



May 12, 2010

Case No. 10-692-EL-REN

Notification of Changes / Supply of Additional information

Section G.2 – Please include a detailed description of how the output of the facility is going to be measured and verified, including a configuration of the meter and the meter type.

Total Gross Generation is measured with a meter that is mounted on the side of the gen-set control panel. This meter is a Landis & Gyr, E650 S4e meter.

(See attachment A – Meter Product Specification Sheets)

Section G.3 – Please attach photograph that depicts an accurate characterization of the renewable generation facility.

(See attachment B – updated picture of renewable energy facility)

Section H – The Renewable Energy Facility has a placed-in-service date on or after January 1, 1998; (3/18/2011)

Section I.1 – In-Service date of each unit: 3/18/2011

N. Meter Specifications

N.a. The meter that is measuring output from the facility is: XX **Utility Grade Meter**

N.1 Please provide the following information:

N.1.a – Manufacturer: **Landis & Gyr**

N.1.b – Serial Number: **79 457 484**

N.1.c – Type: **AXS4e**

N.1.d – Date of Last Certification: **Installed remote monitoring equipment for meter 4/28/2011, energy was first being generated on 3/18/2011**

(See attachment C - photograph of meter and date taken)

N.1.e – Report the total meter reading number at the time the photograph is taken

(See attachment C – photograph of meter and date taken)

O. Start date from with the facility may begin reporting generation towards the creation of REC's

(See attachment D – spreadsheet showing the remote monitoring download)

E650 S4e

Enhanced metering for Commercial and Industrial Applications

Built on the time-tested platform of the S4, the S4e extends the “build-a-meter concept” into the realm of open-architecture protocol, fully supporting the ANSI C12.18, C12.19, and C12.21 communication protocol standards.

A changing meter for a changing market:

The S4e maintains its flexibility with a FLASH technology programmable microprocessor. Field re-programmability via the ANSI standard type II optical port preserves your investment with the evolving requirements of the ANSI protocol, and changing demands of the market.

The S4e incorporates 128k of on-board memory storage for load profile, self-reads, and event logs providing an easy upgrade path without the need for an additional option board. Load profile can be configured for up to 15 channels of information from a choice of 24 different storage metrics.

The build-a-meter concept provides modular growth in the S4e with software upgrades for time of use, reactive energy metering, transformer loss compensation, load profile as well as the flexibility of adding any combination of communication and relay option boards.

The S4e is an ‘AMI friendly’ meter with the largest space under the cover for AMI integration. A wide range of modular and integrated communication options are currently available, either factory installed or for retrofit. Technologies include power line carrier, mesh network, digital cellular, RS-232, RS-485 and the advanced modem.



Load Profile

- 128K on-board option available
- Up to 15 channels from choice of 24 metrics available in S4e meter

Key Benefits

- KYZ with Programmable Pulse Output Value
- EOI
- Demand Threshold Alert
- Voltage Threshold Alert
- Diagnostics
- Load Control
- Up to two inputs from external devices
- Pulses input to load profile
- Activate real-time rate
- Optional transformer loss compensation
- AMI friendly

Landis+Gyr⁺
manage energy better

Specifications

General Specifications	Active Energy “kWh-kW” and optional Reactive kVAh-kVA kVARh-kVAR	
	Digital Multiplication Measurement Technique	
	Non-Volatile Memory	
	Designed for 20+ years life	
	Meets ANSI standards for performance	
	Utilizes ANSI protocol (between meter and AMI device)	
	9-Digit LCD	
	Display scroll sequence programmable (factory or end user)	
Operating Temperature	-40C to +85C under cover	
Nominal Voltage	120–480V Auto Ranging Power Supply	
Operating Voltage	60% to 115% of Vn	
Frequency	50 or 60Hz ± 5%	
Humidity	Less than or equal to 95% relative humidity, non condensing	
Accuracy Class	Class 20, 120, 200 & 320 Meters ± 0.2%	
	Class 480 Meters ± 0.5%	
	Over Voltage Withstand	
	Temporary (.5 sec) 150% rated voltage	
	Continuous (5 hours) 120% rated voltage	
Starting Load (Watts)	Class 20	0.005 Amp (0.6W)
	Class 150	0.050 Amp (6.0W)
	Class 200	0.050 Amp (6.0W)
	Class 320	0.080 Amp (9.6W)
	Class 480	0.120 Amp (14.4W)
Available Forms	Self-Contained	S-Base – 2S, 12S, 14/15/16S, 25S, 1S, 2SE, 12SE, 14SE/15SE/16SE, 25SE
		K-Base – 12K, 16K/15K, 27K
		A-Base – 16A
	Transformer Rated	S-Base – 3S, 4S, 9S/8S, 45S, 36S, 29S, 56S
		A-Base – 10A/8A, 45A, 36A
Applicable Standards	ANSI C12.1 for electric meters	
	ANSI C12.10 for physical aspects of watt hour meters	
	ANSI C12.20 for electricity meters, 0.2 and 0.5 accuracy classes	
	CAN3-C12-M84 Canadian Specs for approval of electrical meters	
	CAN3-Z234.4-79 Canadian Specs for all numeric dates and times	
Voltage Burden	≤ 2.5W	

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 Lafayette, IN 47904 U.S.A
 Phone: **765.742.1001** • Tech Support: **800.777.2774**
 FAX: **765.429.0936**
www.landisgyr.com

