



**SOLARPOWER**

*Turn Light Into Power*

*Solar Home Lighting System*

*Environment and Social  
Management Plan*

*Photovoltaic*

*Mainstreaming Window 2*

# SOUTH COTABATO II ELECTRIC COOP., INC.

J. Catolico Sr. Ave., Brgy. Lagao, General Santos City

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## I. FOREWORD

With barangay electrification almost nearing its 100% electrification level, the Government has now shifted its focus to pursue 90% household electrification by 2022. It should be noted that an estimated 3.4 million households have yet to be energized. The access to electricity service of the unelectrified households, who are within the grid network is restricted only by their ability to shoulder the cost of house-wiring and other incidental costs. Meanwhile, roughly 1 million out of the total unelectrified households are located in the remote off-grid areas. The Distribution Utilities (DUs) face the more difficult challenge of providing electric service to these households. The expansion of grid lines or the installation of micro-grids using diesel fed generator-sets to these areas are not viable primarily due to the prohibitive costs in building these conventional systems and more importantly the inefficiency of operating and maintaining them. An alternative option is to install decentralized energy systems such as the photovoltaic (PV) Solar Home System (SHS).

The SHS is an efficient and reliable power supply that can meet the energy demand of unelectrified households in remote areas. The country's abundant solar resources make it technically feasible to install SHS in most parts of the country. Studies have also shown that the SHS can be the least-cost option in providing basic electricity where there is low energy demand. The SHS has been used in the past to electrify remote areas. There have been both successes and failures in the field. The failures can largely be attributed to the deployment model used, and not on the technical performance of the system.

## II. PROJECT OVERVIEW

A Pilot Project entitled “**Mainstreaming Solar Home System in Distribution Utilities using the Fee-for-Service Business Model**” was recently introduced and promoted by DOE through its Rural Power Project (RPP). RPP is the collaboration between and among the DOE, World Bank (WB) and the Global Environment Facility (GEF). This pilot project aims to assist the DU's to distribute SHS to households in the off-grid areas using an approach that is more or less akin to its mode of service delivery to its member consumers or customers. More importantly, the project provides strategy and best practices that can be adapted to have a better chance of successful project implementation.

This in support to the National Government's vision of “*Total Electrification of the Country*”, the European Union (EU) committed to provide funds for various electrification programs under the administration of World Bank and Department of Energy (DOE). *In line with the DOE Circular 2014-07-0012 “Accelerating Household Electrification in Off-grid and Isolated Areas through Electricity Supply by Regulated Solar Home Systems (SHS);”*. SOCOTECO II whose franchise areas; Polomolok and Tupi of South Cotabato Province, whole Sarangani Province and General Santos City is one of the Electric Cooperatives (EC's) with low household electrification level and one of the beneficiaries of the Photovoltaic Mainstreaming Project (PVM) Window-1 with the total of 2,500 SHS units installed in Malungon Municipality and in addition of 7,500 SHS units for PVM Window-2 project.

The 7,500 SHS units will be spread throughout the franchise area particularly in the province of Sarangani covering four (4) municipalities namely; Glan, Malapatan, Alabel and Malungon area; and two (2) municipalities of South Cotabato province namely; Polomolok and Tupi.

**SOCOTECO II Coverage Area**

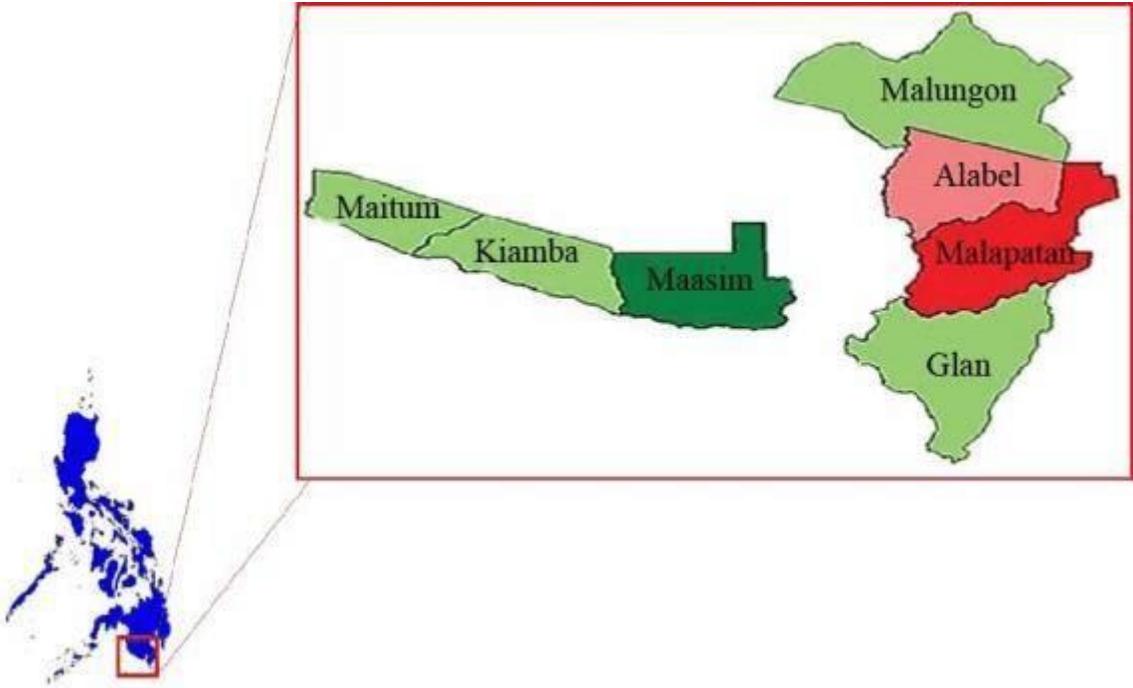


**III. SARANGANI PROVINCE PROFILE**

**1. Brief History**

Sarangani Province, formerly third district of South Cotabato was created as a separate province by virtue of Republic Act 7228 through the effort of the 3<sup>rd</sup> Congressional District Hon. James L. Chiongbian. The said act was signed by former President Corazon C. Aquino on March 16, 1992 constituting the seven (7) formerly under South Cotabato Province. Such include the coastal municipalities of Maitum, Kiamba, Maasim, Alabel, Malapatan and Glan as well as the upland municipality of Malungon.

