

HISTORIC AND DESIGN REVIEW COMMISSION

May 06, 2015

Agenda Item No: 18

HDRC CASE NO: 2015-157
ADDRESS: 515 HAYS ST
LEGAL DESCRIPTION: NCB 529 BLK 2 LOT 11
ZONING: R6 H
CITY COUNCIL DIST.: 2
DISTRICT: Dignowity Hill Historic District
APPLICANT: Gustavo Mendoza/Smartworld Energy Inc
OWNER: Donalda Smith
TYPE OF WORK: Install solar panels
REQUEST:

The applicant is requesting a Certificate of Appropriateness for approval to install solar panels on the rear roof of the house.

APPLICABLE CITATIONS:

Historic Design Guidelines, Chapter 3, Guidelines for Additions

6. Designing for Energy Efficiency

C. SOLAR COLLECTORS

- i. *Location*—Locate solar collectors on side or rear roof pitch of the primary historic structure to the maximum extent feasible to minimize visibility from the public right-of-way while maximizing solar access. Alternatively, locate solar collectors on a garage or outbuilding or consider a ground-mount system where solar access to the primary structure is limited.
- ii. *Mounting (sloped roof surfaces)*—Mount solar collectors flush with the surface of a sloped roof. Select collectors that are similar in color to the roof surface to reduce visibility.

FINDINGS:

- a. Consistent with the Guidelines for Additions, solar panels should be located on the side or rear roof pitches of the main house to minimize visibility from the street. The proposed panels will be located on a rear addition to minimize view from the street which is consistent with the guidelines.

RECOMMENDATION:

Staff recommends approval as submitted based on finding a.

CASE MANAGER:

Adriana Ziga





515 Hays

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Printed: Apr 28, 2015

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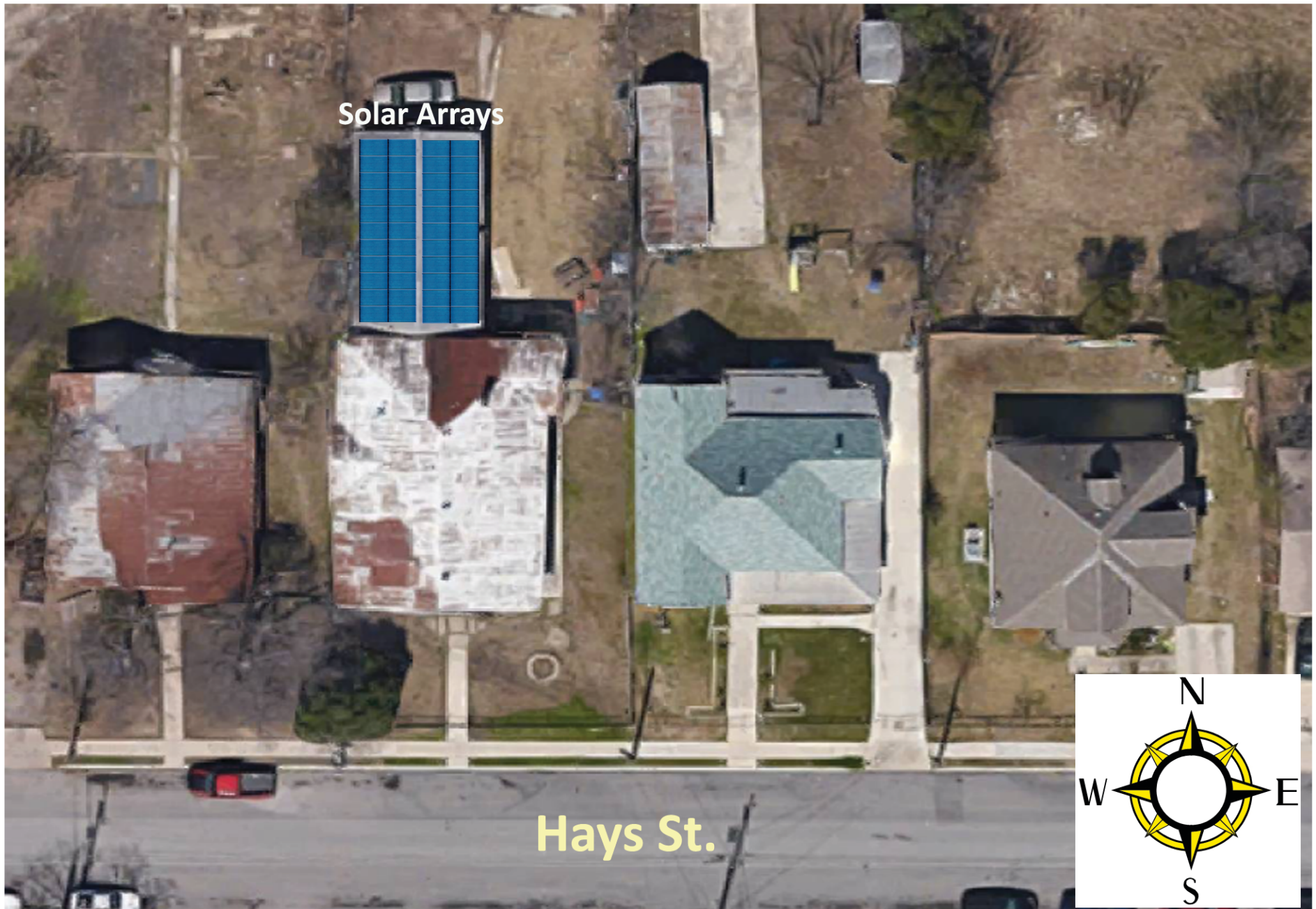
Donalda Smith
515 Hays St
San Antonio TX 78202

