

KIUC Quarterly Update

January 21, 2010



Financials & Rate Case Update

David Bissell

Vice President & CFO

Unaudited Financial Results

- Margin \$5.6 M vs. \$9.6 M PY
- TIER 1.59 vs. 1.96 PY
- Equity 18.38% vs. 15.42% PY (FAS 106 pickup \$2M)
- Sales \$130M vs. \$190M PY (MWh decrease 4%)
- Fuel & PP \$56M vs. \$105M PY
- O&M Expense \$32M vs. \$34M PY

Rate Case Filing

- Discovery phase of case complete
- Consumer Advocate, Marriott, and Navy have filed position statements
- First cooperative rate case in Hawaii
- Parties now issuing discovery request to understand each other's position
- Further work amongst parties to resolve cooperative vs. IOU position
- Issues to be worked through
 - Appropriate TIER
 - Sales Outlook
 - Cost of Power Adjustment
 - Contributions, Sponsorships, and other community support
- KIUC Rebuttal Due March 1st

KIUC AMI Project

Mike Yamane, P.E.

Engineering Manager

AMI: Definition & Functionality

Advanced Metering Infrastructure (AMI) - “Smart Metering”

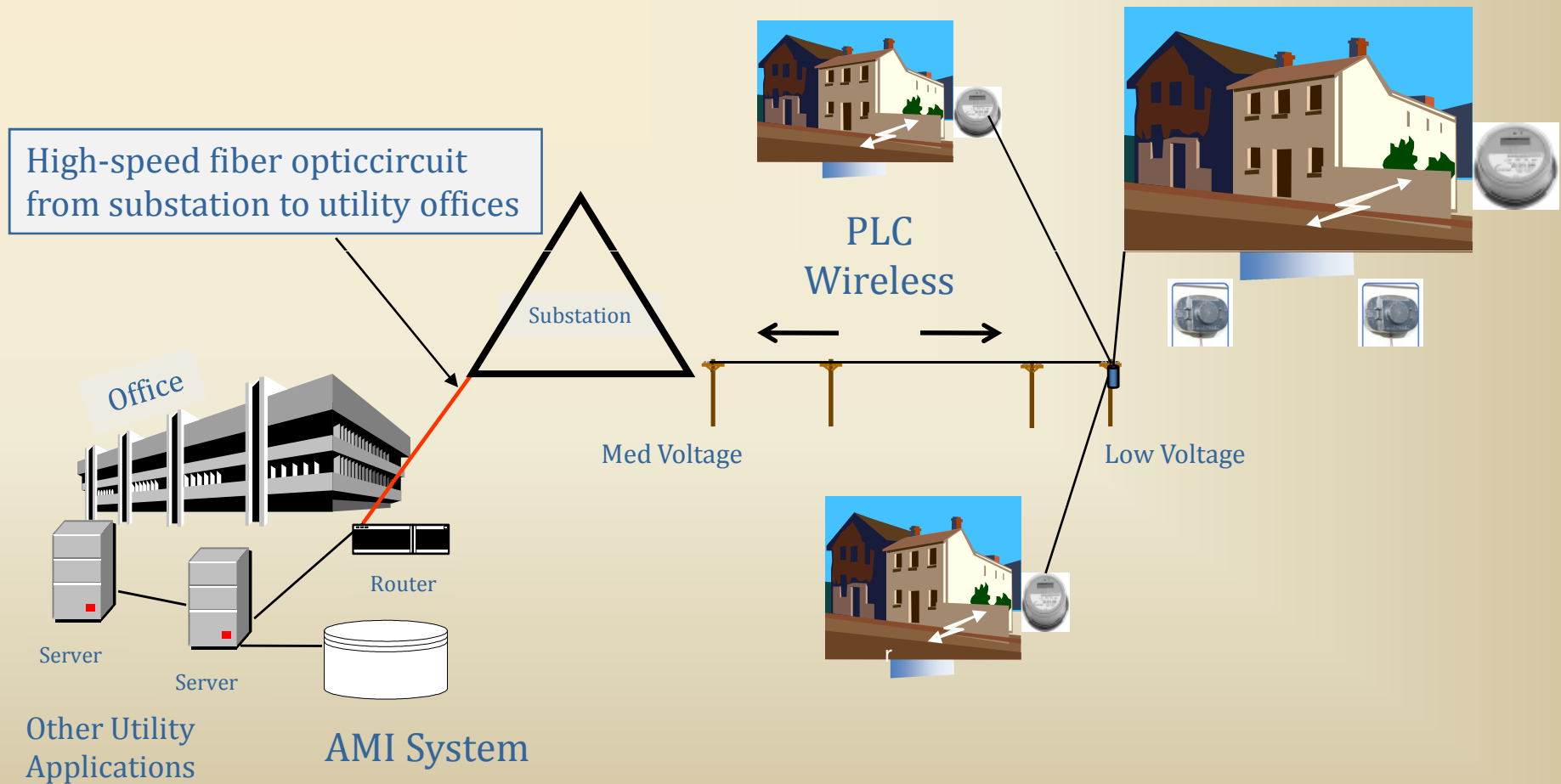
The communications hardware, software, associated system, and data management software that creates a two-way network between advanced meters, meter modules, and utility business systems.