**Map of Sarangani Province**



## 2. Topography

Sarangani Province has a total land area of 398,664 hectares. Of this, 68 percent or 272,433 hectares are classified as forestland. Of the total forestland area, more than one half (56%) is still covered with forest trees. Vast – forest areas are found in the western part of the province or the MAKIMA area (Maasim, Kiamba and Maitum).

The terrain of Sarangani Province is characterized by flatlands, rolling hills, and mountains. Out of the total land area of the Province being 3,986.64 square kilometers, 29.86 percent or 1,190.32 square kilometers fall within 500 – 1000 meters above sea level. Constituting the least area of the province fall within 1000 meters and above elevation which is only 304.05 square kilometers. The second biggest area share fall between 100 – 300 meters above sea level elevation with 1,002.59 square kilometers or 25.15 percent of the total land area.

## 3. Climate

The climate in Sarangani Province falls under the 4<sup>th</sup> Climatic Type having a rainfall of more or less evenly distributed throughout the year with no pronounced rain periods. Rainfall pattern of the province contribute to the high level of production levels in agriculture. Average annual temperature is 27.1° C. The hottest month is April where the maximum temperature reached its highest at 33.7°C, while the coldest month is January which registered at 21.5°C, the lowest. Relative humidity reading ranges from 76 percent to 84 percent.

## 4. Population and Social Environment

The population of the province based on 2007 Census of Population (POPCEN 2007) was 475,514 persons registering an increase of 64,892 persons over the 2000 population of 410,662. This figure accounted for 12.42 percent of the region's total population and only 0.54 percent of the country's population. Among the four provinces in the region, Sarangani has the lowest population.

Among the municipalities of the province, around 21.59 percent of the province's population reside in Glan, 20.19 percent in Malungon, 15.11 percent in Alabel, 13.80 percent in Malapatan, 11.15 percent in Kiamba, 10.36 percent in Maasim, and the remaining 7.79 percent in Maitum. Glan is the most thickly populated with 102,676 persons. On the other hand, Maitum has the least number of persons with 37,054. The average annual population growth rate of the province during the intercensal period 2000 – 2007 is 2.04 percent.

## 5. Economic Activity

### 5.1 Agricultural

**Coconut** is the major crop of Sarangani Province that why it is the priority commodity covered under PRDP. Other than copra which is the traditional produce of coconut farmers, Virgin Coconut Oil (VCO) is the subject of value chain analysis. Other major crops grown are palay, corn, banana, sugarcane, pineapple and mango.

For livestock, **swine** is considered as the most producing number of heads grown in the region, while chicken tallied as the highest in poultry.

### 5.2 Fisheries

The **fisheries industry** in the province comprises of marine, inland and aquaculture fisheries. The coastline possesses rich fishing grounds as well as areas suitable for fishponds.

**Marine fisheries** can be further divided into Municipal and commercial fisheries. Its Major

Fishing Grounds are Sarangani Bay, Celebes Sea, Sulu Sea, Moro Gulf, Eastern Pacific.

**Commonly caught species** in municipal fisheries in Sarangani Bay are: anchovy, barracuda, damsel fish, emperors, squirrel fish, surgeon fish, threadfin, trigger fish, goat

fish, grouper, jacks/trevally, milkfish, moonfish, mullet, parrot fish, flying fish, fusilier, rabbit fish, sardine, scad, and snapper.

**The volume of production** in 2015 is 18,643 metric tons: 128.67 from commercial, 10,139.06 from marine municipal fishing, and 8,375.51 from aquaculture (PSA).

#### IV. INDIGENOUS PEOPLE ASSESSMENT

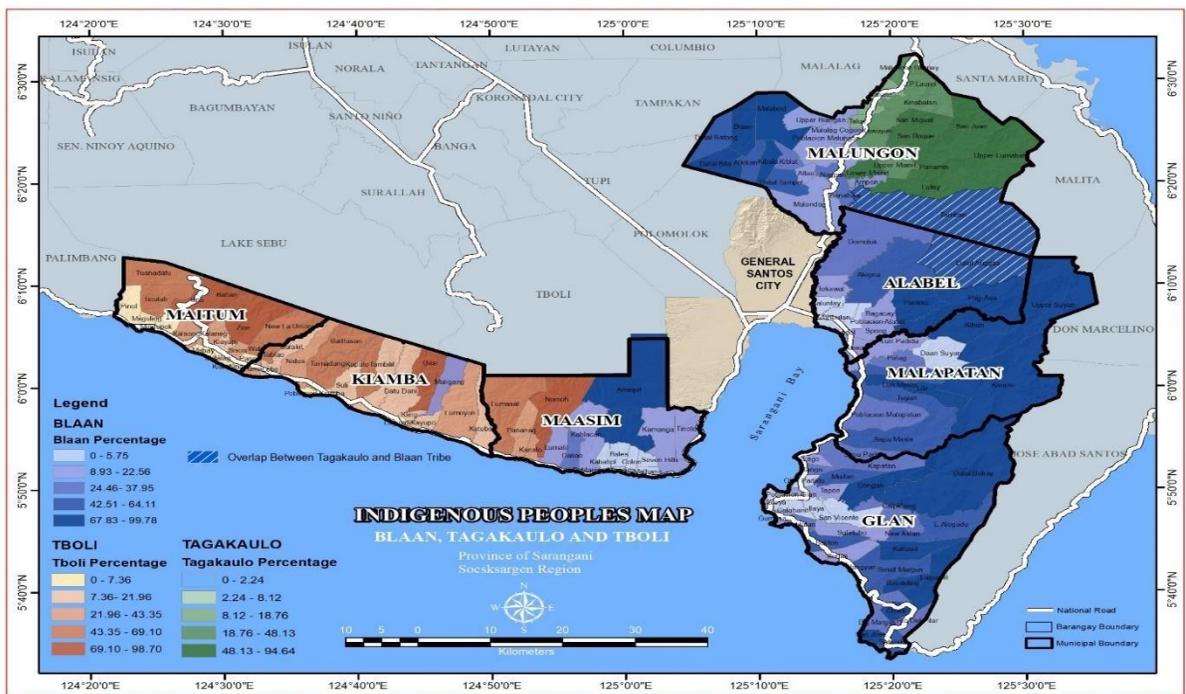
##### Sarangani Province Indigenous People groups

The **Blaans** are the dominant Indigenous Peoples groups living in the only landlocked Municipality of Malungon and the coastal towns of Alabel, Malapatan, Glan as well as some parts of Maasim.

