Operation Number	SU-L1009	Chief of Operations Validation Date	04/04/17
Year- PMR Cycle	Second period Jan-Dec 2016	Division Chief Validation Date	04/21/17
Last Update	03/22/17	Country Representative Validation Date	04/22/17
PMR Validation Stage	Validated by Representative		

### **Basic Data**

### **Operation Profile**

Operation Name	Support to Improve Sustainability of the Electricity Service	Loan Number	3059/OC-SU
Executing Agency	ENERGIEBEDRIJ VEN SURINAME	Sector/Subsector	EN - ENERGY
Team Leader	CUERVO, JAVIER	Overall Stage	Disbursing (From eligibility until all the Operations are closed)
Operation Type	Loan Operation	Country	SURINAME
Lending Instrument	Investment Loan	Convergence related Operation(s)	
Borrower	REPUBLIC OF SURINAME		

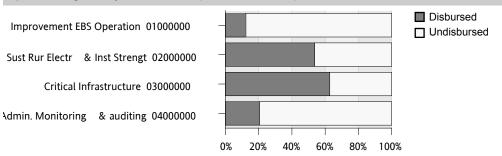
### **Environmental and Social Safeguards**

Impacts Category	С	Was/Were the objective(s) of this operation reformulated?	NO
Safeguard Performance Rating		Date of approval	
Safeguard Performance Rating - Rationale			

### **Financial Data**

Item			Total Cost ar	nd Source	Available Funds (US\$)				
	Original IDB	ginal IDB Current IDB Local Counterpart Co-Financing / Country		Co-Financing / Country	Total Original Cost	Current IDB	Disb. Amount to Date	% Disb	Undisbursed Amount
SU-L1009	30,000,000	30,000,000	0	0	30,000,000	30,000,000	17,226,754.71	57.42%	12,773,245.29
Aggregated	30,000,000	30,000,000	0	0	30,000,000	30,000,000	17,226,754.71	57.42%	12,773,245.29

### **Expense Categories by Loan Contract (cumulative values)**



Please note that the Overall Stage represents the stage of the operation at the time of this report's publication, which might not necessarily match the stage of the operation during the PMR Cycle to which the report pertains. Please also note that inactive indicators and outputs are not displayed; totals in the actual cost table may not match the sum of the cost of the outputs displayed, due to the cost of inactive outputs.

### **RESULTS MATRIX**

### **IMPACTS**

Impact Nbr. 1: Increase in electrification coverage

**Observation:** Based on Country Strategy 2011-2015

Objective	ation. Based on Country Strategy 2011-2015								
	Indicator	Unit of Measure	Baseline	Baseline Year		EOP 2020			
1.1	Percentage of the population with access to	Percentage	85.0	2013	Р	90.00			
	electricity.				P(a)	90.00			
					Α	85.00			
				Detai	ls				
Means	Means of verification: Sector statistics								
Pro-G	ender No		Pro-Ethnicity			No			

Impact Nbr. 2: Improvements in the sustainability of rural electrification supply

Observation: Based on Country Strategy 2011-2015

	Indicator	Unit of Measure	Baseline	Baseline Year			EOP 2020
2.1	Percentage of cost recovery for electricity supply in	Percentage	0.0	2013	Р		30.00
	interior locations				P(a)		30.00
					Α		0.00
				Detai	ls		
Means	of verification: Sector statistics						
Pro-Ge	Pro-Gender No			Pro-Ethnicity		No	

### **RESULTS MATRIX**

### **OUTCOMES**

Outcome Nbr. 1: Strengthening in EBS's operational procedures and corporate performance

### Observation:

	Indicator	Unit of Measure	Baseline	Baseline Year		2020	EOP 2020			
1.1	Operational GIS and SCADA systems in use by	System	0.0	2013	Р		2.00			
	EBS¿ business units			_	P(a)		2.00			
					Α		0.00			
					Details	3				
Means	Means of verification: Field visits and EBS technical reports									
Pro-Ge	o-Gender No Pro-Ethnicity No									

Outcome Nbr. 2: Rural areas with access to secured and sustainable energy supply

#### Observation:

	Indicator	Indicator Unit of Measure		Baseline Year		2020	EOP 2020			
2.1	Annual electricity sales by EBS in the targeted rural electrification areas (Powakka)	MWh/yr	521.0	2013	Р		4,852.00			
	electrification areas (Powakka)	fication areas (Powakka)				P(a)		4,852.00		
					Α		521.00			
	Details									

Means of verification: Aggregated metering data; project reports; final evaluation

Observations: Based on estimates provided by EBS

Pro-Gender No Pro-Ethnicity No

	Indicator	Unit of Measure	Baseline	Baseline Year		2020	EOP 2020
2.2	Annual electricity sales by EBS in the targeted rural electrification areas (Atjoni)	MWh/yr	750.0	2013	Р		1,500.00
	electrification areas (Atjorit)				P(a)		1,500.00
					Α		750.00

Details

Means of verification: Aggregated metering data; project reports; final evaluation

Observations: Based on estimates provided by EBS

Pro-GenderNoPro-EthnicityNo

Outcome Nbr. 3: A more reliable energy supply system

Observation:

## **RESULTS MATRIX**

## **OUTCOMES**

	Indicator	Unit of Measure	Baseline	Baseline Year		2020	EOP 2020			
3.2	System Average Interruption Duration Index	Index	17.5	2013	Р		16.20			
	(SAIDI)							P(a)		16.20
					Α		17.50			
					Detai	s				
Means	of verification: EPAR operator (EBS) data and	reports								
Pro-Ge	ro-Gender No Pro-Ethnicity No									