AMI Functionality

- Two-Way Communications
- Meter Reads
- Connect/Disconnects
- Capacitor Switching
- Load Management
- Critical Peak Pricing
- Demand Response
- Outage Detection
- Real-time voltage readings
- Distribution Automation
- Tamper/theft Detection
- Rate and Service Limiting
- Pre-Pay
- On-Demand Reads
- Phase Change Tracking

AMI Technology - Power Line Carrier

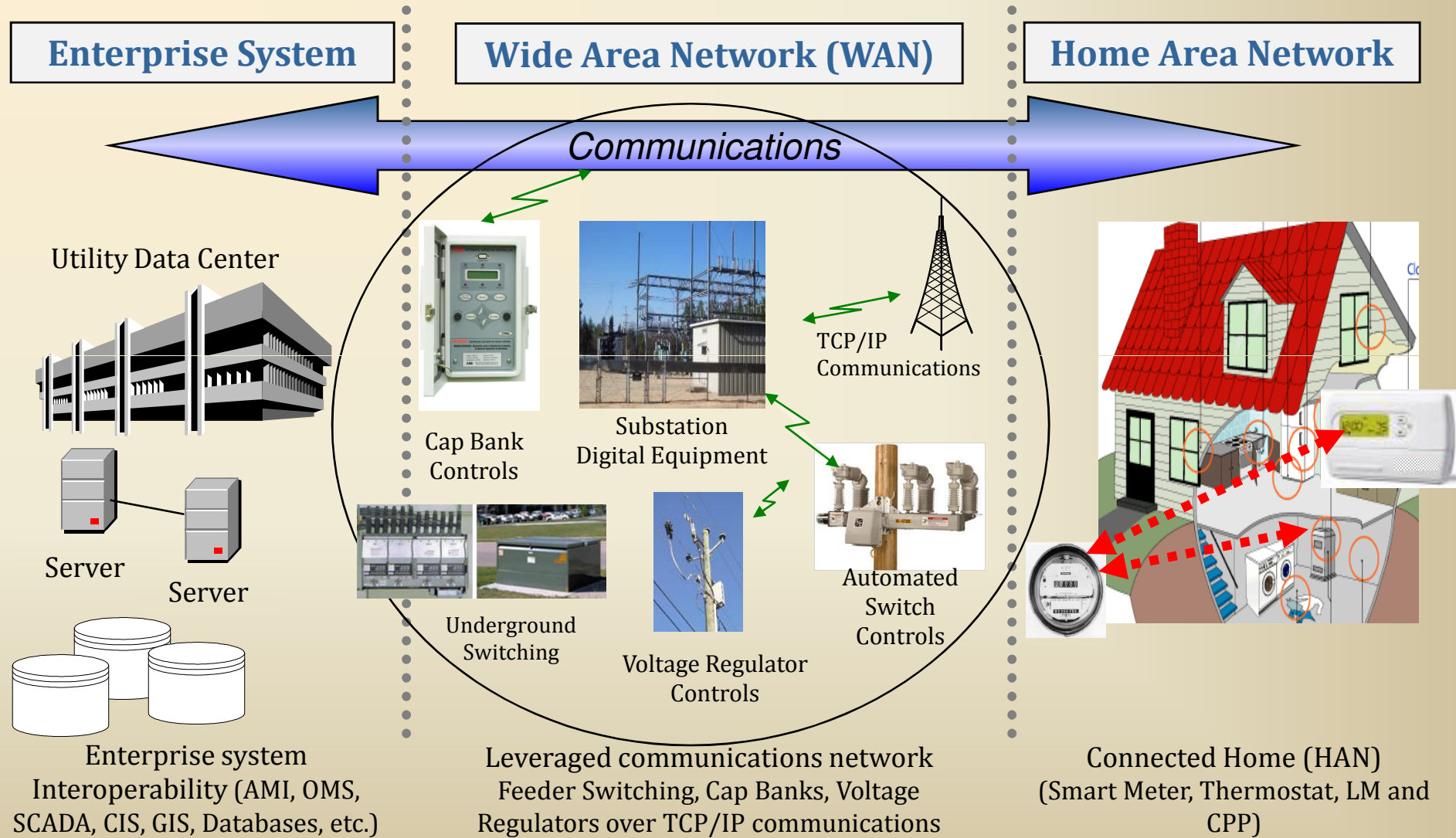
Power Line Carrier (PLC) uses both low and medium voltage electric distribution facilities to transport meter data between the customer premises and the utility office.