The traditional **Tboli** homeland was marked by the Calaun (Kalaong) river. This ancestral homeland extended east from the Celebes coast to include the hinterlands of lakes Sebu, Lahit and Seloton as well as the coastal areas of the modern municipalities of Maitum, Kiamba, and Maasim. In the floodplains of Allah Valley, Tbolis live side by side another indigenous peoples group, the Blaans. Up until the present times, the Tboli has distinguished themselves in two indigenous crafts, weaving and metal working. Their craftsmanship is decidedly more advanced than in other indigenous groups.

The **Tagakaolo** is also known as Saka, Kagan (Kalagan, Calaganes, Calagars) or Laoc (Cole, 1913). The name Tagakaolo signifies “those who dwell at the head of the river”. The cultural practices of the Tagakaolo are said to be identical with those of the Kulaman Manobo and the Bagobo of Davao. The Tagakaolos are predominantly concentrated in some Barangays of the Municipality of Malungon.

##### INDIGENOUS PEOPLES MAP OF SARANGANI PROVINCE



Some photos of the target communities taken during the profiling and social marketing activities

**IX. ENVIRONMENTAL CODE OF PRACTICE  
(Environmental Safeguards Guidelines for Small Civil Works) ASEP**

– PV Mainstreaming Window 2

**Checklist-1: Construction Site Checklist**

<b>General Information</b>				
Name of Project	<i>Photovoltaic Mainstreaming Project - Window 2</i>			
Name of engineer/ technical officer	<i>Angelico T. Boiser/Erik Jan M. Sanico</i>			
Date of Site Study Completed	<i>2019</i>			
Information Source	<i>SOCOTECO II Technical</i>			
Proposed Output	<i>Subproject construction</i>			
<b>Environmental Issues</b>	Yes	No	Unknown	Remarks/Recommended Action
Adequacy of space for construction		✓		<i>SOCOTECO II ensured that each recipient household has adequate space for the SHS</i>
Adequacy of access to the construction		✓		<i>Although located in remote areas, the household sites are still accessible</i>
Adequacy of space to build		✓		<i>Minimal space is needed for the installation activities</i>
Any impact on areas adjacent to the site			✓	<i>Installation activities may cause disturbance to dwellers in adjacent sites. Installers to minimize noise and inform dwellers about activities and schedule. Installation activities will be done during daytime only.</i>
Potential interruption or limitation of access to dwelling or business on the site		✓		<i>There are no dwellings/business within the vicinity which could be affected</i>
Potential impact to high cultural value on the site or within the immediate vicinity	✓			<i>IPs are present in the communities covered by the project. Some SHS recipients are IPs. SOCOTECO II implements an IP Plan and coordinates with tribal leaders prior to conduct of activities.</i>
Potential deterioration of air or water quality, and noise in the immediate vicinity.		✓		<i>No activities that will produce air emissions/dust or liquid discharges. Noise during installation will not be significant.</i>
Interruption or limitation of access to sidewalks, power and telephone lines, water and sewerage, sanitation system, and other environmental services.		✓		<i>There are no facilities that provide environmental services at the SHS sites</i>
Reduction of green areas			✓	<i>For sites with shading issues, only trimming of trees will be undertaken. If tree cutting is unavoidable, this will be coordinated with the CENRO.</i>
Flooding on the site in the wet season (write down how deep and how long it usually floods on the site)		✓		<i>No flooding issues at the sites</i>

<p><b>Others</b></p> <p>Health and safety hazards to workers and the community</p> <p>Conflict among workers and/or between workers and community due to cultural differences, improper behavior, harassment and discrimination</p>	<p>✓</p> <p>✓</p>			<p><i>In consideration of Covid19 and job related hazards during installation, it is ensured that</i></p> <ul style="list-style-type: none"> <li>- <i>standard PPE's are available and used,</i></li> <li>- <i>good housekeeping, sanitation and health practices are observed</i></li> <li>- <i>DOH and LGU health protocols particularly those for the control of Covid 19 are strictly followed</i></li> </ul> <p><i>Consider hiring qualified residents in the communities and ensure that installers are well-oriented on and have subscribed to particular Codes of Conduct that cover provisions on teamwork and socio-cultural integration, as well as to Grievance Redress Mechanism for resolving project-related issues including complaints of installers or against installers</i></p>
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**X. SUMMARY OF OVERALL ASSESSMENT**

All Solar Home System connections are installed individually in the households of the MC and it is located within their own land. Thus, the extent of the effects of the Solar Home System installation is also contained within each household to which the panel have been installed.

The nature of the SHS project and its scale ensures that the Project will not cause any significant, adverse environment and social impacts during installation, operation and decommissioning. Only minor and temporary environmental disturbances will be experienced during installation, and they will be minimized through implementation of the ESMP.

SOCOTECO II is fully committed to its environmental and social responsibilities, which includes compliance with the national environmental, health, and safety regulations and requirements.

