

Annual Report
on
Operation and Maintenance
of
Hulhumale' 1.5MW Photovoltaic System
ASPIRE Lot Two
(Second Year:2019.4-2020.3)



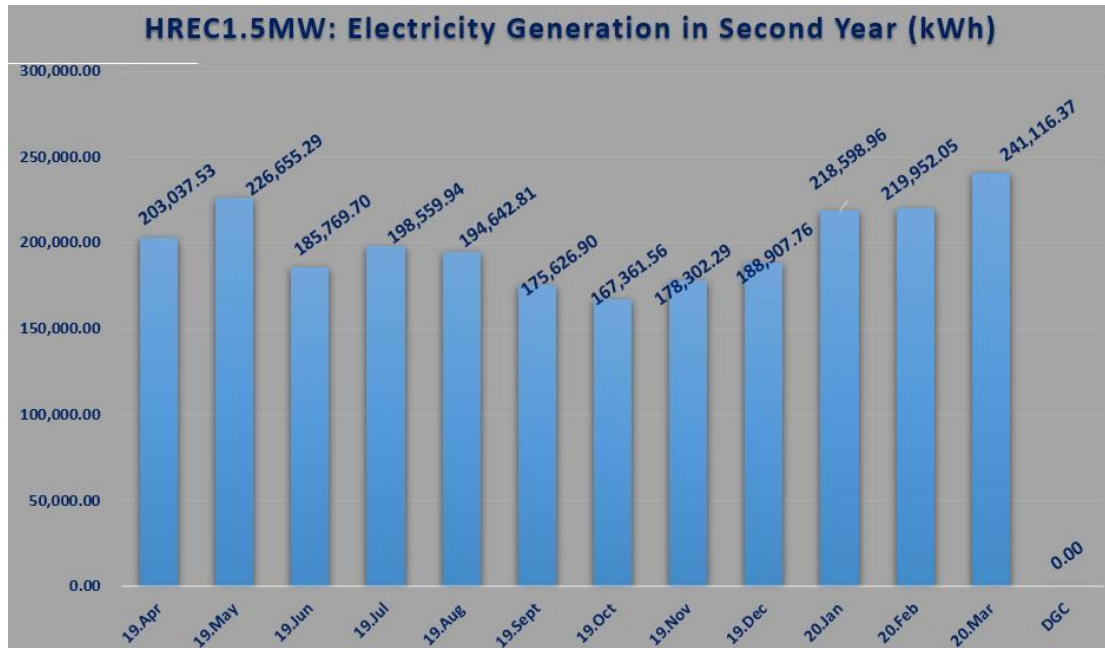
Report S.N.: 2020-01
Report Period: April 2019 to March 2020
Issued by: Hulhumale' Renewable Energy Company Pvt Ltd
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I. Description of Project

Project Capacity:	1.5MW
Project Sponsor:	Ministry of Environment
Electricity Buyer:	State Electric Company Limited (STELCO)
Project Type:	D esign, B uild, F inance, O perate, O wn, T ransfer
Project Location:	34 four-story Buildings, China Town, Hulhumale'
Project COD:	26th March 2018
Project Period:	20 years
Project Guarantor:	International Development Association

II. Energy Generated

Quarter	Billing Year	Electricity Generated (kWh)
Commissioning Test Energy		252,334.92
FIRST YEAR (2018.4-2019.3)		2,381,113.95
PPA REQUIRED for 1 st year		2,280,000.00
	Deemed Generation	19,125
Energy in Excess in 1 st O&M year		81,988.95
Apr.-Jun.	2019, 2 nd year	615,462.52
Jul.-Sept.	2019, 2 nd year	568,829.65
Oct.-Nov.	2019, 2 nd year	534,571.61
Jan.-Mar.	2020, 2 nd year	679,667.18
SECOND YEAR (2019.4-2020.3)		2,398,530.96
PPA REQUIRED for 2 nd year		2,269,000.00
Energy in Excess in 2 nd O&M year		129,530.96
Total Energy Generated		5,031,979.83



(Chart: Electricity Generated in Second Billing Year)

III. Environmental Impact

Solar energy has many environmental benefits compared to fossil-based sources of power. By utilizing solar energy, carbon/sulfur dioxide emissions are reduced, the quality of water resources maintained, less power transfer lines required, external energy dependency dwindled, and energy market prices regulated.

Hulhumale' 1.5MW Solar Project, entering the 3rd operating and maintenance billing year, has made its due shares of contributions in the above-mentioned benefits for the Republic of Maldives. The below chart shows its environmental impact at the end of the second billing year, compared to fossil-based sources of power.

S.N.	Items Impacted	Reduction (tons)
1	Carbon Dust Exhaust	1,368.70
2	Carbon Dioxide	5,016.89
3	Standard Coal Equivalent	1,650.49
4	Sulfur Dioxide	150.96
5	Nitrogen Oxides	75.48
6	Equivalent Trees Plantation (Nos)	277,160

IV. Social / Grievance Management

i. Noise

Inverters are operating on the upper corridor of forth floor with less than 60 decibel (dB). No complaint has been filed.

ii. Heat and/or Light Reflection

The panels are installed on supporting structures above the roofs of 34 four-story buildings with angle of 18 degrees. Heat could be dissipated through the space between the roof surface and panels. The sunlight radiation is reflected from the panels and brings less heat onto the roof. No complaint has been filed.

iii. Health and Safety

Safety gears are required for personnel of operation and maintenance. No incident has been reported.

iv. Waste Management

No waste has been generated.

v. Social Impact

No grievance has been filed.

V. Operation and Maintenance of PV Plant

i. Scheduled Maintenance Outages

None.

ii. Deemed Generation

Plant was shut down for 20 hours at request of STELCO due to Lube Oil Consumption tests. No Deemed Generation Cost (DGC) was qualified as the required shut-down hours are less than 150 hours stipulated in the signed PPA.

VI. Insurance Policy

Insurances	Policy NO.	Validity
Property All Risks Insurances	MLMI19CF002109	25.03.2020

Machinery Breakdown Insurance	MLMI19NMN000042	25.03.2020
Commercial General Liability	MLMI19TL000131	25.03.2020
Professional Indemnity Insurance	MLMI17D040820B	26.10.2020

Due to the outbreak of COVID-19, the first three policies are in the process of renewal. These policies are renewed on a yearly basis.

VII. Events in the Billing Year

- i. Mechanism of currency exchange (repatriation) was established among stakeholders by signing the Minutes of Meeting. Two batches of repatriation has been transferred.
- ii. Force Majeure Event of Novel Coronavirus came into being. HREC keeps monitoring the performance of the Plant via online system in order that the staff could better protect themselves by reducing exposure to and contact with the potential spread of COVID-19. Nonetheless, the performance of the Plant is satisfactory.

VIII. Photos of the PV Plant



(Aerial View of the Plant)



(PV Arrays on Roof)



(PV Arrays)



(Project Wireless Terminal)



(Metering Device and Data Logger)