Customer Benefits

- Accuracy – fewer read errors
- Fewer estimated bills
- No meter readers on property
- Billing date flexibility
- Monitor energy consumption
- Improved power quality
- Faster outage restoration
- Potential energy efficiency savings for the customer

Smart Grid System Segments



KIUC AMI Project

- Install 33,000 Smart Meters
- Install Island wide Communications Infrastructure
- Install Associated Hardware/Software
- 5 year demonstration project
- 2 year installation + 3 years reporting.

KIUC Energy Storage Project

Why Energy Storage ?

- 4 MW aggregate by 2010 customer sited
(Largest single is 500 KW)
- Utility Scale looking at 1-3 MW size
- Technical Issues
 - PV response (Cloud cover)
 - Voltage variation on Distribution Feeder
(Flicker)
 - System Frequency excursions.

PV Response to cloud cover

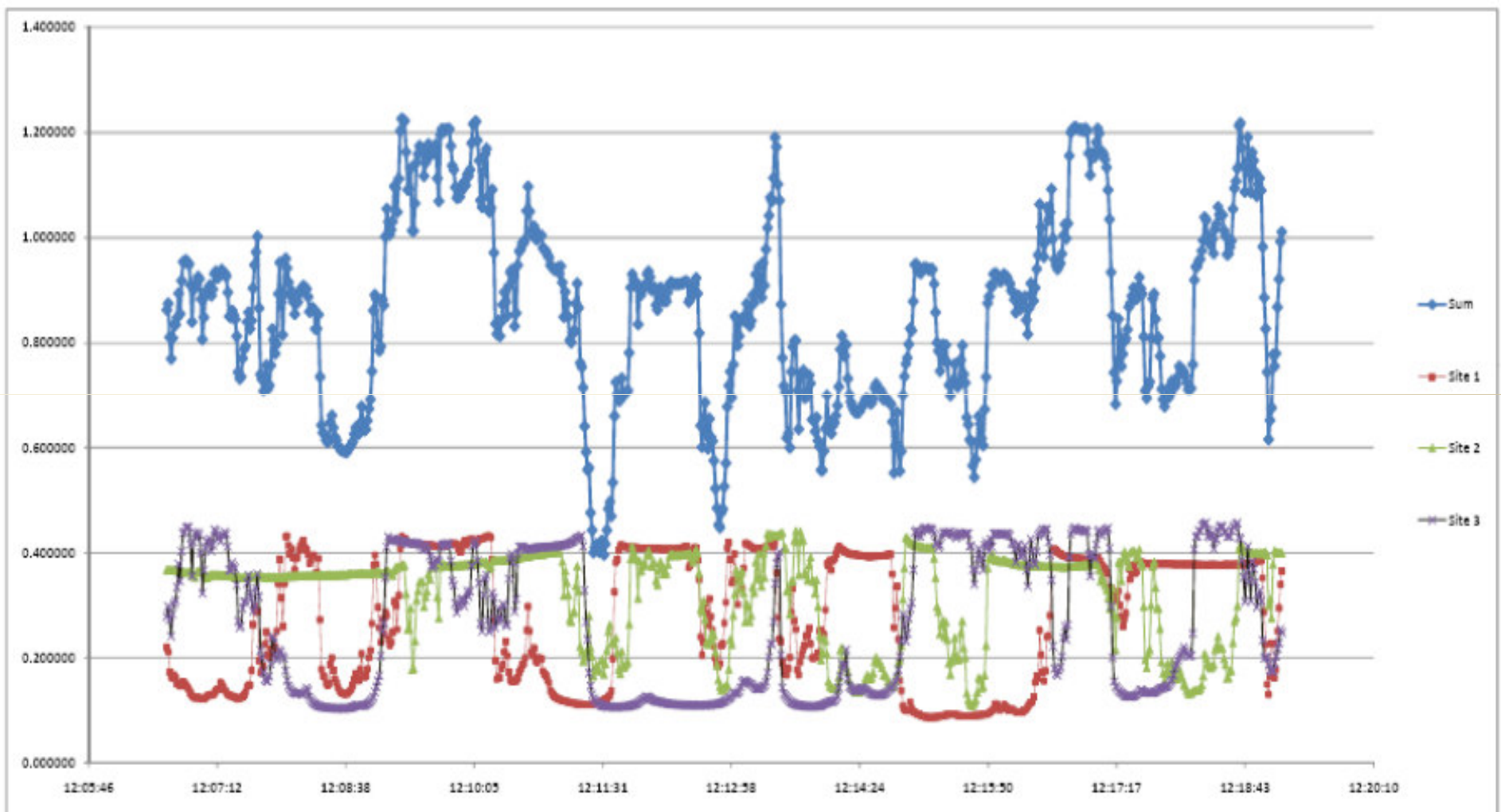
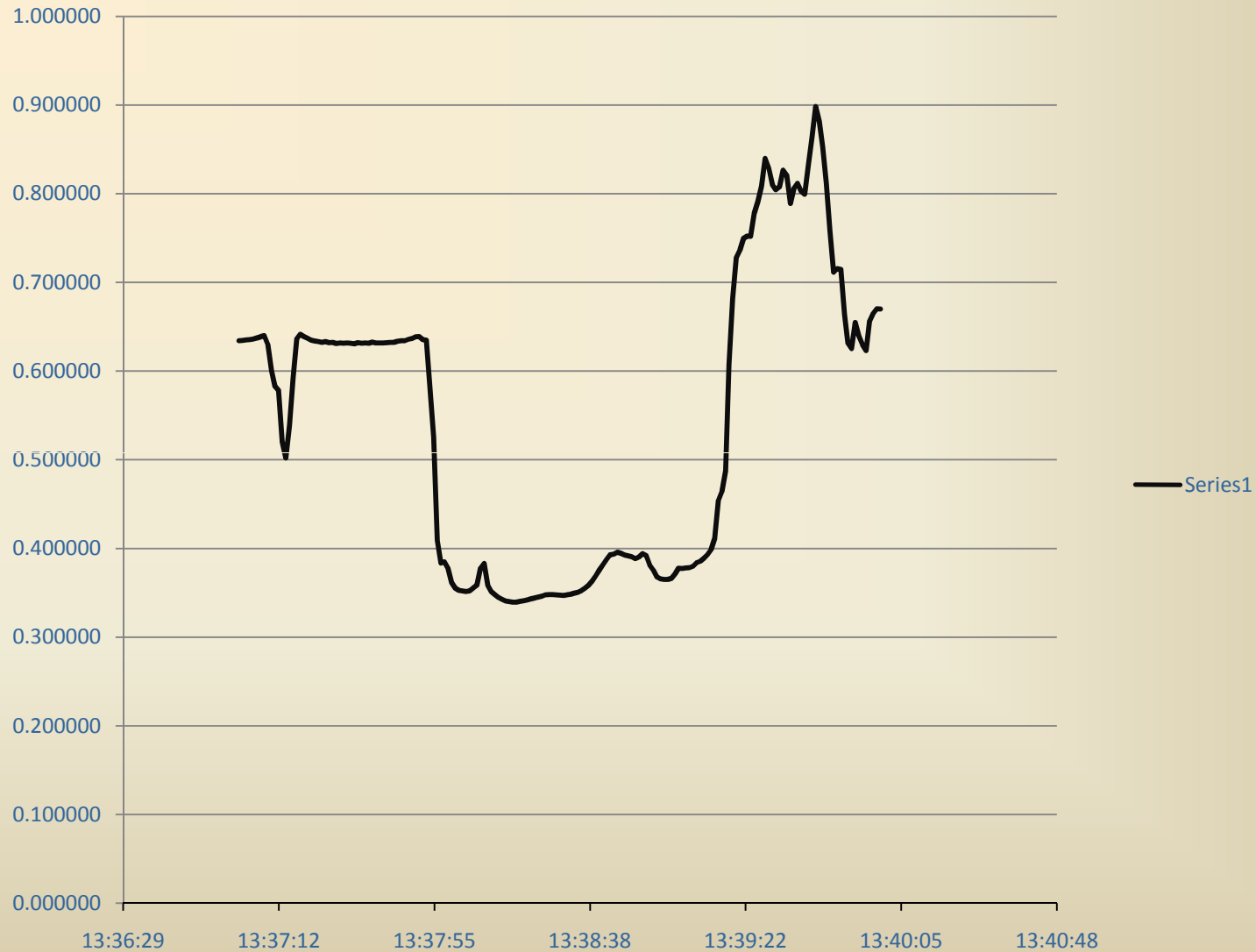


Figure 4 – Irradiance 1-Second Data

PV Response to cloud cover (cont.)



Technical Issues to Grid due to PV

- Ramp rates may exceed machine response.
- Load shedding may occur.
- Voltage variations on individual feeders(Flicker).
- Stress on machines.
- Instability on system.

Energy Storage Solution

- Studying Energy Storage since 2005.
- Sandia Study SAND2009-2679
- EPS Transient Stability Study 2006
- GE Stability Study
- High Speed Data recorder on both plants.
- PSS/E Dynamic Modeling on KIUC system.
- All point to Energy Storage to address multiple system issues including intermittent generation sources.

Energy Storage Solution(cont.)

- Applied for Energy Storage Demonstration Grant with NRECA/CRN.
- Continue to work with NRECA/CRN for funding.
- KIUC approved capital budget for 5 million dollars in 2010-2011.

Renewables Update

Randy Hee
President & CEO





