

- Promoting the culture of vehicular maintenance; and
- Air emission specifications for all equipment will be checked before purchase.

6.9 **Water and Coastal Resources Protection Principles**

Mitigation principles to prevent, minimize and manage impacts on the water and coastal resources from the implementation of the project will include:

- A network of storm drains shall be constructed in the substation to collect and direct storm water away from the substation. This network shall be isolated from the oil and fuel storage areas to ensure that storm water is not contaminated with oil and oil products prior to discharge;
- Avoiding alignments which are susceptible to erosion, such as those crossing slopes;
- Using clean fill materials around watercourses such as quarried rock containing no fine soil;
- Providing settling basins to remove silt, pollutants, and debris from construction site runoff water before discharge to adjoining streams, rivers, the sea and other sensitive areas;
- Constructing run-off channels, contouring or other means of erosion control;
- Avoiding petroleum products leakages by using high integrity containers.

Mitigation principles to address habitat destruction and disruption impact in the project areas will include the following:

- Avoiding environmentally sensitive areas and wetlands to prevent severe impacts on flora and fauna;
- Ensure all waters and other releases meet EPAs General Environmental Quality Standards for releases into the environment; and
• Maintaining trees that will not directly interfere with the project and adequately compensating those to be felled.

6.10 Cable theft / Security Principles

To ensure smooth operations and peaceful coexistence of the project with the nearby communities to avoid conflicts and potential cable theft and sabotage, the following measures should be implemented:

• The implementation authorities adequately liaising with the law enforcement agencies (Police, Navy, Fire Service, etc.) to provide the needed protection/security to all facilities of the project.
• Avoiding areas/zones under litigation which could be potential sources of conflict;
• Adequately involving/engaging all stakeholders (Traditional Leaders, Youth Groups, District Councils, NGOs, etc.) in future consultations regarding the execution of sub-projects and other ancillary developments;
• Formation of complaint unit within the project area and at the District Council to address or forward all complaints to the appropriate authorities for redress;
• Formation of Grievance Redress Committee to deal with any grievance regarding compensation payments;
• The authorities adequately securing the project site and transmission line right of way by preventing any induced developments (settlements, trading centers, etc..) that could threaten the project

6.11 Chance Find Procedure Principles

During the constructional phase, cultural/archaeological ‘chance finds’ - sites of cultural significance such as sacred woods or trees or rock outcrops and historical or archaeological heritage/items or sites which the local residents may not have mentioned at the survey stage will be monitored to ensure that such sites or items are properly managed to the satisfaction of both the local communities, the EPA and/or other relevant authorities. The “Chance Finds” procedure will be included in the ESMP and will be covered in the contract for civil works, referring to the small areas to be occupied by towers and substations. If in case there is any archaeological site in any of the proposed camp sites, measures will be taken to change such a site. In the event that an archaeological resource is discovered during the construction process a Chance Find Procedure such as a rapid archaeological survey will be implemented in substation and camp site. This procedure needs to be included in the Contractor’s EMP (Environmental Management Plan).

A Chance Find Procedure is a process that prevents archaeological sites from being disturbed until an assessment by a competent specialist is made and actions consistent with the requirements of OP4.11 are implemented. It is a project-specific procedure that outlines what
will happen if previously unknown physical resources are encountered during project construction or operation. The procedure includes record keeping and expert verification procedures, chain of custody instructions for movable finds, and clear criteria for potential temporary work stoppages that could be required for rapid disposition of issues related to the finds.

In accordance with this Procedure, work will cease on a site where archaeological material is found. The consulting engineer will inspect and secure the site, and will then contact the monitoring agency for advice and arrange for a survey or salvage work as appropriate.

6.12 Mitigation of Noise, vehicular emission, and road accidents avoidance principles

Noise from truck movements is transient and will not require special mitigation except to educate drivers to avoid unnecessary blaring of horns and revving of engines especially in the vicinity of residences.

Emissions from vehicles contain pollutant such as CO, CO₂ and smoke, soot and other products of combustion. The quality of exhaust depends among other things on the state of maintenance of the engine. The contractor shall ensure that all vehicles used are properly maintained to avoid excessive air pollution.

Dust emission from haulage of sand shall be mitigated by ensuring that trucks carrying sand have suitable covering material such as tarpaulin in place. Damage to road surfaces and dust generation where roads are not paved is an unavoidable impact especially in the wet season.

Road accidents shall be minimized by ensuring that trucks are in good state of maintenance and that drivers are properly qualified and obey appropriate traffic signals. All materials being transported shall be suitably secured and trucks shall carry suitable warning signal such as “flashing amber light” and “red flags” on long items such as wood poles.

6.13 Mitigation of impacts on Occupational safety and health issues principles

The EDSA will carry out the operation and maintenance of the proposed transmission line based on accepted international standards, such as those of the International Electrotechnical Commission (IEC) and the EDSA’s own ‘Corporate Safety Rules.

However some specific potential occupational safety and health hazards expected during the operational phase of the project are dealt with below:
6.13.1 Potential collapse of towers
As stated earlier, collapse of towers occurs only rarely. Since the hazardous effects (e.g. falling on people and electrocution) of the collapse are normally felt only within the RoW public safety will be ensured by restricting public access to the right-of-way. In line with existing EDSA practice, all towers will be clearly marked with a red inscription on white background – “DANGER – 330,000 Volts” to warn off trespassers and prevent them from exposing themselves to the potential dangers of electrocution.

Regular maintenance will minimize corrosion and wearing out of parts of the towers and their accessories. The EDSA already has a comprehensive planned and emergency maintenance programs for the existing transmission lines. It is expected that the same level of care will be applied to the new transmission lines to be constructed.

In addition, tower members will be secured and improved by anti-theft fasteners to check acts of vandalism and its harmful consequences on the towers. Security patrol will be conducted on sections of the transmission line especially the outskirts of urban areas and towns, which are more prone to acts of vandalism. It is expected that the patrols will ensure early detection of any acts of vandalism and signs of tower corrosion. Prompt and necessary remedial actions will be taken to repair the structures to forestall the possible collapse of towers.

6.13.2 Falling and/or swinging objects
The measure proposed earlier to minimize the potential hazards posed by falling and swinging objects are valid for the maintenance phase of the project and will be fully implemented.

6.13.3 Falls from heights
Potential accidental falls from heights during the operational or maintenance phase of the proposed project will be minimized through of appropriate personal protective equipment such as body harness, climbing belts, etc.. The EDSA will insist that only well-trained and experienced personnel work at heights on the towers.

6.13.4 Machine Safety
All potentially hazardous machinery such as lifting appliances (cranes, forklifts, etc..) and unfired pressure vessels (compressors, etc..) will undergo statutory examination by certified engineer. This will ensure that accidents due to material failure are pre-empted. All electrical cables of mobile or hand-held machines (electric hand drills, temporary lights) will be examined for flaws in insulation and when any flaws are detected the cables will be promptly replaced to forestall the hazards of electrical burns and electrocution of employees. In addition, employees will be
required to wear protective clothing in the course of work to protect them from undue exposure to electrical power.

6.13.5 Public Safety

Tower members will be secured and improved by anti-theft fasteners to check acts of vandalism and its harmful consequences on the towers. Furthermore, anti-climbing guards will be installed to discourage adventurous individuals from endangering their lives and limbs.

The shattering of insulators, which could pose potential danger to passers-by, will be minimized by the use of quality insulators as well as the periodic washing of the insulators.

Measures proposed earlier to minimize public safety hazards relating to transportation and potential tower collapse are valid for ensuring public safety. These measures will be fully implemented to enhance public safety. Other public safety issue of potential health and other implications of electromagnetic field (EMF) effects have been dealt with below.

Threatening trees will be felled as stated earlier in the report to prevent them from falling onto the transmission lines during stormy weather conditions. This will minimize the potential of the fall of live electrical conductors, which could pose safety hazards to the public. Insulator pins will also be checked regularly for signs of rusting and any defective pins found will be promptly replaced to prevent the live electrical conductors from falling from the towers.

A potential positive public safety impact is the possible use of transmission lines and towers as landmarks to aid in “navigating” when driving through the countryside since they are clearly marked on Sierra Leone’s topographical maps and clearly visible on the roads.

6.13.16 Electromagnetic field (EMF) effects

According to the World Environmental Library, WEL 1.1, information derived from prolonged observations and experiments in numerous countries indicate that the electric and magnetic fields around transmission and distribution facilities exhibiting frequencies between 50 and 60 Hz have no harmful effects on human health. Magnetic field strengths below 0.4 mT at 50 – 60 Hz induce no detectable biological reaction in humans. The magnetic fields acting on the ground below overhead lines develop maximum field strength of only 0.055 mT for frequencies between 50 and 60 Hz. Hence potential effects of EMFs on human health are non-existent according to current knowledge.

However, an electrically grounded person touching an ungrounded metallic object or a conductor in a static or oscillating field may draw electric current from the object and may experience a
micro shock from a spark discharge. This potential effect will be minimized by the EDSA, as usual, by multiple earthlings. Protective multiple earthlings minimize the changes of people getting electric shocks and the changes of such shocks being fatal.

In order to debunk the misconception that EMFs may cause cancer or harm children and minimize fear and avoid panic among the local populations, the EDSA will undertake public education and create awareness in the local communities wherever such concerns are expressed. The EDSA will also ensure that dwelling houses and other structures are not built within the RoW in contravention of existing regulations.

6.14 Effects on birds

No specific breeding grounds for birds have been identified within the RoW hence the potential danger of debasement of such areas does not exist. The potential dangers of birds flying into or colliding with the lines and interference in the navigation of birds exist and can only be regarded as residual hazards.

6.15 Impact on telecommunications

Even when the transmission line crosses over telephone lines, the vertical distance between the two line will ensure that interference is non-existent or minimal.