## XI. GOOD ENVIRONMENTAL PRACTICES FOR SMALL CIVIL WORKS

Phase	Issue	Measure
Screening	<u>Adequate space and access</u> - possible interruption within its vicinity; other issues captured in Checklist.	The selection should avoid sensitive environment and land issues which may be caused by the construction and/or renovation; other measures recommended in the Construction Site Checklist should be adopted.
Design	<u>Drawing and planning</u> the construction by adapting to adjoining physical conditions and minimizing possible environmental issues; incorporate environmentally friendly design features	Adverse Environmental Impact Minimization Measures should be introduced in the construction design;
Installation	<u>Installation materials and debris:</u> the inadequate disposal of waste materials and hazardous materials  <u>Garbage collected and dredged spoils:</u> see section on Special considerations on waste management below for complete treatment.	Installers will store clean installation materials, reduce excavated debris, and waste generation whenever feasible. They should separate hazardous wastes from other wastes and handle them according to established environmental guidelines. Recyclable wastes must also be separated from non-recyclable ones. All wastes should be properly handled. Any illegal waste dumping or burning is prohibited.
	<u>Disturbance:</u> Nearby residents will be disturbed by prolonged installation.	Installers will perform installation activities within appropriate time frame which does not disturb work of officers or living of local residents.
Post-Installation	<u>Site Clearing:</u> Cleaning the site after installation- disposing wastes properly so that they are not dangerous to the environment.	Installers will clean the site carefully and remove all waste materials after installation.

**VII. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)**

ASEP – PV MAINSTREAMING PROGRAM – WINDOW 2

Project Phase	Project Activity	Potential Environmental and Social Impacts	Proposed Mitigation/ Enhancement Measures	Institutional Responsibilities		Accomplishments For the period _____ to _____		
				Implement	Supervise	Specific Measures Implemented	Date/ Period Implemented	Proof of Compliance/ Implementation
<b>Pre-Installation Stage</b>	<ul style="list-style-type: none"> <li>Household Profiling, Marketing, and Sign-ups</li> <li>Coordination with LGUs, IP Leaders, SHS supplier, SHS installers</li> <li>Training of EC-REMDDiv Technicians, Installers, Vending Agents</li> </ul>	<ul style="list-style-type: none"> <li>Risk of exposure of EC’s personnel and the communities to any sources of communicable diseases (e.g. Covid 19 virus).</li> <li>Potential socio-cultural issues/concerns with IPs living in the communities covered by the project</li> </ul>	<ul style="list-style-type: none"> <li>Strictly observe proper personal hygiene.</li> <li>Strictly follow DOH and LGU health protocols</li> <li>In case face to face interaction is inevitable, wearing of face mask and face shield must be strictly observed. Additional measures are provided in Annex A.</li> <li>Conduct consultative meeting with local officials before conducting any activities.</li> <li>Implement an IP Plan</li> </ul>	EC REMDDiv, SHS installers, SHS Supplier	EC, PMO			
<b>Installation Stage</b>	Delivery, Releasing, and Installation	<ul style="list-style-type: none"> <li>Loss of trees</li> </ul>	<ul style="list-style-type: none"> <li>Avoid cutting of trees as much as possible.</li> <li>If pruning or cutting of trees is necessary, coordinate with/secure permits from DENR – CENRO, as may be required</li> </ul>	EC REMDDiv, Installers	EC, PMO			

		<ul style="list-style-type: none"> <li>Disturbance to dwellers in areas adjacent to installation site</li> </ul>	<ul style="list-style-type: none"> <li>Inform immediate neighbors of household SHS recipient about the activities and schedule prior to work implementation</li> <li>Minimize noise from activities</li> <li>Undertake activities during daytime only</li> <li>Inform the SHS recipient and neighbors about SOCOTECO II's Grievance Redress Mechanism should they have any complaints related to the project</li> </ul>	EC REMDDiv, Installers					
		<ul style="list-style-type: none"> <li>Occupational Safety and Health Hazards</li> </ul>	<ul style="list-style-type: none"> <li>Provide PPE's and ensure that workers use these as required.</li> <li>Provide and ensure that tools and equipment are in good working condition.</li> <li>Observe good housekeeping, sanitation and health practice.</li> <li>Strictly follows DOH and LGU health protocols particularly those for the control of Covid 19 at work sites and workers' accommodation.</li> </ul>	EC REMDDiv, Installers	EC, PMO				
		<ul style="list-style-type: none"> <li>Generation of Solid Wastes</li> </ul>	<ul style="list-style-type: none"> <li>Donate all packaging materials (cartons, polyurethane foam, plastics) to household owners for re-use</li> <li>Advise them on the proper disposal of these materials and about the fire hazards of the polyurethane foam.</li> </ul>	EC	EC, PMO				
		<ul style="list-style-type: none"> <li>Spread of communicable diseases and exposure of the</li> </ul>	<ul style="list-style-type: none"> <li>Observe good housekeeping, sanitation and health practices and proper collection/storage/ disposal of used PPE's (face masks, gloves, etc.)</li> </ul>	EC REMDDiv, Installers	EC, PMO				

		<ul style="list-style-type: none"> <li>community to health hazards</li> </ul>	<ul style="list-style-type: none"> <li>Strictly follow health protocols issued by DOH, Government Agencies and LGU's. for Covid 19. Please see Annex A-standard Covid19 preventive measures.</li> </ul>					
		<ul style="list-style-type: none"> <li>Conflict among workers due to cultural and religious differences</li> <li>Social concerns and issues with community</li> </ul>	<ul style="list-style-type: none"> <li>Hire if possible, qualified residents in the communities</li> <li>Orient EC personnel on the Code of Conduct to work as a team and respect each other's differences.to avoid cultural and religious conflicts, as well as social issues/ concerns.</li> <li>Implement Code of Conduct EC Personnel</li> <li>Orient Personnel on Grievance Redress Mechanism for resolving project-related issues including complaints of installers or against installers</li> </ul>	EC REMDDiv, Installers	EC, PMO			
<b>Operation Stage</b>	Maintenance of Defective Component	<ul style="list-style-type: none"> <li>Soil and water pollution due to toxic components of SHS</li> </ul>	<ul style="list-style-type: none"> <li>Defective batteries, bulbs, wiring and solar panels covered by warranty shall be collected, stored in proper storage facility and returned to SHS supplier for replacement and recycling/proper disposal.</li> <li>Used batteries/damaged SHS components to be collected, stored in proper storage facility, while SOCOTECO II intends to employ the services of Maritrans Recycler, Inc. (OL-TP-R7-22-000034) in the treatment and disposal of hazardous wastes.</li> </ul>					