Landis+
Gyr
 manage energy better



Zanesville Energy
November, 2010

FM 9S/8S

CL 20

230V 480V

2.5

Va Vb Vc

0.000000

kWh

000000.00

Y

Kh 1.8

4W YΔ

60 Hz

Type

AXS4e

K=0.15

SOLID STATE ELECTRICITY METER

VTR ☐

CTR ☐

PKh ☐

MULT. ALL
RDGS. BY

☐

79 457 484



02



Attachment D

Device ID	79457484
Serial Number	79457484
Kh	1.8
Interval Length	15
Transformer Factor	12
Transformer Factor Applied	FALSE
Meter Multiplier	1
Meter Multiplier Applied	FALSE
CT	1
CT Applied	FALSE
PT	1
PT Applied	FALSE
Sag Threshold	0%
Swell Threshold	0%
Daylight Time	TRUE
Pulse Values	FALSE

History Log:

Event	Event Time	Initiation
Time change (Old Time)	4/28/11 13:30	Communication - User ID: 312
Time change (New Time)	4/28/11 13:30	Communication - User ID: 312

Time	Status	kWh	Negative kWh
4/28/11 13:45	PI	0	0.1323 21.168
4/28/11 14:00		0	0.1419 22.704
4/28/11 14:15		0	0.14325 22.92
4/28/11 14:30		0	0.14655 23.448
4/28/11 14:45		0	0.1485 23.76
4/28/11 15:00		0	0.14565 23.304
4/28/11 15:15		0	0.1434 22.944
4/28/11 15:30		0	0.1446 23.136
4/28/11 15:45		0	0.1425 22.8
4/28/11 16:00		0	0.14175 22.68
4/28/11 16:15		0	0.1485 23.76
4/28/11 16:30		0	0.14805 23.688
4/28/11 16:45		0	0.14715 23.544
4/28/11 17:00		0	0.14295 22.872
4/28/11 17:15		0	0.14415 23.064
4/28/11 17:30		0	0.1446 23.136
4/28/11 17:45		0	0.1425 22.8
4/28/11 18:00		0	0.14685 23.496
4/28/11 18:15		0	0.1482 23.712
4/28/11 18:30		0	0.14895 23.832
4/28/11 18:45		0	0.1473 23.568
4/28/11 19:00		0	0.1494 23.904
4/28/11 19:15		0	0.14745 23.592
4/28/11 19:30		0	0.14655 23.448

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Time	Status	kWh	Negative kWh
4/28/11 19:45	0	0.14355	22.968
4/28/11 20:00	0	0.14205	22.728
4/28/11 20:15	0	0.1356	21.696
4/28/11 20:30	0	0.13035	20.856
4/28/11 20:45	0	0.1335	21.36
4/28/11 21:00	0	0.13785	22.056
4/28/11 21:15	0	0.1353	21.648
4/28/11 21:30	0	0.1362	21.792
4/28/11 21:45	0	0.1371	21.936
4/28/11 22:00	0	0.14205	22.728
4/28/11 22:15	0	0.14625	23.4
4/28/11 22:30	0	0.1509	24.144
4/28/11 22:45	0	0.1482	23.712
4/28/11 23:00	0	0.1497	23.952
4/28/11 23:15	0	0.1524	24.384
4/28/11 23:30	0	0.1533	24.528
4/28/11 23:45	0	0.15225	24.36
4/29/11 0:00	0	0.15	24
4/29/11 0:15	0	0.15	24
4/29/11 0:30	0	0.1539	24.624
4/29/11 0:45	0	0.15375	24.6
4/29/11 1:00	0	0.1521	24.336
4/29/11 1:15	0	0.15225	24.36
4/29/11 1:30	0	0.15045	24.072

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Time	Status	kWh	Negative kWh
4/29/11 1:45	0	0.15465	24.744
4/29/11 2:00	0	0.15075	24.12
4/29/11 2:15	0	0.15195	24.312
4/29/11 2:30	0	0.1497	23.952
4/29/11 2:45	0	0.15075	24.12
4/29/11 3:00	0	0.15045	24.072
4/29/11 3:15	0	0.1512	24.192
4/29/11 3:30	0	0.1503	24.048
4/29/11 3:45	0	0.15165	24.264
4/29/11 4:00	0	0.1515	24.24
4/29/11 4:15	0	0.1512	24.192
4/29/11 4:30	0	0.1536	24.576
4/29/11 4:45	0	0.15075	24.12
4/29/11 5:00	0	0.1512	24.192
4/29/11 5:15	0	0.1509	24.144
4/29/11 5:30	0	0.1527	24.432
4/29/11 5:45	0	0.15285	24.456
4/29/11 6:00	0	0.1524	24.384
4/29/11 6:15	0	0.15105	24.168
4/29/11 6:30	0	0.15105	24.168
4/29/11 6:45	0	0.1506	24.096
4/29/11 7:00	0	0.1473	23.568
4/29/11 7:15	0	0.15135	24.216
4/29/11 7:30	0	0.1557	24.912

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Time	Status	kWh	Negative kWh	
4/29/11 7:45	0	0.15375	24.6	
4/29/11 8:00	0	0.1539	24.624	
4/29/11 8:15	0	0.15765	25.224	
4/29/11 8:30	0	0.1521	24.336	
				<u>1795.992</u>

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Case No(s). 10-0692-EL-REN

Summary: Answer Complete the application for Renewable Energy Facility, update on meter electronically filed by Mrs. Deborah H Elias on behalf of Johnson, Alan R Mr.