6.16 Substation

Principles of mitigation measures proposed for the potential impacts due to the operation of the substation below are below:

6.16.1 Fire hazards

The best defense against fire outbreaks is to ensure they are not caused at all. EDSA is well aware of the potential disastrous consequences of fire outbreaks on its substation. Measures are therefore put in place to ensure that fires do not break out in the substations.

Prior to the operation of the substation, and as part of project planning, the in-house EDSA Fire Service will carry out a fire survey on the premises to identify peculiar firefighting equipment for the station. These pieces of equipment will be purchased and installed at vantage positions within the substation in addition to the standard water hydrants and fire extinguishers provided for all the substations. This will ensure that the substation remains in a high state of preparedness against potential fire outbreaks.
In addition, a fire buffer will be created and maintained around the fencing to ensure that potential bush fires are not able to affected substations.

Potential fire hazards as a result of electrical faults will be minimized by adhering to technical specifications relevant to electrical safety. The use of low quality components, inadequate sizing of cables, negligent execution of works and general non-observance of safety rules will be avoided to minimize the potential hazard of electrical fires. Also, the operating personnel will be sufficiently trained in connection with electrical safety measures and their observance. Proper and sufficient supervision of workers will be undertaken.

In addition, the EDSA will not allow the use of the fire for the maintenance of vegetative growth within the RoW. Bush fires will be minimized through public education. It is expected that the full implementation of the measures will minimize the occurrence of fires.

6.16.2 Avifauna

The EDSA ensures that good housekeeping is kept at all times in the substations. Bird nests in areas likely to cause electrical faults shall be promptly removed and transferred to nearby trees, if practicable.

6.17 Work camp management

First and foremost, the EDSA will ensure that contractors do not establish work camps close to any water body to avoid water pollution problems. The EDSA will also ensure that lower level employees including cooking, cleaning etc from the local communities are not accommodated at the camp. The camp will be fenced to enhance safety and security as well as prevent COVID 19 transmission.

During maintenance of construction machinery/equipment and vehicles care will be taken to avoid accidental oil spills, which could lead to soil contamination. Accidental spillage of oil, fuel and paints will be avoided as much as possible. Any spilt materials will be quickly mopped up with rags and/or sawdust. The used sawdust and rags will be collected and incinerated. Waste oil will be drained into impermeable sumps at the work camp for collection and disposal.

Metal wastes will be collected and sold as scrap to dealers who will in turn sell them for re-cycling.

Other solid wastes such as damaged cables and conductors, rags, paper cartons and domestic wastes will be collected and disposed of at appropriate public waste dumping sites. The reuse of empty paint and oil containers for storage of water will be prohibited.
Mobile toilet, and hand washing facilities will be provided at the work camp to avoid the pollution of the environment with human waste. The holding tanks of the mobile toilets will be emptied as and when required for disposal at appropriate sites. Cleaning materials, disinfectants, PPEs to be provided by cleaning staff. Cleaners should be trained in COVID-19 measures

6.18 Waste management

Solid wastes in the form of trees, tree stumps and wooden containers will be gathered together and made available to the local communities as fuel wood. Metal wastes will be collected and disposed of appropriately and/or recycle. Wastewater from tower base excavations is not expected to be significant. No towers will be sited in permanently wet locations requiring the extraction of large volumes of wastewater. At worse, towers will only be allowed to be sited at seasonally wet locations. The required dewatering will therefore be temporary, limited and localized. Hence only small quantities of wastewater will be pumped and discharged through sediment traps or silt screens into surrounding marshlands. The effects of discharging the wastewater into the surrounding marshlands will be insignificant and short-lived.

Accidental spillage of oil, fuel and paints will be avoided as much possible. Any spilt materials will be quickly mopped up with rags and/or sawdust. The used sawdust and rags will be incinerated.
Table 1: Environmental and Social risk mitigation measures specific to the new Components followed by Environmental and Social risk mitigation measures for the parent project some which are applicable to the Covid-19 component

<table>
<thead>
<tr>
<th>PROJECT ACTIVITY</th>
<th>POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS</th>
<th>PROPOSED MITIGATION MEASURE (S) (including legislation &amp; regulations)</th>
<th>INSTITUTIONAL RESPONSIBILITIES (inc. enforcement &amp; coordination)</th>
<th>COST ESTIMATES</th>
<th>COMMENT</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site preparations/clearing</td>
<td>•</td>
<td>• Ensuring work environment meet the necessary welfare and hygiene requirement at work site and workers camp sites to prevent the spread of the virus and regulate movement in and out of project sites and workers camps</td>
<td>MoHs/Contractors</td>
<td>Contract or costs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste management</td>
<td>• Poor Waste segregation, colour coding and inadequate or proper containers</td>
<td>• Waste segregation, colour coding and mark containers to properly dispose of the waste. Training for staff on waste segregation</td>
<td>Contractors, MoHS/Healthcare facilities/Health and safety officers</td>
<td>Contractors/EDS A/MoS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| • Inadequate and lack of appropriate PPEs run the risk of spread and endangering lives. | • Provision of adequate and appropriate PPEs and training on the use and handling of PPEs  
• Maintain a stock of PPEs at all times  
• Mandatory Training, regular refresher trainings, and awareness on waste segregation, handling, markings, disposal, overfilling, closing containers and transportation. OHS monitoring and enforcing mechanism  
• Generic guidance and site specific HCWMP for all isolation, healthcare and quarantine centres posted on walls/visible places  
• CESMPs are critical to limit spread and reduce risks of exposure to site workers, patients, healthcare officers | MoHs, Contractors & EDSA  
H&S Officer/MoHS/EDSA & Contractors  
Contractors/MoHS & Healthcare facilities |
<table>
<thead>
<tr>
<th>Transportatio n of materials</th>
<th>• Poor transportation of materials, equipment and waste materials including affected samples risking spills/damage during transport</th>
<th>• Provision of proper containers and adequate information on transportation of wastes</th>
<th>Contractors/Health Care Facilities/H&amp;S officer</th>
<th>Contractors/EDSA/MoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and safety monitoring including safe use and disposal of PPEs</td>
<td>• Poor enforcement and control of COVID-19 measures by H&amp;S personnel</td>
<td>• Incorporate enforcing prevention and control of COVID-19 as part of the role of the of health and safety personnel</td>
<td>H&amp;S Officer/Contractor/EDSA/Health Care Facilities</td>
<td>Contractors/MoHS</td>
</tr>
<tr>
<td></td>
<td>• Poor awareness on etiquettes, hand hygiene</td>
<td>• forging collaboration with local health service providers and strengthen medical and emergency response of the providers.</td>
<td></td>
<td>Contractor's budget MoHs operational budget/EDSA/Health Care facilities</td>
</tr>
<tr>
<td></td>
<td>• COVID-19 spread through workers coming from infected areas, Coworkers introducing infection into the communities/gener</td>
<td>• Provide daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>al public handling of equipment</td>
<td>etiquette, hand hygiene and distancing measures</td>
<td></td>
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<td>--------------------------------</td>
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<tr>
<td>• Check and record temperatures of workers and other people entering the construction area/site or require self-reporting prior to or on entering</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Regulate the entrance and exit of workers and other personnel in project site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Prevent a sick worker from entering the construction area/site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Incorporate enforcing prevention and control of COVID-19 as part of the role of the of health and safety personnel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• forging collaboration with local health service providers and strengthen medical and emergency response of the providers.</td>
<td></td>
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</tr>
</tbody>
</table>
• Prevent a sick worker from entering the construction area/site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 days

• Avoid large gatherings and follow national guidance for community consultation by diversifying communication methods and feedback mechanisms using appropriate media and technology. Also, devise ways to directly engage one-on-one with project affected persons

• Require workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor if they have symptoms or are feeling unwell