			<p>* A Hazardous Waste Management Plan is provided as Annex to this ESMP. Construction of SOCOTECO II's Hazardous Waste Storage Facility (HWSF) is now ongoing at Brgy. Apopong, General Santos City. SOCOTECO II is waiting for DENR's issuance of Certificate of Registration as Hazardous Waste Generator.</p> <ul style="list-style-type: none"> <li>• During installation, the EC REMDDiv should orient the SHS recipient on the proper handling of the system and not to conduct any unnecessary repair or improvised the unit.</li> </ul>					
<b>Decommissioning/Abandonment Stage</b>	Pull-out and Retrieval of PV modules	<ul style="list-style-type: none"> <li>• Soil and/ or groundwater pollution due to decommissioning of PV modules</li> </ul>	<ul style="list-style-type: none"> <li>• Preparation of Decommissioning Plan by the Decommissioning contractor, including proposed disposal methods, recycling opportunities and collection of used PV modules</li> <li>• Proper implementation of decommissioning plan</li> </ul>	EC, Decommissioning Contractor	NEA			



# South Cotabato II Electric Cooperative, Inc.

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**SOCOTECO II**

*SERVICE is our Mission.*

## ANNEX A

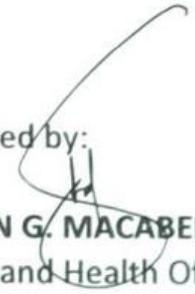
### PVM 2 ASEP SUBPROJECT

#### **SOCOTECO 2 STANDARD MEASURES TO PREVENT covid-19 TRANSMISSION IN THE WORKSITE**

1. SHS installers shall be required of negative antigen test result with a validity of 24 hours before the day of deployment. The testing shall be facilitated by the Legal and Administrative Department of SOCOTECO II thru the accredited medical facilities.
2. Workers will be housed on rented accommodations in 3 to 4 clusters. Inter-cluster physical association shall be limited to general meetings. Personal companions shall not be allowed in the accommodation. On occasions where everyone needs to meet physically, distancing shall be observed, and wearing of facemasks shall be required. In closed areas, wearing of face shields shall be strictly observed.
3. A stand-by isolation room with proper ventilation and necessary items must be available (e.g. PPE) shall be identified to house workers with suspected symptoms of Covid19.
4. All employees are subject to screening protocol through the accomplishment of daily health checklist monitoring which shall be monitored by team leaders, then shall be submitted and reported to the concerned department/office at SOCOTECO II Main Office. Thermometers are available onsite for daily temperature check.
5. Any employee with even a low-grade fever (with temperature of 37.3 degrees Celsius) will be asked to leave the site and stay home order will be enforced.
6. Should there be any employee exhibiting Covid19 symptoms, the team leader must ensure that he shall be isolated from the rest of the workers and must undergo necessary testings immediately in coordination with the concerned offices and agencies. Only upon yielding negative test result and satisfactory recovery from any indisposition shall the worker be allowed to resume to work.
7. In an unfortunate circumstance, where a worker tested positive on antigen, he shall be turned over to Municipal Health Unit (MHU) or Barangay Health Unit (BHU) for proper isolation, further testing and treatment. Upon full health recovery and procedural compliance as per advice and order of the concerned RHU and/or physician, the worker shall be allowed to resume to work.
8. Employees who are identified as direct contacts to a confirmed COVID-19 case are directed to self-quarantine/isolation, to be reported to respective RHUs and comply the necessary testings and instructions from concerned offices and agencies before resumption to work.
9. Employees who test positive for COVID-19, same protocols stated in number 8 apply. Contact tracing and corresponding DOH/LGU/CHO/MHO guidelines will be implemented immediately

10. All employees' official travels within and outside franchise area shall be covered by an approved travel order and monitored by the direct Supervisor.
11. All employees are subject to safety protocols and guidelines for Personal travels outside franchise area, including the declaration of itineraries and testings, before resumption to work.
12. Facemasks, face shields, and alcohol in small containers shall be provided to personnel engaged in the PVM II, both for field and office staffs.
13. General hygiene and sanitation rules (e.g., respiratory etiquette) are strictly observed by all employees.

Prepared by:



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Approved by



**GERONIMO D. DESESTO**  
General Manager

**SOUTH COTABATO II ELECTRIC COOPERATIVE, INC.**

**J. Catolico Sr. Avenue, Lagao**

**General Santos City**

*"We commit to provide the BEST electric service to you"*



**SOCOTECO II**

**PHOTOVOLTAIC MAINSTREAMING (PVM)  
PROGRAM**

**HAZARDOUS WASTE  
MANAGEMENT PLAN  
(HWMP)**

## I. Objectives of the Hazardous Waste Management Plan

Photovoltaic Mainstreaming (PVM) program is among the many initiatives of renewable energy champions to reduce dependence on greenhouse gas emitting energy sources that pose immediate and long term harm to humans and the environment. However, if the batteries or the PV modules installed in the Solar Home System (SHS) either become defective or reached the end of standard life span, they become generated hazardous wastes. This HWMP is laid out by SOCOTECO II for implementing projects under PVM program. The foundation of this Plan sits well on two major objectives:

1. To have an institutional guideline for handling (identification, collection, packaging, labeling, storage, and disposal) of hazardous wastes generated to protect human health and the environment and to reduce, if not eliminate, the harmfulness of waste.
2. To ensure regulatory compliance in relation to handling and treatment of Hazardous Wastes (HWs) generated

## II. PVM Hazardous Wastes stored/to be stored

The table below lists down hazardous wastes that are either stored or to be stored in the storage facility.

Hazardous Waste	Hazardous Characteristic	Hazardous Substance/Components
Solar PV modules	Toxic	heavy metals such as silver, lead, arsenic and cadmium
Lithium Ion batteries	Toxic, ignitable, reactive, flammable	Electrolyte, Electrolyte salt, Electrolyte solvent, Polyvinylidenfluoride, Copper, Aluminum, Lithium cobalt oxide, Graphite
LED lights	Toxic	Copper, lead, arsenic, silver
Cables	Toxic	Copper, The plastic that coats the wires: it releases dioxins when incinerated

## III. Hazardous Waste Storage Facility

Construction of Hazardous Waste Storage Facility (HWSF) is ongoing at Brgy. Apopong, General Santos City. SOCOTECO II ensures completion of construction and facility ready before commencement of wastes collection for storage. There will be a separate compartment solely for storing hazardous wastes under PVM projects. This facility will have a steel matting wall with retractable Polyvinyl Chloride Tarpaulin cloth rain protection. It will be a well-roofed and well-ventilated building, with an impermeable flooring with a total floor area of 264 square meters. Access to which will be limited to SOCOTECO II's authorized personnel.