Solar modules will be installed in the roof of rear dwelling. Roof is not visible from the street at all.



11.88 KW
Solar Photovoltaic System

Donalda Smith
Elizabeth Franklyn
515 Hays St
San Antonio TX 78202





Hyundai Solar Module

Hyundai Heavy Industries was founded in 1972 and is a Fortune 500 company. The company employs more than 48,000 people, and has a global leading 7 business divisions with sales of 60.2 Billion USD in 2012. As one of our core businesses of the company, Hyundai Heavy Industries is committed to develop and invest heavily in the field of renewable energy.

Hyundai Solar is the largest and the longest standing PV cell and module manufacturer in South Korea. We have 600 MW of module production capacity and provide high-quality solar PV products to more than 3,000 customers worldwide. We strive to achieve one of the most efficient PV modules by establishing an R&D laboratory and investing more than 20 Million USD on innovative technologies.

RG-Series

Multi-crystalline Type

HiS-M250RG | HiS-M255RG | HiS-M260RG

Mono-crystalline Type

HiS-S260RG | HiS-S265RG | HiS-S270RG

Mechanical Characteristics

Dimensions	998 mm (39.29") (W) × 1,640 mm (64.57") (L) × 35 mm (1.38") (H)
Weight	Approx. 17.2 kg (37.9 lbs)
Solar cells	60 cells in series (6 × 10 matrix) (Hyundai cell, Made in Korea)
Output cables	4 mm ² (12AWG) cables with polarized weatherproof connectors, IEC certified (UL listed), Length 1.0 m (39.4")
Junction box	IP68, weatherproof, IEC certified (UL listed)
Bypass diodes	3 bypass diodes to prevent power decrease by partial shade
Construction	Front : High transmission low-iron tempered glass, 2.8 mm (0.11") Encapsulant : EVA Back Sheet : Weatherproof film
Frame	Clear anodized aluminum alloy type 6063

High Quality

- IEC 61215 (Ed.2) and IEC 61730 by VDE
- UL listed (UL 1703), Class C Fire Rating
- Output power tolerance +3/-0 %
- ISO 9001:2000 and ISO 14001:2004 Certified
- Advanced Mechanical Test (5,400 Pa) Passed (IEC)
/ Mechanical Load Test (40 lbs/ft²) Passed (UL)
- Ammonia Corrosion Resistance Test Passed
- IEC 61701 (Salt Mist Corrosion Test) Passed

Fast and Inexpensive Mounting

- Delivered ready for connection
- IEC (UL) certified and weatherproof connectors
- Integrated bypass diodes

Limited Warranty

- 10 years for product defect
- 10 years for 90 % of warranted min. power
- 25 years for 80 % of warranted min. power

※ Important Notice on Warranty

The warranties apply only to the PV modules with Hyundai Heavy Industries Co., Ltd.'s logo (shown below) and product serial number on it.