• Ensure protocols on C 19 are observed by works in facility premises (during maintenance and construction work)
<table>
<thead>
<tr>
<th>Issue Area</th>
<th>Actions</th>
<th>Owners/Approvals</th>
<th>Cost</th>
</tr>
</thead>
</table>
| Land acquisition and loss of assets | • Potential land acquisition challenges  
  • Screening sub-project/sites for potential impacts on land acquisition and assets  
  • Preparation of RAP or ARAP as appropriate  
  • Consultation of the PAPs for RAP  
  • Update existing GRM  
  • Review and Approval of the RAP  
  • Disclosure  
  • Implementation and monitoring | MoHs/EDSA  
  EDSA  
  TBD and appro     |
| GBV (SEA/SH)                      | • Inadequate measures and code to manage  
  • Incorporate into bidding documents requirements for the management of Sexual Exploitation and Abuse/ Sexual Harassment.  
  • include code of conduct as part for contractors and workers conduct with clear language for prohibition of SEA/SH and punitive measure  
  • provide SEA/SH briefing during induction and briefing to workers prior to commencement of works  
  • Update project GRM for confidential reporting and referral | MoHs/Contractors/EDSA  
  EDSA/Contractors/MoHS  
  CESMP/MoHS |
<table>
<thead>
<tr>
<th>PROJECT ACTIVITY</th>
<th>POTENTIAL ENVIRONMENTAL IMPACTS</th>
<th>PROPOSED MITIGATION MEASURE(S) (including legislation &amp; regulations)</th>
<th>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</th>
<th>COST ESTIMATES</th>
<th>COMMENTS (eg. Secondary impacts)</th>
</tr>
</thead>
</table>
| Upgrading of Distribution Line, healthcare facilities | - Noise, dust, air pollutants, road accidents  
- Loss of land use  
- Soil erosion, sedimentation and runoff  
- Waste generation  
- Historical/cultural finds  
- Health and safety risks of workers doing upgrades  
- Visual intrusion | - Replant disturbed sites  
- Segregate and dispose as appropriate  
- Report to authorities  
- Personnel safety equipment  
- Improve alignment and tensioning | - Contractor  
- Contractor/EDSA | - Contractor’s costs  
- Contractor’s costs | - Appropriate contract clauses to be specified  
- Approx. 3100 persons affected  
- Appropriate contract clauses to be specified  
- Appropriate contract clauses to be specified |
<table>
<thead>
<tr>
<th>PROJECT ACTIVITY</th>
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<th>PROPOSED MITIGATION MEASURE(S) (including legislation &amp; regulations)</th>
<th>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</th>
<th>COST ESTIMATES</th>
<th>COMMENTS (eg. Secondary impacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stringing Lines and replacing existing cables/conductors</td>
<td>− Waste generation − mostly metals, insulators etc.</td>
<td>− Segregate and reuse, recycle or dispose as appropriate</td>
<td>− EDSA</td>
<td>− Contract costs</td>
<td>− Appropriate contract clauses to be specified</td>
</tr>
<tr>
<td></td>
<td>− Disposal of transformers and other items, oil leaks</td>
<td>− Adopt best practices and safety procedures</td>
<td>− Contractor/ EDSA</td>
<td>− EDSA sells as scrap and gets revenue to offset costs</td>
<td></td>
</tr>
<tr>
<td>Install new Transformers and Equipment</td>
<td>− Waste generation</td>
<td>− Segregate and dispose as necessary</td>
<td>− EDSA</td>
<td>− To be determined</td>
<td>− To be determined</td>
</tr>
<tr>
<td></td>
<td>− Disposal of transformers and other items, oil leaks</td>
<td>− Replant as necessary</td>
<td>− EDSA</td>
<td>− To be determined</td>
<td>− To be determined</td>
</tr>
<tr>
<td>Operation and Maintenance of the line</td>
<td>− Loss of vegetation cover</td>
<td>− Compensate</td>
<td>− EDSA</td>
<td>− TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Loss of income from fruit trees</td>
<td></td>
<td>− EDSA</td>
<td>− TBD</td>
<td></td>
</tr>
<tr>
<td>Maintenance of Right of Way</td>
<td>− Waste generation</td>
<td>− Segregate and dispose as necessary</td>
<td>− EDSA</td>
<td>− TBD</td>
<td>− Annual maintenance cost (2 staff policing area)</td>
</tr>
<tr>
<td></td>
<td>− Health and safety</td>
<td>− EDSA Safety rules and personnel protection</td>
<td>− EDSA</td>
<td>− TBD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>− Control encroachments</td>
<td></td>
<td>− EDSA</td>
<td>− TBD</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>− EDSA</td>
<td>− TBD</td>
<td></td>
</tr>
</tbody>
</table>

TBD: To Be Determined
<table>
<thead>
<tr>
<th>PROJECT ACTIVITY</th>
<th>POTENTIAL ENVIRONMENTAL IMPACTS</th>
<th>PROPOSED MITIGATION MEASURE(S) (including legislation &amp; regulations)</th>
<th>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</th>
<th>COST ESTIMATES</th>
<th>COMMENTS (eg. Secondary impacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower maintenance</td>
<td>- Waste generation - Health and safety - Erosion effects on tower pads</td>
<td>- As above</td>
<td>- EDSA</td>
<td></td>
<td>- TBD</td>
</tr>
<tr>
<td>Special issues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- EMF</td>
<td>- Unknown health hazards</td>
<td>- Protect public from equipment</td>
<td>- EDSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- PCB in insulating oils</td>
<td>- Health hazard</td>
<td>- Safe handling Procedures - Personnel Protection</td>
<td>- EDSA</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>for training and institutional strengthening in environmental management TBD</td>
</tr>
<tr>
<td>- Use of SF6 equipment</td>
<td>- Health hazards</td>
<td>- Safety Procedures - Training in environmental issues</td>
<td>- EDSA</td>
<td></td>
<td>- Tests to be carried out to determine if PCB exists in EDSA systems - Training in environmental issues</td>
</tr>
<tr>
<td>- Hazard management</td>
<td>- Health and safety Hazards</td>
<td>- Training in environmental issues</td>
<td>- EDSA</td>
<td></td>
<td>- Training in environmental issues</td>
</tr>
<tr>
<td>- Waste management</td>
<td>- Health, safety and pollution hazards</td>
<td>- Training in environmental issues</td>
<td>- EDSA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROJECT ACTIVITY</td>
<td>POTENTIAL ENVIRONMENTAL IMPACTS</td>
<td>PROPOSED MITIGATION MEASURE(S) (including legislation &amp; regulations)</td>
<td>INSTITUTIONAL RESPONSIBILITIES (incl. enforcement &amp; coordination)</td>
<td>COST ESTIMATES</td>
<td>COMMENTS (eg. Secondary impacts)</td>
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<td>---------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
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</tr>
</tbody>
</table>
| Transformer oil leaks | - Pollution hazards  
- Health and safety hazards | - Construct bunds around transformers | - EDSA | - TBD | |
| Construction and Operation of substation |  |  |  |  | |
| Ground clearing |  | - Waste generation | - Training in environmental issues | - EDSA |  |
| Setting up of bays, battery | - Pollution hazards  
- Health and safety hazards | - Training in environmental issues | - EDSA |  | |
| Use of transformers | - Pollution hazards  
- Health and safety hazards | - Construct bunds around transformers | - EDSA |  | |
| Drainage water supply and sanitation aspects including disposal of PPEs | - Pollution hazards  
- Health and safety hazards | - Training in environmental issues | - EDSA |  | |
A Results and Monitoring Framework to document and measure the Project’s development impact is already in place in the MoE. The Framework will identify result indicators for the Project as a whole as well as for each of its components. The project agencies will be requested to provide annual target values for the results indicators and baseline data against which results can be measured.

Depending on the indicators, current data will be either provided by EDSA from the utility database and accounts, or collected through direct observation, or from consultant’s technical reports. The PMU will be responsible for collecting, verifying and collating information and submit progress reports to the Bank, on an annual basis for PDO indicators and on a semi-annual basis for the intermediate indicators at component level.
7.0 ESMF IMPLEMENTATION

Environmental and social planning, implementation and management are undertaken by EDSA for its development projects to cover environmental and social assessment (ESA) and the pre-project/project planning processes. Key stages of the ESA include proposal screening, EIA and mitigation measures, while the pre-project/planning process involves project concept, identification, design and appraisal. The ESA process links up with the pre-project/planning process signifying the importance of the two processes (i.e. EA and feasibility) to influence one another in the development of the Sierra Leone Energy Sector Utility Reform Project. In the context of the ESMF, environmental and social planning identifies and assesses the potential concerns and implications that may arise with the implementation of the Sierra Leone Energy Sector Utility Reform Project, in order to influence the design and other engineering feasibility options and decisions, for informed and sustainable project development. The successful implementation of the ESMF depends on the commitment of EDSA and related institutions, the capacity within the institutions and the appropriate and functional institutional arrangements among others.

The EDSA, EPA and MoE were identified as directly associated with the preparation, review and the implementation of the ESMF. The Ministry of Health (MoH), Ministry of land and Country Planning and the project communities were involved for their inputs regarding the appropriate environmental, social and health (including COVID 19) safeguards to be observed when the sub-projects are being implemented. The contractor(s) to be employed to undertake construction works will also have a role to play in the implementation of the sub-projects. This section addresses the following key areas of the ESMF implementation:

- Roles of Key Stakeholders in the ESMF implementation;
- Capacity building;
- Environmental and social monitoring and reporting; and
- ESMF implementation budget.

7.1 Roles of Key Stakeholders in the ESMF Implementation

The ESMF provides the environmental and social safeguards for the Sierra Leone Energy Sector Utility Reform Project and its successful implementation will depend largely on the key stakeholder institutions. This will ensure that the sub-projects are undertaken with due regard for the integrity of the resources to be affected by the project development activities. The roles of the major stakeholders are identified in an institutional role in which the various components of the Sierra Leone Energy Sector Utility Reform Project were matched with the institutions
which have jurisdiction in the areas of licensing, permitting, assessment, monitoring, etc. are stated below. These institutions and stakeholders were identified as having roles to play in the Sierra Leone Energy Sector Utility Reform Project ESMF preparation as well as implementation of the sub-projects:

- Sierra Leone Electricity Distribution and Supply Authority (EDSA);
- Ministry of Energy
- Ministry of Health and Sanitation
- Environmental Protection Agency (EPA);
- Ministry of Lands Country Planning and Environment;
- Local Government; and
- Non-governmental Organizations (NGOs).
- Ministry of Health for the COVID-19 response

### 7.1.1 Roles of EDSA

The EDSA is in-charge of the successful implementation of the Sierra Leone Energy Sector Utility Reform Project and all sub-projects with respect to the technical and environmental and social components. EDSA will therefore play the following roles:

**ESMF Phase**
- Preparation of the ESMF;
- Registration of ESMF with EPA;
- Main implementer of the ESMF;
- Submits ESMF to the WB and EPA for review and approval;
- Implementation of the ESMF for the sub-projects; and

**Sub-Projects Phase**
- Registers sub-projects with EPA;
- Prepares and submits scoping/TOR to EPA;
- Prepares and submits EIS to EPA/WB;
- Reviewing bidding documents and Award contact;
- Notifies EPA of project commencement;
- Conducts monitoring of cable laying;
- Submits monitoring report to EPA;
- Submits annual environmental report and ESMP to EPA;
- Prepares a decommissioning plan and submits to EPA; and
- Oversees decommissioning.
7.1.2 Role of Ministry of Energy,

The Ministry has the responsibility, among others, to promote and ensure uniform rules of practice for the generation, transmission and distribution and sale of electricity. The Sierra Leone Energy Sector Utility Reform Project is in line with this mandate and therefore the MoE will be involved in the implementation of the ESMF with regards to the following:

ESMF Phase
- Receives and reviews applications from EDSA and grants license for the project.
- Conducts monitoring of cable laying

7.1.3 Roles of EPA

The EPA is the lead environmental regulator, which oversees compliance with ESA requirements in Sierra Leone, facilitates public participation and disclosure. The roles in the implementation of this ESMF will involve:

ESMF Phase
- Determines the form of the ESMF (ToR);
- Reviews and approves the ESMF;
- Organises public hearing on the ESMF; and
- Addresses any grievance where necessary.