## IV. Roles and Responsibilities

### Field Specialists (FS)

- Responsible for inspection, repair and maintenance of SHS installed in the households.
- Shall be responsible for collecting and transporting defective/retired SHS components from households to the HWSF.

- Shall endorse defective/retired SHS components to General Services Office for proper storage and disposal

#### **General Services Office (GSO)**

- Shall be responsible for receiving, packaging segregating, labeling, and storing defective/retired SHS components in the HWSF

#### **Pollution Control Officer (PCO) Responsibilities**

include:

- Conduct regular inspections to ensure standard and regulatory compliance of HWMP implementation
- Shall assist GSO and FS in the implementation and compliance of HWMP including but not limited to hazardous waste determinations and classifications, oversight of hazardous waste disposal, and assisting with corrective actions when necessary;
- Coordinating disposal and transport with waste disposal contractors for all hazardous waste pickup at storage site.
- Keep a record of generation and disposal of hazardous wastes
- Maintaining a liaison with the appropriate regulatory authorities (DENR-EMB), including compliance and submitting information to regulators as required.

### **V. Collection Procedures**

- During SHS installation, user households will be given orientations/instructions on the proper handling of retired or damaged SHS components especially Li-ion batteries;
- Identified defective/retired SHS components shall be reported immediately to the FS for proper inspection.
- Defective units shall be packed in a sealed plastic container to avoid contamination;
- FS shall immediately facilitate procedures for replacement and collection of the defective units,
- Collected HWs shall be transported to the storage facility.

### **VI. Storage Procedures and Storage Time**

- GSO shall manage segregation of collected defective SHS components into ***solar module, battery, and other components***;
- Containers and components shall have proper labeling;
- Collected defective components shall be stored in a proper container to prevent human exposure to, or environmental release of, hazardous waste materials;
- GSO shall ensure the availability of a fire extinguisher inside the storage room; And
- Safekeeping of hazardous waste in the storage facility shall last for a maximum of one year. However, disposal will be undertaken before one-year storage is reached if the storage capacity of 90% is used.

### **VII. Final Safe Disposal**

- SOCOTECO II will employ the services of a DENR-accredited TSD/transporter firm to transport and recycle the waste electronic and electrical equipment (WEEE) from the projects under PVM program.
- The contracted firm will have the responsibility to dispose the un-recyclable wastes using a method approved by the DENR.
- The firm shall issue a Certificate of Treatment to SOCOTECO II upon completion of their works.
- Within the 3-year Supplier's warranty period, defective batteries/SHS components will be collected by SOCOTECO II and returned to the supplier for replacement. In

such case, the supplier will be responsible for the disposal of the materials through DENR-accredited firms.

- Damaged components that will not be covered by the warranty, will be disposed of by SOCOTECO II.

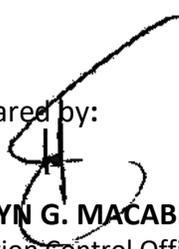
#### **VIII. Monitoring**

- PCO shall keep record of Generation and disposal of hazardous wastes.
- Inspections will be conducted quarterly to check proper segregation, labels, condition of the storage facility, wastes & containers, leakages (as applicable), and housekeeping.

#### **IX. Responsibility**

The PCO shall be responsible for the overall implementation of the HWMP, monitoring and reporting

Prepared by:



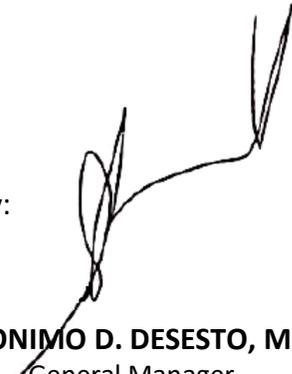
**EVELYN G. MACABENTA**  
Pollution Control Officer

Noted by:



**ATTY, CHERRY JOIE L. PONCE**  
PCO-Managing Head  
Legal and Administrative Department Manager

Approved by:



**GERONIMO D. DESESTO, MBA**  
General Manager

# HAZARDOUS WASTE FACILITY LAYOUT

South Cotabato II Electric Cooperative, Inc.



### **XIII. STAKEHOLDER CONSULTATION AND INFORMATION DISCLOSURE FAS**

During project pre-operational stage, the project was disclosed through meetings with the Local Government Officials, Municipal Planning and NCIP or IPMR. Consultation and orientation with the residents of the village about the project PVM Window 2 for the benefit of those people who have no access of electricity which are located in far flung areas. We also have presentation and demonstration about the operation of Solar Home System Unit and how it affects the community with the experience of PVM Window 1 Project.

The Solar Home System Window 2 generally impacts positively more on the economic and social aspect of the IP's living in Sarangani Province. Especially the beneficiaries wherein they can have extended working hours on shredding and packing their goods for sale on the following day; the students have extended time on reading and doing their homeworks during night time; the areas will become safer and more secure at night; access to current events and latest news are possible every time because of radios and televisions; and communication is more viable because they can charge cellular phones.

During public consultation and meetings, security protocols is strictly observed due to the increasing number of Covid-19 cases in Sarangani Area. The Local Government also implements strict border lockdown and requires medical pass to cross borders. Social distancing, mandatory wearing of face mask and face shield is required. The used face mask will be put in the one garbage bag and disposed properly in the office. We also provide alcohol to all our personnel and always remind them to observed proper personal hygiene in the area.

**XIV. CODE OF CONDUCT FOR PERSONNEL**  
**ASEP-PVM Window 2 Subproject**  
**SOCOTECO II**

This Code of Conduct identifies the behavior required from all personnel working at South Cotabato II Electric Cooperative PVM Window 2 Subproject.