### **RESULTS MATRIX**

### **OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS**

### Component Nbr. 1 Component 1. Improvement of EBS' Operations

				PHYSICAL F	PROGRESS	FINANCIAL PROGRESS	
	Output	Unit of Measure		2016	EOP 2020	2016	EOP 2020
1.1	Integrated SCADA system designed	System	Р		1		1,423,388
			P(a)	1	1	1,852,500	663,346.27
				1	1	663,346.27	663,346.27
1.2	Integrated SCADA system procured and implemented	System	Р		1	2,194,475.4	4,876,612
			P(a)		1	0	5,536,653.73
			Α	0	0	0	0
1.3	Enterprise Resource	System	Р		1		500,000
	Planning (ERP) system designed and specified		P(a)		1	92,464	117,627.02
			А	0	1	45,345.33	117,627.02
1.4	Geographical Information System (GIS) designed	System	Р		1		450,000
			P(a)		0		354,294.13
			А	0	1	107,994.38	323,358.73
1.5	Geographical Information System (GIS) procured and	System	Р		1	820,000	2,750,000
	implemented		P(a)		1	531,238	4,374,385.45
				0	0	77,462.17	943,423.06

### Component Nbr. 2 Component II. Sustainable Rural Electrification and Institutional Strengthening.

				PHYSICAL I	PROGRESS	FINANCIAL PROGRESS	
	Output	Unit of Measure		2016	EOP 2020	2016	EOP 2020
2.1	Substation Paranam (S/S P) upgraded	Substation	Р		1		2,145,000
			P(a)	1	1	292,831.48	1,998,856.67
			Α	1	1	406,021.99	1,956,990.47
2.2	Substation Powakka (S/S POW) procured and implemented	Substation	Р		1		2,671,500
			P(a)		0	870,735.77	2,804,242
			Α	0	1	490,636.82	2,741,337.75
2.3	Transmission and distribution systems in target area Powakka-Ayo-Redi Doti-Casipoera procured and installed	System	Р		1		2,412,796
			P(a)	1	1	1,723,792.25	2,674,787.74
			Α	0	0	596,380.07	1,256,259.41
2.4	Households in target area (Powakka) contracting 24/h electricity from EBS	Households (#)	Р	869	1,797		237,204
	using prepaid meters		P(a)	600	648	450,000	629,042.27
			Α	169	169	65,486.27	65,486.27
2.5	Power Station Atjoni (P/S Atjoni) habilitated for hybdrid power supply by EBS	Households (#)	Р	1	1		378,500
			P(a)	1	1	312,428.61	588,340.44
			Α	0	0	184,609.74	568,325.88
2.6	RET-based generating capacity systems procured and installed in Atjoni (kW)	kW	Р	500	500	1,750,000	2,620,000
			P(a)	500	500	1,877,537	1,610,114.09
			Α	0	0	332,920.11	353,766.45
2.7	Households in target	Households (#)	Р	494	494		535,000
	area (Atjoni) contracting electricity 24/h from		P(a)	400	425	75,000	264,042.27
	EBS using prepaid meters		Α	0	0	65,486.27	65,486.27

### **RESULTS MATRIX**

### OUTPUTS: ANNUAL PHYSICAL AND FINANCIAL PROGRESS

Component Nbr. 3 Component III. Critical Infrastructure.

				PHYSICAL PROGRESS		FINANCIAL PROGRESS	
	Output	Unit of Measure		2016	EOP 2020	2016	EOP 2020
3.1	Upgrade EBS Substation S/S C procured and commissioned	Substation	Р		1		2,300,000
			P(a)	1	1	951,857.15	3,917,774.9
			Α	0	0	6,804	2,740,839.23
3.2	Upgrade EBS Substation S/S D procured and commissioned	Substation	Р		1	85,000	4,700,000
			P(a)		1	636,744.3	2,565,548.62
			Α	0	0	218,269.35	1,649,918.17
	Cost  Administration, monitoring, auditing					500,000 160,000	1,000,000
			P(a)			130,951	293,270
	Contingencies		P			150,000	1,000,000
			P(a)				450,000
			A			0	0
Total	Cost						
	Total Cost					5,499,475.4	30,000,000
			P(a)			9,827,128.56	29,427,825.6
			Α			3,391,713.77	13,739,434.98

## **CHANGES TO THE MATRIX**

Section	Name	Type of Reasons Change				Entered in the System	Agreed with Executing Agency	
Output	Upgrade EBS Substation S/S D procured and commissioned	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	Integrated SCADA system designed	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Geographical Information System (GIS) designed	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	Substation Paranam (S/S P) upgraded	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Households in target area (Atjoni) contracting electricity 24/h from EBS using prepaid meters	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	Enterprise Resource Planning (ERP) system designed and specified	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Power Station Atjoni (P/S Atjoni) habilitated for hybdrid power supply by EBS	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Substation Powakka (S/S POW) procured and implemented	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Geographical Information System (GIS) procured and implemented	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/10/2017	03/09/2017			
Output	Upgrade EBS Substation S/S C procured and commissioned	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	RET-based generating capacity systems procured and installed in Atjoni (kW)	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Households in target area (Atjoni) contracting electricity 24/h from EBS using prepaid meters	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	Households in target area (Powakka) contracting 24/h electricity from EBS using prepaid meters	Modify Output	EBS provided an updated SAR on 22nd March	02/24/2017	02/22/2017			
Output	Transmission and distribution systems in target area Powakka-Ayo-Redi Doti-Casipoera procured and installed	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			
Output	Integrated SCADA system procured and implemented	Modify Output	The value was updated after a meeting with EBS (executing agency)	03/09/2017	03/09/2017			