Sub-Projects Phase
- Registers sub-projects;
- Reviews/approves scoping/TOR;
- Reviews and approves EIS and issues permits;
- Receives and reviews monitoring report from EDSA;
- Undertakes compliance monitoring for the sub-projects;
- Reviews/approves AER and ESMPs and grants environmental certificates; and
- Monitoring of decommissioning of project.

7.1.4 Roles of Freetown City Council, District and Local Councils

Project implementation will involve aspects such as land acquisition, employment and issues to do with the livelihood of the people in the communities which will accommodate the sub-projects. Land demarcation and general development plans of communities lie with the local councils as well as the communities. The Local Council’s roles are:

- verify asset valuations;
- support in providing alternative land for affected businesses that will be demolished;
• support the demolition of affected structures;
• provide guidance on livelihood restoration for urban enterprises;
• public relations support;
• manages the Councilors.

ESMF Phase
• Zoning of land within communities which lies within the council’s jurisdiction;
• Land allocation/ acquisition;
• Provides the communication channel between the communities and the EDSA during consultations; and
• Monitoring of land use to ensure adherence to designated use schemes.

Sub-Projects Phase
• Facilitates public consultations

7.1.5 Roles of NGOs
NGOs which are the environmental and social advocacy groups have become key players in the assessment process. Due to their grass root level dealing with the communities, they are privy to the main concerns of the people with respect to their socio-economic well being and how they are affected by the operations of companies which setup within their locality. Organisations such as Green Scenery, Center for Accountability and Rule of Law (CARL) and Friends of the Earth are active in advocating the interests of communities likely to be affected by the land related issues.

Consultations held with these groups, as part of the ESMF preparation revealed that they are a worthy source of information with regards to the existing land use and problems, economic status, ecological resources and their vulnerability and how the people will be affected by The Sierra Leone Energy Sector Utility Reform Project development. Their role in this ESMF will include the following:

ESMF Phase
• Create awareness of the project in the community;
• Act as a mouth piece for the communities with regards to the Sierra Leone Energy Sector Utility Reform Project; and
• Participate in public consultation/ public hearing.

Sub-Projects Phase
• Make inputs at the Scoping and EIS stages when the sub-projects are due; and
• Monitor the implementation of EDSA’s corporate responsibilities to the communities.

7.1.6 Roles of MoE
The MoE is one of the bodies responsible for formulating the policies that guide the operations of EPA and EDSA respectively. With respect to the implementation of this ESMF, EDSA would deal with appeals that may arise as a result of EPA’s actions /in actions on any aspect of The Sierra Leone Energy Sector Utility Reform Project and sub-projects.

The Ministry of Energy would conduct compliance monitoring of during implementation of the Sierra Leone Energy Sector Utility Reform Project sub-projects. The Ministry would also monitor decommissioning of the Sierra Leone Energy Sector Utility Reform Project when it is due.

7.1.7 Roles of the Contractor
The contractor’s roles will include the following:
• Develops a work plan based on the E&S safeguards;
• Submits the plan of work and schedule to the Environmental department of EDSA;
• Train/create awareness for all personnel and community on relevant E&S safeguards measures; and
• Submits implementation report on E&S safeguards to the Environmental department of EDSA.

7.2 Sub-Project Screening and Approval
This section outlines the screening, review and approval process for sub-projects that will be financed under the Sierra Leone Energy Sector Utility Reform Project. This is to help the EPA screen the sub-projects for potential impacts and provide guidelines for implementing measures to address them while adhering to legislative requirements for screening and EAs.

7.2.1 Screening of sub-projects
Once a sub-project activity has been defined, the screening form (provided in Appendix 2) would be completed by the Proponent (EDSA). The form will allow for identification of potential environmental and social impacts associated with the proposed activity. Since the ESMF and the RPF will be utilized together, the screening form also allows for the identification and appraisal of impacts related to potential land acquisition and involuntary resettlement.

7.2.2 Assessment and classification of impacts
Based on the information provided on the screening form, the EPA will determine whether the sub-project will require a more detailed investigation of the impacts through field appraisal
resulting in a particular EA study level or otherwise. Also, the level of assessment required will be determined based on the level of expected impact i.e. whether high, medium or low level. Figure 8.1 gives a chart of how the screening of sub-projects would be expected to flow. Based on the level of impacts, a decision is made as to whether the sub-project will:

i. Require an EIA study and/or RAP for highly significant impacts which may result in land acquisition and/or involuntary resettlement;

ii. Require a PEA, since the impacts are not significant and can be dealt with without going through a full-scale EIA study; or

iii. Require no safeguard measures, as the impacts are considered minimal.
Figure 8.1  Sub-projects Implementation Chart
7.3 Institutional Arrangement and Inter-agency Coordination

Inter-agency coordination is key to the successful implementation of the Sierra Leone Energy Sector Utility Reform Project ESMF and sub-projects. This section describes the inter-relationship between stakeholders in their roles for the implementation process.

The MoE is the policy formulating and oversight body for all energy-related developments. EDSA which is under Ministry of Energy and is in charge of the successful implementation of the Sierra Leone Energy Sector Utility Reform Project and all sub-projects with respect to the technical, environmental and social components.

The MoE would regulate the generation, transmission, distribution and sale of the electricity and issue permit for operation of the EDSA. The EDSA would require permits from the EPA to be able to start operations.

The EPA is the lead environmental regulator, and will oversee compliance of the Sierra Leone Energy Sector Utility Reform Project with Sierra Leone’s ESA requirements, facilitate public participation and disclosure of EIS during implementation of the sub-projects and issue environmental permits for the Sierra Leone Energy Sector Utility Reform Project. The EPA functions under the MLCPE, which is the policy formulating body that would, in concert with EDSA and EPA, deal with any grievance redress issues that may arise between EPA and any aggrieved party as a result of the Sierra Leone Energy Sector Utility Reform Project.

The District and Local Council has a major role to play when it comes to project implementation, which will involve land acquisition, employment and issues to do with the livelihood of the people in the project catchment communities. The Council would work with EDSA, EPA etc. on issues such as land demarcation and general development plans of communities.

Environmental and social advocacy groups are already active in advocating the interests of communities in the area likely to be affected in future by land related issues. These would be involved in consultations and monitoring of the EDSA’s corporate responsibilities as well as making inputs to the EIS and other reports emanating from the Sierra Leone Energy Sector Utility Reform Project.

Figure 8.2 is a flow diagram of the roles and inter-relationship between stakeholders for the ESMF whereas Figure 8.3 presents their roles in the implementation of the sub-projects.
Sierra Leone Energy Sector Utility Reform Project
Draft ESMF

EDSA prepares and submits ESMF

EPA/ WB determines TOR for the ESMF

EPA / WB reviews, hold public hearing and approves ESMF

If necessary, EDSA appeals to Mo Energy if aggrieved by EPA’s decision

EDSA registers with EC for licenses

EDSA holds Consultations with Communities

Private sector (NGO’s) mediates between Communities and EDSA

Implementation of ESMF by EDSA

EC reviews and grants license

Monitoring of the ESMF by the EDSA

Monitoring reports from EDSA submitted to EPA and MoE

Monitoring of the implementation of the ESMF by MoE and EPA
Figure 8.2 Institutional Roles and Arrangement for Implementing the ESMF

1. Sub-project screening by EDSA and EPA
2. ToR preparation by EDSA
   - EPA reviews and accepts ToR
3. EA preparation and public consultation
   - EPA reviews, approves and grants permits
4. Contract Awarded
   - EPA notified of sub project commencement
5. E&S safeguards / mitigation implementation by contractors
6. Monitoring by EDSA (Quarterly Reports & AERs)
   - Report review, compliance monitoring by EPA
   - EC reviews report and does monitoring
   - MoE reviews report and does monitoring
7. EDSA receives and inputs comments from EPA, EC and MoE
8. EDSA prepares ESMP
   - EPA reviews and approve
9. EPA grants Environmental Certificate to EDSA
Fig. 8.3 Institutional Roles in the Implementation of the Sierra Leone Energy Sector Utility Reform Project Sub-Projects

7.4 EDSA Capacity Building Needs

The EDSA has no sole regulator that oversees its operations. The responsibility of licensing, management and monitoring of the sector is shared among a number of institutions including EDSA, EPA, and MoE.

Approval of sub-projects of the Sierra Leone Energy Sector Utility Reform Project will be done under the expanded mandate of EDSA and MoE. The EPA under MLCPE is the responsible body for issuing the Environmental Permits for the operation of the Sierra Leone Energy Sector Utility Reform Project. The responsibility for ensuring environmental and social integrity of development projects such as the Sierra Leone Energy Sector Utility Reform Project lies with the Environmental and Social Management Unit (ESMU) of the organization involved. The EDSA has no formal ESMU within its organizational structure; the environmental and social responsibilities of its projects are currently borne by the Operations Department as added responsibilities. The absence of a well-structured ESMU within the organization may hinder effective implementation of the ESMF.

As is stipulated in section 2 (e) of the Sierra Leone Electricity Distribution and Supply Authority is to “ensure that operations are conducted in a manner as to prevent adverse effects on the environment, resources and people of Sierra Leone”. In view of this, it is necessary to establish an Environmental and Social Department to oversee environmental, health and social integrity of EDSA’s projects. The department should comprise of 3 units i.e. environmental, social and health and safety. Figure 8.4 shows the original organizational structure of EDSA with the proposed new department shaded. The department is to be headed by a director with a minimum of 2 officers for each unit with specialization in the respective fields.

7.5 EPA’s Capacity-Building Needs

The EPA is mandated to undertake monitoring of development projects to which an environmental permit has been issued. The Sierra Leone Energy Sector Utility Reform Project components require the need to travel to locations for monitoring. The EPA presently has limited
personnel and means of travel. Compliance monitoring will have to cover transportation means to facilitate their work. Also, further training may be needed for the personnel who will be responsible for the monitoring especially at the regional office in Freetown.