Unsafe, offensive, abusive or violent behavior will not be tolerated and all persons should feel comfortable raising issues or concerns without fear of retaliation.

**REQUIRED CONDUCT**

All personnel shall:

1. Carry out his/her duties competently and diligently;
2. Comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other EC personnel and any other person;
3. Maintain a safe working environment by:
  - a. ensuring that workplaces, machinery, equipment and processes under each person's control are safe and without risk to health;
  - b. wearing required personal protective equipment;
  - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
  - d. following applicable emergency operating procedures;
4. Report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. Treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers, indigenous people, or children;
6. Not engage in sexual harassment, i.e. unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature, with other personnel;
7. Not engage in sexual exploitation, or any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to: profiting monetarily, socially or politically from the sexual exploitation of another;
8. Not engage in sexual abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. Not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. Not engage in any other form of harassment, mental or physical coercion, or verbal abuse of its employees;

11. Undergo relevant training or orientation that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters;
12. Report violations of this Code of Conduct; and
13. Not retaliate against any person who reports violations of this Code of Conduct, whether to us, the NPC-PMO, EC or who makes use of the grievance redress mechanism for EC personnel or the project's Grievance Redress Mechanism.

**RAISING OF CONCERNS**

If any person observes a behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly to:

**ATTY. CHERRY JOIE LIMA PONCE**  
Legal and Administrative Department Manager  
 083-553-5848 TO 5850

This can be done either in writing, by telephone, or in person.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. SOCOTECO II takes seriously all reports of possible misconduct and will investigate and take appropriate action. It will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

**Consequences of Violating the Code of Conduct**

Any violation of this Code of Conduct by SOCOTECO II Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

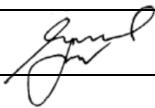
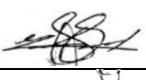
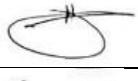
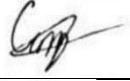
  
**ATTY. CHERRY JOIE LIMA-PONCE**  
Legal and Administrative Department Manager

Date: *May 26, 2021*

ATTACHMENT 1: Behaviors constituting sexual exploitation and abuse (SEA), and behaviors constituting sexual harassment (SH)

I hereby acknowledge that I have read the Code of Conduct for Personnel of the SOCOTECO II ASEP-PVM Window 2 Subproject, agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to issues relating to environmental, social, health and safety, gender based violence, sexual exploitation/abuse, harassment and discrimination. I understand that any action inconsistent with this Code of Conduct or failure to act as mandated by this Code of Conduct may result in disciplinary action and may affect my ongoing employment.

NAME OF PERSONNEL	SIGNATURE	DATE SIGNED
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ANDRADE, DREXLER		
BAGCATIN, REYMAR		
CANILLO, CARMELITO JR.		
DECENORIO, ERIC JAMES		
ENTERO, JOHN		
ENTERO, JEZAR		
ENTERO, NOEL		
FERNANDEZ, LOUY MIEL		
GAGA-A, JERRY JR.		
JOAQUIN, CLEORIZA		
MAGPANULONG, ROGER		
BACOTACION, JOVANIE		
BIVAS, NELSON TUMIBLAN		
CALANDA, JOHNMAR ALAR		
ENTERO, RANDY AMARILLE		
INODIO, NORSAN DAYONDON		
INTAN, JOMAR MAGLALAWA		
MANAMBAY, EDWARD MASALON		
MODA, ARVIN BAYAWAN		
MODA, OLIVER DUMALAT		
MONJUAN, EDWARD AVILA JR.		

PABLO, RENEBOY MANSAG SR.		
SALILA, CHRISTOPHER ALAR		
SALILA, DINDO ALAR		
SALILA, LUISETO MODA		
SALILA, RONIE ALAR		
SAMAN, RYAN ALIPOGLAN		
NARCISO, PONCIANO JR		
RECOPERTO, REGINALD		
SALILA, EDSON		
TINDOY, JOHN		

**ATTACHMENT 1 TO THE CODE OF CONDUCT  
BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND  
BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)**

The following non-exhaustive list is intended to illustrate types of prohibited behaviors.

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- A Personnel that is connecting electricity input to households says that he can connect women headed households to the grid in exchange for sex.
- A Personnel tells a member of the community that he/she can get them jobs related to the work site (e.g. cooking and cleaning) in exchange for sex.
- A Personnel rapes, or otherwise sexually assaults a member of the community.
- A Personnel denies a person access to the Site unless he/she performs a sexual favor.
- A Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) **Examples of sexual harassment in a work context**

- A Personnel comment on the appearance of another Installation Services Personnel (either positive or negative) and sexual desirability.
- When a Personnel complains about comments made by another Personnel on his/her appearance, the other Personnel comment that he/she is “asking for it” because of how he/she dresses.
- Unwelcome touching of a Personnel or Employer’s Personnel by another Personnel.

- A Personnel tells another Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself

## **XV. GRIEVANCE REDRESS MECHANISM**

SOCOTECO II Legal and Administrative Department (LAD) and Corporate Planning Department (CPD) are responsible for facilitating discussion between government entity's, project proponent and communities and stakeholders impacted by a project. Local Government Unit (LGU) to arrange meetings with village leaders, tribal leaders or IPMR and other relevant stakeholders at village level. The LGU act as mediators for grievances in some cases, but typically, report project-related issues directly brought to SOCOTECO II Management for attention.

The complaints process for the Project, involves person making a complaint to either the village chief, chieftain or local staff onsite who report this to our Renewable Energy Management and Development Division (REMDDiv) personnel. In addition, the village chief, chieftain or any representative possess relevant contact numbers where they can raise their issues in line with the project.