Electrical Characteristics

| Multi-crystalline Type |

		HIS-M ■ ■ ■ RG		
		250	255	260
Nominal output (Pmpp)	W	250	255	260
Voltage at Pmax (Vmpp)	V	30.9	31.0	31.1
Current at Pmax (Impp)	A	8.1	8.2	8.4
Open circuit voltage (Voc)	V	37.4	37.6	37.7
Short circuit current (Isc)	A	8.7	8.8	8.9
Output tolerance	%	+3/-0		
No. of cells & connections	pcs	60 in series		
Cell type	-	6" Multi-crystalline silicon (Hyundai cell, Made in Korea)		
Module efficiency	%	15.3	15.6	15.9
Temperature coefficient of Pmpp	%/K	-0.43	-0.43	-0.43
Temperature coefficient of Voc	%/K	-0.32	-0.32	-0.32
Temperature coefficient of Isc	%/K	0.048	0.048	0.048

※ All data at STC (Standard Test Conditions). Above data may be changed without prior notice.

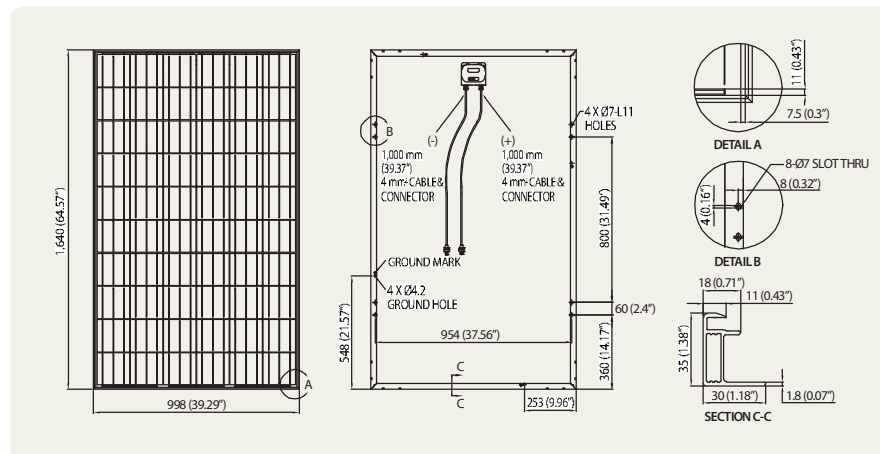
| Mono-crystalline Type |

		HIS-S ■ ■ ■ RG		
		260	265	270
Nominal output (Pmpp)	W	260	265	270
Voltage at Pmax (Vmpp)	V	31.1	31.3	31.4
Current at Pmax (Impp)	A	8.4	8.5	8.6
Open circuit voltage (Voc)	V	37.9	38.1	38.2
Short circuit current (Isc)	A	8.9	9.0	9.2
Output tolerance	%	+3/-0		
No. of cells & connections	pcs	60 in series		
Cell type	-	6" Mono-crystalline silicon (Hyundai cell, Made in Korea)		
Module efficiency	%	15.9	16.2	16.5
Temperature coefficient of Pmpp	%/K	-0.45	-0.45	-0.45
Temperature coefficient of Voc	%/K	-0.33	-0.33	-0.33
Temperature coefficient of Isc	%/K	0.032	0.032	0.032

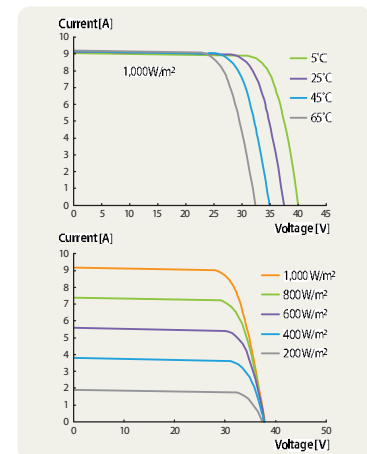
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| Module Diagram |

(unit : mm, inch)



| I-V Curves |



| Installation Safety Guide |

- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temperature	46°C ± 2
Operating Temperature	-40 - 85°C
Maximum System Voltage	DC 1,000 V (IEC) DC 600 V (UL)
Maximum Reverse Current	15 A

[Printed Date : January 2014]