7.6 Capacity Building Needs of the Freetown City and District Council

Consultation with the district Councils revealed that there has not been an official land demarcation in the district for developments such as industry, farms and settlements. This implies that should a project be designated for the district, situating it at an appropriate/agreed location could pose a problem. Siting the project at an inappropriate location may also have dire consequences on the surrounding environment as well as potential social conflicts.

The planning unit of the councils will have to be given additional training and capacity building to undertake proper planning and demarcation of the district into various development zones. With properly marked out zones in place, delays in project implementation and issues of environmental and social disruption could be minimised. A proposed budget for the ESMF implementation is given in Table 8.2.
Figure 7.4 Organizational Structure of EDSA (Proposed Department Shaded)
7.7 Environmental and Social Monitoring and Reporting

Monitoring is a key component of the ESMF during project implementation. Monitoring should be undertaken at the Sierra Leone Energy Sector Utility Reform Project sub-projects implementation phase to verify the effectiveness of impact management, including the extent to which mitigation measures are successfully implemented. Monitoring should involve three areas namely:

- Compliance monitoring;
- Impact monitoring; and
- Cumulative impact monitoring.

The aim of monitoring would be to:

- Improve environmental and social management practices;
- Check the efficiency and quality of the EA processes;
- Establish the scientific reliability and credibility of the EA for the project; and
- Provide the opportunity to report the results on safeguards and impacts and proposed mitigation measures implementation.

7.8 Compliance Monitoring

This is to verify that the required mitigation measures, which are the environmental and social commitments agreed on by the EDSA (Proponent) and EPA (main environmental regulator) are implemented. Compliance monitoring would include inspections during construction of the project’s components such as the substations as well as the right of way to verify the extent to which conditions based on which licenses are issued are adhered to. The operational/decommissioning phase of the sub-projects of the Sierra Leone Energy Sector Utility Reform Project will also be monitored. Compliance monitoring will be done by the EPA.

7.9 Impacts Monitoring

Monitoring of sub-projects impacts mitigation measures should be the duty of the Environment Department (which is yet to be created) of the EDSA. The Environmental and Social (E&S) safeguards given to the contractor in the contract specifications should be monitored to ensure that works are proceeding in accordance with the laid down mitigation measures. The EDSA should ensure that the contractor submits report on work progress and any challenges in observing the E&S safeguards. The monitoring results should form a major part of the reports to be submitted to the EPA, MoE and EC.
7.10 Cumulative Impact Monitoring

The impacts of the Sierra Leone Energy Sector Utility Reform Project on the environmental and social resources within the Project’s area of influence should be monitored with consideration to other developments, which might be established near the Sierra Leone Energy Sector Utility Reform Project enclave. There should be collaboration between EDSA and other proponents to compare E&S safeguards guiding the individual projects implementation to ensure comprehensive management of cumulative impacts.

Table 8.1 ESMF Implementation Budget

<table>
<thead>
<tr>
<th>No.</th>
<th>Institution</th>
<th>Capacity Gaps Identified</th>
<th>Capacity Building Measure</th>
<th>Rate/UD$</th>
<th>Estimated Cost (UD$)</th>
</tr>
</thead>
</table>
| 1. | Energy Distribution and Supply Authority (EDSA) | • Two environmental staff but absence of Social focal person.  
• Absence of functional Environment and Social Unit within EDSA | • Two weeks capacity building for about 10 staffs at various sites and within EDSA and MoHS Senior Environmental Specialist and EDSA Specialist to carry out E&S responsibilities  
• Absence of trained personnel for EHS issues | • 8,000/specialist/2 wks | 16,000.00 |
|    |            | • 30 day course for 6 staff |                           | • 9685/Tuition cost  
• 6456/accommodation  
• 6000/allowance  
• 2000/transportation  
• total cost per head = 24,141.00 | 144,846.00 |
<p>|    |            |                          |                           | Sub-Total | 160,846.00 |
| 2. | Environmental Protection Agency (EPA) | • Capacity building for the staff to carry out compliance monitoring | • One week capacity building for two (4) staffs to carry out compliance monitoring | • 5,000/Officer/wk | 20,000.00 |</p>
<table>
<thead>
<tr>
<th>Sub-Total</th>
<th>70,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. District and Local Councils</td>
<td>8,000.00</td>
</tr>
<tr>
<td>• Inadequate capacity to undertake proper planning and zoning of lands</td>
<td>10,000.00</td>
</tr>
<tr>
<td>• Inadequate survey equipment</td>
<td>20,000.00</td>
</tr>
<tr>
<td>• Inadequate Personal Protective Equipment (PPE)</td>
<td>10,000.00</td>
</tr>
<tr>
<td>• One week capacity building for four (4) Planners of the District and Local Councils</td>
<td>10,000.00</td>
</tr>
<tr>
<td>• Procurement of addition survey equipment to include Total Stations, etc.</td>
<td>10,000.00</td>
</tr>
<tr>
<td>• Procurement of PPE</td>
<td>10,000.00</td>
</tr>
<tr>
<td>GRM and SEP</td>
<td>10,000.00</td>
</tr>
<tr>
<td>• Lack of adequate implementation of GRM and the Stakeholder implementation throughout</td>
<td>10,000.00</td>
</tr>
<tr>
<td>Implementation of GRM and stakeholder consultations</td>
<td>10,000.00</td>
</tr>
<tr>
<td>ESIA/ ESMP preparation</td>
<td>70,000.00</td>
</tr>
<tr>
<td>• Absence of ESIA/ESMP plan to be prepared</td>
<td>70,000.00</td>
</tr>
<tr>
<td>ESIA and ESMP developed that include Waste Management Plan</td>
<td>70,000.00</td>
</tr>
<tr>
<td>Hiring specialists (environment, social and OHS)</td>
<td>108,000.00</td>
</tr>
<tr>
<td>• Facilitating transportation by EPA</td>
<td>50,000.00</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>226,000.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>456,846.00</td>
</tr>
</tbody>
</table>
9.0 CONSULTATIONS

9.1 Introduction
Consultations play a major role in identifying the potential impacts of any proposed transmission system project. Community consultations assist in the identification of socio-economic, religious and cultural impacts. Stakeholder consultation to support the ESMF and the resettlement process, if any, specifically aims to achieve the following objectives:

- To provide information about the project and its potential impacts to those interested in or affected by the project, and solicit their opinion in that regard
- To manage expectations and streamline misconceptions regarding the project
- To agree on resettlement preferences, if any, and discuss concerns
- To ensure participation and acceptance of the project by the communities

Information obtained during consultations can be used to make an inventory of existing infrastructures and to collect information on land management, socio-economic activities, infrastructure, and expectations of the local residents.

9.2 Methodology
A team consisting of the staffs of EDSA, and representatives of the Environmental Consulting Firm collected data for the consultations. Community opinion leaders such as council men/women, faith based organization leaders, youth leaders, chiefs, or headmen served as key contacts to encourage meeting attendance. In addition, some Bumbuna project staff were interviewed.

A number of stakeholders were engaged during this restructuring and during visit to many of the potential sites including the four POEs following the revised guidelines for consultations under Covid-19.

The meetings that were held either at the community center were interactive, with questions from the communities and answers and explanations from the consultant and EDSA’s Staff. The main issues discussed were regarding compensations, jobs creation, and provision of amenities.
Presented below are the list of communities consulted, attendees, contact details of the opinion leaders and the socioeconomic and cultural issues forming the bases of the discussions.

9.3 CONGO TOWN COMMUNITY

i. Community Profile

<table>
<thead>
<tr>
<th>District</th>
<th>Congo Town District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>500,000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Mixed but mostly Creole</td>
</tr>
<tr>
<td>Main occupation</td>
<td>Trading, artisans</td>
</tr>
<tr>
<td>Land tenure system</td>
<td>Government land</td>
</tr>
<tr>
<td>Dominant Religion</td>
<td>Christianity and Muslim</td>
</tr>
<tr>
<td>Source of Water</td>
<td>Boreholes</td>
</tr>
<tr>
<td>Educational facilities</td>
<td>Kindergarten (1no.), Primary school (1no.)</td>
</tr>
<tr>
<td>Health facilities</td>
<td>No health post, however, the community accesses health care at Freetown</td>
</tr>
<tr>
<td>Cultural heritage</td>
<td>There is a no cultural heritage sites close by.</td>
</tr>
<tr>
<td>Venue</td>
<td>community center</td>
</tr>
<tr>
<td>Date</td>
<td>19/03/2013</td>
</tr>
<tr>
<td>Time</td>
<td>8:34am to 9:41am</td>
</tr>
</tbody>
</table>

ii. Attendees

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rowland Stevens</td>
<td>Council man</td>
<td>078617</td>
</tr>
<tr>
<td>Augusta Berewa</td>
<td>Resettlement Specialist</td>
<td>0709154883</td>
</tr>
<tr>
<td>Kadija Sessay</td>
<td>Unit Committee</td>
<td></td>
</tr>
<tr>
<td>Kamara Sulley</td>
<td>Elder of the community</td>
<td></td>
</tr>
<tr>
<td>Dr Kamara Sulley</td>
<td>Consultant, BEST Consultancy</td>
<td></td>
</tr>
<tr>
<td>Barrie Abdul</td>
<td>Community member</td>
<td></td>
</tr>
<tr>
<td>Cecilia Abdul</td>
<td>Community member</td>
<td></td>
</tr>
<tr>
<td>Grace Abdul</td>
<td>Community member</td>
<td></td>
</tr>
</tbody>
</table>

i. WELLINGTON COMMUNITY

ii. Community Profile
<table>
<thead>
<tr>
<th></th>
<th>Wellington District</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District</strong></td>
<td>Wellington District</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>400,000</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td>Mixed but mostly Creole</td>
</tr>
<tr>
<td><strong>Main occupation</strong></td>
<td>Trading, artisans</td>
</tr>
<tr>
<td><strong>Land tenure system</strong></td>
<td>Government l land</td>
</tr>
<tr>
<td><strong>Dominant Religion</strong></td>
<td>Christianity and Muslim</td>
</tr>
<tr>
<td><strong>Source of Water</strong></td>
<td>Boreholes</td>
</tr>
<tr>
<td><strong>Educational facilities</strong></td>
<td>Kindergarten (1no.), Primary school (1no.)</td>
</tr>
<tr>
<td><strong>Health facilities</strong></td>
<td>One health post, however, the community accesses health care at Ola During and the main Hospital in the center of Freetown</td>
</tr>
<tr>
<td><strong>Cultural heritage</strong></td>
<td>There is no cultural heritage sites close by.</td>
</tr>
<tr>
<td><strong>Venue</strong></td>
<td>Community center</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>19/03/2013</td>
</tr>
<tr>
<td><strong>Time</strong></td>
<td>8:34am to 9:41am</td>
</tr>
</tbody>
</table>