**SECTION 24.1 COMPOSITION.** The Committee on Investigation and Appeals, otherwise called IAC, as formed by the General Manager. The Composition of an independent body to investigate violations of this Code of Ethics to prevent bias and to maintain autonomous decision. It shall be composed of:

24.1.1 The People Management Supervisor

24.1.2 A representative of the rank and file or the Union where there is one.

24.1.3 The Legal Officer, who will the Chairman of the Committee

24.1.4 The Department Head who shall have no supervisory jurisdiction over the offender.

**SECTION 25. DUTIES AND POWERS.** In the performance of its task, the IAC shall be empowered to:

25.1 Summon persons or entities that can be shed light towards the clarification of facts surrounding the case/s;

25.2 Cause persons or entities to produce evidences on the case;

25.3 Evaluate all evidences, documents and other material facts relative to the case; whether, presented by the complainant/ aggrieved party or by the respondent;

25.4 Investigate all charges formally filed or referred to against any personnel of the EC for offenses which calls for at least 10- day suspension

25.5 Recommend appropriate penalty to be imposed to the erring employee;

25.6 See to it that the records of investigation, including all the pertinent paper and documents submitted by the parties are chronologically recorded properly filed and secured;

25.7 Adopt every possible measure pertinent convenient and reasonable in the discharge of their official duties;

25.8 Accomplish and submit other reports or requirements which the Management may prescribed from time to time.

- **NAME OF GRIEVANCE OFFICER**  
**ATTY. CHERRY JOIE LIMA- PONCE – LEGAL AND ADMINISTRATIVE MANAGER**
- **CONTACT NUMBER/ HOTLINE FOR RECEIVING COMPLAINTS**  
(083) 553- 5848 TO 5850

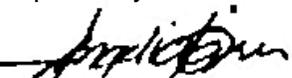
**XVI. CONCLUSION**

All Solar Home System connections are installed individually in the households of the MC and it is located within their own land. Thus, the extent of the effects of the Solar Home System is also contained within each household to which the panel have been installed. The nature of the solar home system (SHS) project will not cause any significant adverse environmental impact during installation, operation and decommissioning. Only minor and temporary disturbances would be experienced and they will be minimized through the implementation of the ESMP. SOCOTECO II are fully committed to its environmental and social responsibilities which include compliance with environmental, health and safety regulations set by the government and NGO's.

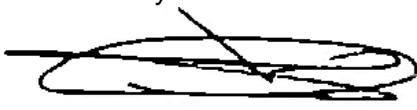
SOCOTECO II also proposed to have separate section intended for renewable energy (such as; solar home system) electrification. As of now, we have two (2) regular employee to address the needs of these SHS Window 1 beneficiaries in terms of complaints and ensures the satisfaction of its IP members upon the acceptance of the installation and seventeen (17) project employee for our photovoltaic project PVM Window 2 and SOLARES project.

The implementation and compliance monitoring of this ESMP shall be carried out by **Engr. Evelyn Macabenta – Safety Officer**; with the assistance of Renewable Energy Management Development Division (REMDDiv) under the supervision of Corporate Planning Department (CPD) of South Cotabato II Electric Coop., Inc.

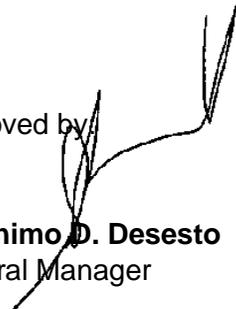
Prepared by:

  
**Engr. Angelico T. Boiser**  
PVM Project In-charge

Noted by:

  
**Engr. Lowell R. Valiente**  
Corplan Manager

Approved by:

  
**Geronimo D. Desesto**  
General Manager

## VIII. MONITORING PLAN

### PV Mainstreaming Program - Window 2

Project Phase	Parameter to Monitor	Standards	Frequency of Monitoring	Location	Responsibility
Operation	Hazardous wastes	All used Li-ion batteries, damaged solar panels/ components are collected, stored and disposed of and reported in accordance with RA 6969 IRR  HWs received and disposed will be recorded in a logbook	Quarterly (for storage)  Yearly (for disposal)	SOCOTECO II's Hazardous Waste Storage Facility, SOCOTECO II compound	SOCOTECO II's Pollution Control Officer
	Solid Waste Disposal	Polyurethane foam and plastic packaging of SHS units are disposed of properly by beneficiaries and do not end up on the canals/water bodies	Random Inspection	SHS Sites	SOCOTECO II-REMDDiv
Installation and operation	Occupational Health and Safety	SOCOTECO II's personnel are provided with PPEs (face masks/shields, gloves, etc.)	Prior to deployment for field work	SOCOTECO II Office	SOCOTECO II's Safety Officer
Installation and operation	Covid19 cases: confirmed, active and recovered	Covid19 cases must be monitored keenly and each must be addressed according to EC and state standards	Daily	SOCOTECO II Office  Field Worksites	SOCOTECO II's Safety Officer
Installation and operation	Grievance/ Complaints	All filed project-related complaints are resolved within 15 days	Weekly	SOCOTECO II Office	SOCOTECO II's Grievance Officer

**XII. MITIGATION COST**

**PV Mainstreaming Program - Window 2**

<b>ASPECT</b>		<b>MITIGATION ACTION</b>	<b>COST</b>	<b>RESPONSIBILITY</b>
1	Hazardous Wastes Storage and Disposal	Storage and disposal of hazardous wastes in accordance with regulations: <ul style="list-style-type: none"> <li>• Installation of Hazardous Waste Storage Facility</li> <li>• Registration of SOCOTECO II as Hazardous Waste Generator</li> <li>• Disposal of used Li-ion batteries through DENR-accredited firm</li> <li>• Basic PCO Training</li> <li>• Managing Head Training</li> <li>• PCO Accreditation</li> </ul>	1,000,000.00  1,200.00  100,000.00  8,000.00 5,000.00 1,100.00	SOCOTECO II's PCO*
2	Occupational Health and Safety	Compliance with DOH and local health protocols during maintenance activities and household profiling <ul style="list-style-type: none"> <li>• Provision of alcohol, face masks/shields to and checking of temperature of SOCOTECO II PVM personnel</li> <li>• Implementation of standard measures to prevent Covid19 transmission as contained in Annex A</li> </ul> Compliance with OSH regulations during SHS maintenance activities <ul style="list-style-type: none"> <li>• Provision of required PPEs</li> <li>• OHS orientation of SOCOTECO II technicians</li> </ul>	500,000.00	SOCOTECO II's Safety Officer
<b>Grand Total</b>			<b><u>1,615,310.00</u></b>	