### Attendees

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rowland Simons</td>
<td>Council man</td>
<td>078617</td>
</tr>
<tr>
<td>Rahida Michael</td>
<td>Biologist</td>
<td>033309154883</td>
</tr>
<tr>
<td>Sydney Kakam</td>
<td>Unit Committee</td>
<td></td>
</tr>
<tr>
<td>Kamara Sulkley</td>
<td>Elder of the community</td>
<td></td>
</tr>
<tr>
<td>Dr Kamara Sulley</td>
<td>Consultant, BEST Consult</td>
<td></td>
</tr>
<tr>
<td>Richard Kamara</td>
<td>Elder of the community</td>
<td></td>
</tr>
<tr>
<td>Mohamed Koroma</td>
<td>Community member</td>
<td></td>
</tr>
<tr>
<td>Ibrahim Kargbo</td>
<td>Community member</td>
<td></td>
</tr>
<tr>
<td>Mohamed kamara</td>
<td>Community member</td>
<td></td>
</tr>
<tr>
<td>Patrick Saffa</td>
<td>Community member</td>
<td></td>
</tr>
</tbody>
</table>

### WESTERN AREA

#### i. Community Profile

<table>
<thead>
<tr>
<th>District</th>
<th>Western Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Value</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>Population</td>
<td>500,000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Creole</td>
</tr>
<tr>
<td>Main occupation</td>
<td>Trading and artisan</td>
</tr>
<tr>
<td>Land tenure system</td>
<td>Government land</td>
</tr>
<tr>
<td>Dominant Religion</td>
<td>Muslims and Christianity</td>
</tr>
<tr>
<td>Source of Water</td>
<td>Boreholes</td>
</tr>
<tr>
<td>Educational facilities</td>
<td>Junior High School</td>
</tr>
<tr>
<td>Health facilities</td>
<td>No health post.</td>
</tr>
<tr>
<td>Cultural heritage</td>
<td>There is a cemetery close.</td>
</tr>
<tr>
<td>Venue</td>
<td>School compound</td>
</tr>
<tr>
<td>Date</td>
<td>20/3/2013</td>
</tr>
<tr>
<td>Time</td>
<td>10:05am - 11:28am</td>
</tr>
</tbody>
</table>

**ii. Attendees**

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahmoud Idris</td>
<td>The Chief</td>
<td></td>
</tr>
<tr>
<td>Mayeli Kargbo</td>
<td>The Queen mother</td>
<td>033698602</td>
</tr>
<tr>
<td>Alie Koroma</td>
<td>Youth Chairman</td>
<td>076165135</td>
</tr>
<tr>
<td>Osman Bull</td>
<td>Elder of the community</td>
<td>076532954</td>
</tr>
<tr>
<td></td>
<td>Elder of the community</td>
<td>033822413</td>
</tr>
<tr>
<td></td>
<td>Elder of the community</td>
<td>033172172</td>
</tr>
<tr>
<td></td>
<td>Elder of the community</td>
<td>033894716</td>
</tr>
<tr>
<td></td>
<td>Member of the community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Member of the community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Member of the community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Member of the community</td>
<td></td>
</tr>
</tbody>
</table>

**3. Central Freetown Community Profile**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>District</td>
<td>Freetown Central</td>
</tr>
<tr>
<td>Population</td>
<td>200,000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Mixed/Creole</td>
</tr>
<tr>
<td>Main occupation</td>
<td>Mixed</td>
</tr>
<tr>
<td>Land tenure system</td>
<td>Government lands</td>
</tr>
<tr>
<td>Dominant Religion</td>
<td>Muslims, Christianity</td>
</tr>
<tr>
<td>Source of Water</td>
<td>Borehole (1no)</td>
</tr>
</tbody>
</table>
Educational facilities | Kindergarten (1no.), Primary school (1no.)
Health facilities | Health post.
Cultural heritage | There was no shrine or sacred property of cultural significance in the proposed project’s vicinity.
Venue | Durbar grounds
Date | 19/03/2013
Time | 12:16pm - 1:06pm

### i. Attendees

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alhaji K Koroma</td>
<td>Chief</td>
<td>076819347</td>
</tr>
<tr>
<td>Hon Sirajin Rolling</td>
<td>MP</td>
<td>0761111181</td>
</tr>
<tr>
<td>Haja Mansaray</td>
<td>Vice Chairlady</td>
<td>088028184</td>
</tr>
<tr>
<td>Fatmata Conteh</td>
<td>Auditor</td>
<td>099072001</td>
</tr>
<tr>
<td>Samuel Sefoi</td>
<td>Youth</td>
<td>088115874</td>
</tr>
</tbody>
</table>

### 4. Eastern Freetown,

#### i. Community Profile

<table>
<thead>
<tr>
<th>District</th>
<th>Eastern District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>500,000</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Mixed</td>
</tr>
<tr>
<td>Main occupation</td>
<td>Trading, artisans</td>
</tr>
<tr>
<td>Land tenure system</td>
<td>Government land</td>
</tr>
<tr>
<td>Dominant Religion</td>
<td>Christianity and Muslim</td>
</tr>
<tr>
<td>Source of Water</td>
<td>Boreholes</td>
</tr>
<tr>
<td>Educational facilities</td>
<td>Kindergarten (1no.), Primary school (1no.)</td>
</tr>
<tr>
<td>Health facilities</td>
<td>Several No health post and community also attend referral health care at Freetown</td>
</tr>
<tr>
<td>Cultural heritage</td>
<td>There is a no cultural heritage sites close by.</td>
</tr>
<tr>
<td>Venue</td>
<td>community center</td>
</tr>
<tr>
<td>Date</td>
<td>19/03/2013</td>
</tr>
<tr>
<td>Time</td>
<td>8:34am to 9:41am</td>
</tr>
</tbody>
</table>
ii. Attendees

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibrahim K Turay</td>
<td>Council man</td>
<td>078076069</td>
</tr>
<tr>
<td>Foday Kargbo</td>
<td>Youth</td>
<td>0301668442</td>
</tr>
<tr>
<td>Massah Ngardii</td>
<td>Teacher</td>
<td>076652682</td>
</tr>
<tr>
<td>Wilfred Kanu</td>
<td>Ward Chairman</td>
<td>078448748</td>
</tr>
<tr>
<td>Ibrahim S Koroma</td>
<td>Youth</td>
<td>030239535</td>
</tr>
<tr>
<td>Mohamed Conteh</td>
<td>FCC</td>
<td>075475941</td>
</tr>
</tbody>
</table>

5. Kroobay

i. Community Profile

<table>
<thead>
<tr>
<th>District</th>
<th>Population</th>
<th>Ethnicity</th>
<th>Main occupation</th>
<th>Land tenure system</th>
<th>Dominant Religion</th>
<th>Source of Water</th>
<th>Educational facilities</th>
<th>Health facilities</th>
<th>Cultural heritage</th>
<th>Venue</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>400,000</td>
<td>Mixed</td>
<td>Trading, artisans</td>
<td>Government land</td>
<td>Christianity and Muslim</td>
<td>Boreholes/pipe born</td>
<td>Kindergarten (1no.), Primary school (1no.)</td>
<td>2 community health centers and the community accesses health care at Central Freetown or Ola During Children’s hospital in the east of Freetown</td>
<td>There is a no cultural heritage sites close by.</td>
<td>community center</td>
<td>19/03/2013</td>
<td>8:34am to 9:41am</td>
</tr>
</tbody>
</table>

ii. Attendees

<table>
<thead>
<tr>
<th>Attendees at the meeting</th>
<th>Designation</th>
<th>Contact numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aminata G sesay</td>
<td>Councilor</td>
<td>076768248</td>
</tr>
<tr>
<td>Alhassan Bangura</td>
<td>Chief</td>
<td>0784233739</td>
</tr>
<tr>
<td>Alusine Bangura</td>
<td>Elder of the community</td>
<td>988721127</td>
</tr>
<tr>
<td>Ronald Morovia</td>
<td>Reporter</td>
<td></td>
</tr>
<tr>
<td>Isha Bangura</td>
<td>Councilor</td>
<td>088191661</td>
</tr>
<tr>
<td>Bumbuna staff</td>
<td>Designation</td>
<td>Contact numbers</td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Hawa Kandeh</td>
<td>Team Leader BWMA</td>
<td>078366620</td>
</tr>
<tr>
<td>Mohamed Bobordeen</td>
<td>Agricultural Development Office, BWMA</td>
<td>076691491</td>
</tr>
<tr>
<td>Khadijah Moses</td>
<td>Field Biologist</td>
<td>078218043</td>
</tr>
<tr>
<td>Musa Kabbah</td>
<td>Water Quality Monitoring Officer</td>
<td>076997401</td>
</tr>
<tr>
<td>Saio Turay</td>
<td>Elder of the community</td>
<td></td>
</tr>
<tr>
<td>Momoh Kamara</td>
<td>Member of the community</td>
<td></td>
</tr>
<tr>
<td>David Koroma</td>
<td>BWMA Emergency Unit</td>
<td>076575058</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>World Bank</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td><strong>Designation</strong></td>
<td><strong>Contact numbers</strong></td>
</tr>
<tr>
<td>Ministry of Energy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. Edmund D. Wuseni</td>
<td>General Project Coordinator/ Head of Planning Unit</td>
<td>+23277542564</td>
</tr>
<tr>
<td>Electricity Distribution and Supply Authority (EDSA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ing. Francis Nyama</td>
<td>Deputy Director General</td>
<td>+2327601958</td>
</tr>
<tr>
<td>Aleksandar Nikolic</td>
<td>Adviser to Distribution Technical Services Director</td>
<td>+23288710904</td>
</tr>
<tr>
<td>Edward Parkinson</td>
<td>Planning Manager</td>
<td>+23276601472</td>
</tr>
<tr>
<td>Mallay Bangura</td>
<td>Project Manager</td>
<td></td>
</tr>
<tr>
<td>Project Implementation Team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peter Chamfya</td>
<td>Project Coordinator</td>
<td>+23279637364</td>
</tr>
<tr>
<td>Kombo Koroma</td>
<td>Financial Management Specialist</td>
<td>+23279398451</td>
</tr>
<tr>
<td>Name</td>
<td>Position</td>
<td>Contact Tel</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Richard A.S.L. Goba</td>
<td>Procurement Officer</td>
<td>+23276247799</td>
</tr>
<tr>
<td>Babajide Taylor</td>
<td>Project Engineer</td>
<td>+23276519988</td>
</tr>
<tr>
<td><strong>World Bank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mr. Alassane Agalassou</td>
<td>Task Team Leader /Senior Energy Specialist</td>
<td>+23279171110</td>
</tr>
<tr>
<td>Dr. Abdul Rahim Jalloh</td>
<td>Senior Technical Advisor/Consultant</td>
<td>+23275890000</td>
</tr>
<tr>
<td><strong>Ministry of Energy</strong></td>
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<td>+23276519988</td>
</tr>
<tr>
<td>Senesie Fullah</td>
<td>Environmentalist</td>
<td>+23275757034</td>
</tr>
</tbody>
</table>
9.3 The General Concerns of the communities

The concerns raised were unanimous across all the districts and communities:

- Prompt, fair and adequate compensation payment for affected properties
- Job creation for the youth. There was a cyclical request for employment particularly unskilled labour to be sourced from the various affected communities.
- Permissible activities within the corridor. Communities inquired whether particularly backyard gardening is allowed in the 40m right of way.
• Compensation for affected lands within the proposed corridor. An appeal was made across all the communities visited for the lands within the proposed corridor to be compensated instead of only the structural properties.

• Extension of electric power to the communities who are not yet connected to the National grid.

• Upholding and respect of community values (reverence towards the communities’ cultural heritage-shrines, sacred groves, etc.).

• The health implication of the proposed high voltage line to the close-by communities regarding emission of EMF

• Request for the provision of basic social amenities, not necessarily in the context of the proposed project.

• Communities inquired about risk of contracting Covid-19

• The health implication of health care waste management

• The potential community benefits of the project

No matter how well the risks and impacts are managed, there are always likely to be some complaints but it is important to have a mechanism to address grievances. The general concerns will focus mainly on eligibility criteria, compensation entitlements for loss of livelihoods, contractual provisions in civil works to ensure employment from the surrounding communities, a GRM in place to allow PAPs to lodge a complaint or a claim without cost and with the assurance of a timely and satisfactory resolution of their complaint or claim. These will improve community support for the project. Other concerns that are not within the scope of this project will be directed to the appropriate authorities.
10.0 DECOMMISSIONING

In accordance with the Environmental Assessment Energy Guidelines, a detailed Decommissioning Plan will be prepared and submitted to EPA at least two years before the planned abandonment of the project infrastructure and its components and its operations. The plan will cover other sub-projects.

The Decommissioning Plan shall:
Describe the fate of all fixed equipment;
Indicate the end use(s) of all buildings, all processing plant components and any other infrastructure components;
Describe the mode of disposal of all types of wastes;
Indicate the end use(s) of all belongings to the project and its operations;
Describe the steps required to make the operational areas safe for each identified end use;
Describe how public access will be managed after closure of operations;
Describe the type and duration of post decommissioning monitoring; and
Describe how the decommissioning obligations will be financed.

EDSA shall honour all commitments made in the detailed Decommissioning Plan upon receipt
REFERENCES

2. Environmental Protection Agency (2004): Environmental Sensitivity Map for Coastal Areas of Sierra Leone, Volume I – Atlas


4. Environmental Protection Agency (2004): Environmental Sensitivity Map for Coastal Areas of Sierra Leone, Volume III – Oil Spill Sensitivity Ranking


Appendix 1 Contract Specifications for Contractor

8.0 General

a. Environmental and Social safeguards for the sub-projects shall be adhered to by the contractor handling the project. Contractor shall prepare the work strategy and plan for the sub-project taking into account all the E&S issues within the project and shall fully update him/herself about any E&S safeguards.

b. The contractor shall build up a plan of work indicating all Environmental and Social safeguards at various stages of a sub-project, indicating the period within which sites shall be maintained back to its original state after completion of works, while ensuring that all significant adverse impacts arising are addressed properly.

c. E&S measures shall be implemented by the Contractor to avoid all undesirable adverse environmental and social impacts within sub-projects wherever possible, restoring work sites to acceptable standard and abide by mitigation measures within the Impact Assessment for the Sub-projects.

d. EDSA shall appoint an Officer from the Environmental and Social Department to oversee the compliance with these environmental and social conditions and any proposed mitigation measures. The EPA would carry out similar inspection duties. In all cases the Contractor shall comply with directives from such officers to implement measures required to ensure the adequacy of mitigation measures carried out on the bio-physical environment and compensation for socio-economic disruption resulting from implementation of all works.

e. The Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements specified in the EPA permit conditions and the sub-project ESMP.

f. If the Contractor fails to implement the approved ESMP after written instruction by fulfilling his/her obligation within the requested time, EDSA reserves the right to arrange for execution of the missing action by a third party on account of the Contractor.

g. The Contractor shall take into account in the implementation of the sub-project any RAP obligation to project affected persons (as agreed with EDSA), in cases where there is preparation of a RAP, based on the RPF (where land is acquired, assets lost, or impact on livelihood occurs).

9.0 Noise Due to Construction Activities
The contractor shall ensure that noise originating from machinery and equipment, vehicles and noisy construction activities are kept at a minimum for the safety, health and protection of workers and nearby communities.

10.0 Dust Abatement

a. The Contractor shall minimize the effect of dust on the surrounding environment resulting from earth cutting and movement, concrete mixing sites, asphalt mixing sites, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of dust producing activities.

b. During the performance of the work and any operations appurtenant thereto, the contractor shall carry out proper and efficient measures, such as sprinkling with water or other means, whenever necessary to reduce the dust nuisance, and to prevent dust which has originated from his operations from damaging crops, cultivated fields, and dwellings or causing a nuisance to persons. The contractor will be held liable for any damage resulting from dust originating from his operations.

11.0 Coastal, Wetland and Water Resources Management

a. The contractor shall ensure that existing lagoons, rivers and other water flow regimes in the area (e.g. where pipes are laid) are maintained and/or re-established where they are disrupted due to works being carried out.

b. The contractor shall take all steps necessary to prevent contamination of lagoons and other natural water bodies, wetlands and coastal and beach resources.

c. Oils, lubricants and wastewat...er generated is treated in the best way to prevent the creation of possible breeding grounds for mosquitoes.

d. No construction water containing spoils or site effluent, especially cement and oil, shall be allowed to flow into the coastal and wetland areas or natural water drainage courses.

e. Site spoils and temporary stockpiles shall be located away from the coastline, wetlands and drainage system, and surface runoff shall be directed away from stockpiles to prevent erosion.

12.0 Vegetation and Wildlife
a. Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing and collection of coconut fruits or any other activity that might have a negative impact on the social and economic welfare of the local communities.

b. The contractor shall take care in planning, constructing, maintaining and operating temporary works such as camps, roads, spoil, stockpile and construction facilities areas, to avoid unnecessary damage to areas of particular environmental and social interest, such as patches of remaining forest, valuable trees (coconut trees) and erosion of sensitive areas, as well as areas in which the presence of wildlife has been noted.

c. In case some part of a forest or single trees have to be removed, or where erosion problems that may affect some portion of the works are expected, and in any case where in the engineer’s opinion it is beneficial for land conservation, the contractor may be required to carry out landscaping, seeding and planting of trees, as well as executing drainages and water control works according to the prescriptions contained in the pertinent sections of these specifications.

d. d) No valuable trees (including coconut trees) or crops shall be damaged or removed by the contractor during the execution of works without the prior consent of the EDSA and the engineer.

e. The contractor shall avoid forest reserves as much as possible. However, where there are no other alternatives, permission shall be obtained from the appropriate authorities and an environmental impact study shall be conducted.

13.0 Waste Management

a. Construction waste shall not be left in piles, but removed/reused and disposed of on a daily basis.

b. The contractor shall provide sanitary facilities (e.g. garbage collection and disposal bins, drinking water facilities, toilet, etc..) in the work site areas for all sub-projects.

c. All vessels (drums, containers, bags, etc..) containing oil/fuel/surfacing materials and other hazardous chemicals shall be banded in order to contain spillage. Used oil and hydraulic fluid generated on the construction sites must be collected in a closed container and stored temporarily in a safe place and sent to an authorized recycling depot.

d. If disposal sites for clean spoil are necessary, they shall be located in areas, approved by the DA, for landfill and where they will not result in material being easily washed into drainage channels.

14.0 Site Restoration/Rehabilitation

a. To the extent practicable, the Contractor shall rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction.
b. At the end of the construction phase, the pipeline right of way (RoW) shall be landscaped and rehabilitated to acceptable standards. The stated areas shall be first landscaped, dressed with topsoil and covered with appropriate plant species or grass seeding.

15.0 **Occupational Health and Safety**

a. Adequate road signs to warn pedestrians and motorists of construction activities, diversions, etc. shall be provided at appropriate points.

b. Construction vehicles shall not exceed maximum speed limit of 40km per hour in the project neighbourhoods and townships.

16.0 **Contractor's Environment and Social Management Plan (ESMP)**

a. The Contractor shall adapt the ESMP (relevant sections) prepared for the sub-project to ensure the adequate management of the environmental and social aspects of the sub-project, including implementation of the requirements of the general conditions and any specific E&S requirements. The Contractor's ESMP will serve two main purposes:

- For the Contractor’s internal purposes, to ensure that all measures are in place for adequate E&S management, and also as an operational manual for his/her staff;
- For the EDSA, to ensure that the Contractor is fully prepared for the adequate management of the E&S aspects of the project, and as a basis for monitoring of the Contractor's E&S performance.

b. The Contractor's ESMP shall provide at least:

- A description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in the ESMP;
- A description of specific mitigation measures that will be implemented in order to minimize adverse impacts;
- A description of all planned monitoring activities and the reporting thereof; and
- The internal organizational, management and reporting mechanisms put in place.

The Contractor's ESMP shall be reviewed and approved by the EDSA before start of the works. This review should demonstrate if the Contractor's ESMP covers all of the identified impacts, and has defined appropriate measures to offset any potential impacts as contained in the project ESMP.

17.0 **Labour Sourcing**
The contractor shall ensure that as much as possible employment priorities are given to the local community members, before sourcing for additional workforce to the extended to project catchment communities.

18.0 Reporting
a. The Contractor shall prepare monthly progress report to EDSA on compliance with the general conditions and the project E&S safeguards. It is expected that the Contractor’s reports will include information on:
   - E&S management actions/measures taken, including the permit/approval conditions from EPA;
   - Problems encountered in relation to E&S aspects (incidents, including delays, cost consequences, etc. as a result thereof);
   - Changes of assumptions, conditions, measures, designs and actual sub-project works in relation to E&S safeguards; and
   - Any lessons learnt during the implementation of the E&S safeguards.

b. It is advisable that reporting of significant E&S incidents be done "as soon as practicable". Such incident reporting shall therefore be done individually. Also, it is advisable that the Contractor keeps his/her own records on health, safety and welfare of persons, and damage to property. It is advisable to include such records, as well as copies of incident reports, as appendices to the monthly reports. Details of E&S performance will be reported to the Client through the SE's reports to the Client.

19.0 Training of Contractor's Personnel
The Contractor shall provide sufficient training to his/her own personnel to ensure that they are all aware of the relevant aspects of these general conditions, any project ESMP, and his/her own adapted ESMP, and are able to fulfil their expected roles and functions. Specific training should be provided to those employees that have particular responsibilities associated with the implementation of the ESMP. General topics should be:
   - EHS in general (working procedures);
   - Emergency and response procedures; and
   - Social and cultural aspects (awareness creation on social issues).

20.0 Cost of Compliance
It is expected that compliance with these conditions is already part of standard good workmanship and state-of-the-art as generally required under this Contract. No other payments will be made to the Contractor for compliance with any request to avoid and/or mitigate an avoidable E&S impact.
Appendix 2 Initial Assessment / Screening Form

ENVIRONMENTAL PROTECTION AGENCY, SIERRA LEONE

(Completed in Duplicate)

Sub-Project Name: ________________________________________________________________

Region: ________________________ District: ________________________ Town________________________

Address for correspondence __________________________________________________________

________________________________________________________________________________

Contact Person ____________________________ Position __________________________

Phone No._____________________________ Fax No. ________________________________

E-mail Contact ________________________________________________________________

Telephone:
Fax:
E-mail:
1.0 Description of Sub-project

1.1 Nature of Sub-project and Duration

1.2 Scope of Sub-project [Size of labour force, area covered, type of raw materials (quantities and sources), types of equipment, implements, machinery, etc.]

1.3 Location [attach a site plan or a map (if available)]
   i. Location or Area (and nearest Town(s)): ..........................................................
   ii. Land take (total area for sub-project and related activities): ..........................

1.4 Site Description and Sensitivity [Attach photographs and sketches showing distances]
   i. Distance from nearest water body or drainage channel (minimum distance measured from the edge of proposed site to the bank of the water body or drain).
      More than 100 meters □  100 meters □  Less than 100 meters □
   ii. Number of water bodies and/or drainage channels/depressions close to site
      ........................................................................................................................
   iii. Distance to nearest community (house) and/or other existing structures from the proposed site:
      ........................................................................................................................
   iv. Number of affected properties within the designated project area:
      ........................................................................................................................

1.5 Land Cover and Topography
   i. Land cover of the site consists (completely or partly or noticeably) of:
      Vegetation □  Sparse Vegetation □  Physical Structure(s) □
      Flood Plane □  Agriculture (Animals) □  Cultural Resource □
      Water □  Agriculture (Crops) □  Other specify........
ii. Elevation and topography of the area for the Sub-project:
   Flat □  Valley □  Slope □  Undulating □
   Hill □  Mountain □  Depression □

iii. Elevation and topography of the adjoining areas (within 500 meters radius of the site):
   Flat □  Valley □  Slope □  Undulating □
   Hill □  Mountain □  Depression □

2.0 Infrastructure
i. The Sub-project would be developed in/on:
   Undeveloped site □  Partly developed site □  Well developed □  Other □
   (specify)
   .................................................................

ii. The Sub-project would involve excavation:
   Yes □  No □

iii. Estimated number and depth of the excavations, etc.:
   .................................................................

vi. Are any of the following located on-site or within 50 metres from the edge of the proposed site?
   Water supply source □
   Yes □  No □
   Pipeline □
   Yes □  No □
   Power supply source (electric pylon) □
   Yes □  No □
   Drainage □
   Yes □  No □
   Other(s) specify: .....................................................

3.0 Environmental and Social Impacts

3.1 Land Use
i. Complete change of existing land use:
   Yes □  No □

   High population of land owners to be resettled:
   Yes □  No □

3.2 Air Quality – Is the proposed sub-project:

i. Expected to emit any of the following during construction and operation?
   Dust □  Smoke □  VOCs □

   ii. Expose workers or the public to substantial emissions?
       Yes □  No □

   iii. Result in cumulatively increased emissions in the area?
        Yes □  No □

   vi. Create objectionable odour affecting people?
       Yes □  No □

3.3 Flora and Fauna - Would the proposed Sub-project:

i. Have adverse effect on any reserved area?
   Yes □  No □
ii. Have adverse effect on wetland areas through removal, filling, hydrological interruption or other means?  
   Yes □  No □

iii. Interfere substantially with the movement of any wildlife species or organisms?  
   Yes □  No □

vi. Be located within 100m from an Environmentally Sensitive Area?  
   Yes □  No □

3.4 Cultural Resources - Would the proposed sub-project:
   i. Disturb any burial grounds or cemeteries?  
      Yes □  No □
   ii. Cause substantial adverse effect on any archeological or historic site?  
       Yes □  No □
   iii. Alter the existing visual character of the area and surroundings, including trees and rock outcrops?  
       Yes □  No □

3.5 Water Quality and Hydrology - Would the proposed sub-project:
   i. Generate and discharge during construction:
      Liquid waste □  Liquid with oily substance □
      Liquid with human or animal waste □  Liquid with chemical substance □
      Liquid with pH outside 6-9 □  Liquid with odour/smell range □
   ii. Lead to changes in the drainage pattern of the area, resulting in erosion or siltation?  
       Yes □  No □
   iii. Lead to increase in surface run-off, which could result in flooding on or off-site?  
        Yes □  No □
   iv. Increase runoff, which could exceed the capacity of existing storm water drainage?  
       Yes □  No □
   v. Lead to multiple water users, which could affect water quality and quantity?  
      Yes □  No □

3.6 Noise Nuisance - Would the proposed Undertaking:
   i. Generate noise in excess of established permissible noise level?  
      Yes □  No □
   ii. Expose persons to excessive vibration and noise?  
       Yes □  No □

3.7 Waste Generation
   i. Types: Solid □  Liquid □  Gaseous □  Other ........................................
   ii. Quantity: ..........................................................
   iii. Means/Place of Disposal: ..........................................................

3.8 Occupational Health and Safety – Would the proposed sub-project:
i. Expose workers to emissions?  
   Yes  No

ii. Involve using machinery that generate excessive noise (above 70dB)  
    Yes  No

iii. Expose workers to working at height?  
     Yes  No

iv. Expose workers to heavy lifting?  
    Yes  No

3.9 Socio-economic. – Would the proposed sub-project:

i. Lead to loss of livelihoods  
   Yes  No

ii. Influx of people from other communities?  
    Yes  No

3.10 Other Environmental and Social Impacts

............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

4.0 Management of (Environmental and Social) Impacts

4.1 Air Quality
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................

4.2 Flora and Fauna
............................................................................................................................................................
............................................................................................................................................................
............................................................................................................................................................
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4.3 Cultural Resources
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4.4 Coastal and Water Resources
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4.5 Noise

4.6 Occupational Health and Safety

4.7 Waste Generation

4.8 Socio-economic

4.9 Other Measures

DECLARATION

I, _______________________________, hereby declare that the information provided on this form is true to the best of my knowledge and shall provide any additional information that shall come to my notice in the course of processing this application.

__________________________________________________________  ________________________________
Signature                                                        Date

Official use
Recommendations:

☐ Requires and EIA and/ or RAP
☐ Requires a PEA
Does not require further environmental study

*Use extra sheets where space provided is inadequate*