

# The Shifting Line



On the morning of December 13, 2011, an Idaho Power Customer Service Representative, an installer and a Twin Falls County Deputy Sheriff arrived at my home to install a Landis+Gyr Smart Meter.



We're here to  
install a new meter  
by Order of the  
Idaho Public Utilities  
Commission:

Rule D Item 1 and  
Rule C Item 7

***An offer you can't refuse***

*(He didn't really point a gun at me. He didn't have to – his presence at my door was threat enough for me.)*

**RULE D**  
**METERING**

1. **Meter Installations.** The Company will install and maintain the metering equipment required by the Company to measure power and energy supplied to the Customer. Meter installations will be done at the Company's expense except as specified below or otherwise specified in a schedule. Customer provisions for meter installations will be made in conformance with Company specifications, the National Electrical Code, and/or applicable state or municipal requirements.

a. **Instrument Transformer Metering.** When instrument transformer metering is requested by the Customer but not required by the Company at the time of the initial meter installation, the Customer will be required to pay the cost of such metering equipment and its installation in accordance with the charges specified in Schedule 66. When a Customer requests instrument transformer metering not required by the Company at a time other than at the time of the initial meter installation, the actual costs will apply.

b. **Off-Site Meter Reading Service.** Customers taking single-phase service under Schedule 1, 4, 5, or 7 may request the Company install metering equipment which provides for off-site meter reading. The installation fee and monthly charges for off-site meter reading capability, when the service is requested by the Customer but not deemed to be cost-effective by the Company, are specified in Schedule 66. The Company shall have the sole right to determine whether an installation is cost-effective. Customers who request the Company-installed off-site meter reading equipment be removed within 90 days of initial installation will be assessed a removal fee in accordance with the provisions of Schedule 66. Due to the specialized nature of the metering equipment, a delay may occur between the time a Customer requests the Off-Site Meter Reading Service and the time the equipment is available for installation. Customers utilizing the Off-Site Meter Reading Service may be required to periodically permit Company personnel access to the meter in order for maintenance to be performed.

Idaho Power Company

First Revised Sheet No. C-2

Cancels

I.P.U.C. No. 29, Tariff No. 101

Original Sheet No. C-2

**IDAHO PUBLIC UTILITIES COMMISSION**

**Approved**

**Effective**

**Jan. 19, 2011**

**Jan. 1, 2011**

**Per O.N. 32132**

**Jean D. Jewell Secretary**

**RULE C**  
**SERVICE AND LIMITATIONS**  
**(Continued)**

7. Rights of Way. The Customer shall, without cost to the Company, grant the Company a right of way for the Company's lines and apparatus across and upon the property owned or controlled by the Customer, necessary or incidental to the supplying of Electric Service and shall permit access thereto by the Company's employees at all reasonable hours.



Analog Meter

But Officer say I, I already have a meter and it works very well.

The new device they want to install is not just a meter. It's a two-way communications, data collection and control device.

Idaho Power's selected Smart Meter Technology is the Landis+Gyr . It uses Power Line Carrier Communications (PLCC).

According to Idaho Power's standard form letter to resisters of Smart Meter Technology:

**“The smart meter technology we are deploying at Idaho Power utilizes the low frequency 60 hertz (Hz) power line signal as the carrier for our communications.**

**The system we are deploying uses only wired infrastructure to communicate to and from our Smart Meters.**

**Smart Meters measure energy just like traditional electric meters.”**



**Landis+Gyr**

Advanced Metering Infrastructure

## Landis+Gyr

Advanced metering goes beyond a simple meter read and realizes the potential of sending and receiving information from every touchpoint on a system.

Landis+Gyr technology includes two-way fixed networks for near real-time communication with, and programming of, advanced metering endpoints. Deployment options include dynamic RF mesh and PLC-based systems, GPRS, 3G Wimax and others that enable:

- Revenue protection
- Interval usage data
- Demand response and time-based rates
- Home area networks
- Remote disconnect of service

### Our History

Since 1896 Landis+Gyr (originally known as "Electrotechnisches Institut Theiler and Co.") has been designing and manufacturing high quality, state of the art electricity meters. Based in Zug, Switzerland, the company had access to a highly skilled workforce and distribution system throughout Europe. In 1924 the company expanded globally with the establishment its first overseas office in New York.

**Through the late 90s the company saw a series of different investors and owners, including Elektrowatt, KKR and Siemens. In 2004 Bayard Capital of Australia purchased the company with a vision of building the premier energy management company in the world that would combine positive environmental outcomes with the company's culture.**

Since Bayard's acquisition other companies have been added to the Group, creating the world's leading powerhouse in energy metering solutions. **Today Landis+Gyr has operations spanning more than 30 countries and serving all of the major utilities in every continent.** <http://www.landisgyr.com/en/pub/home.cfm7>

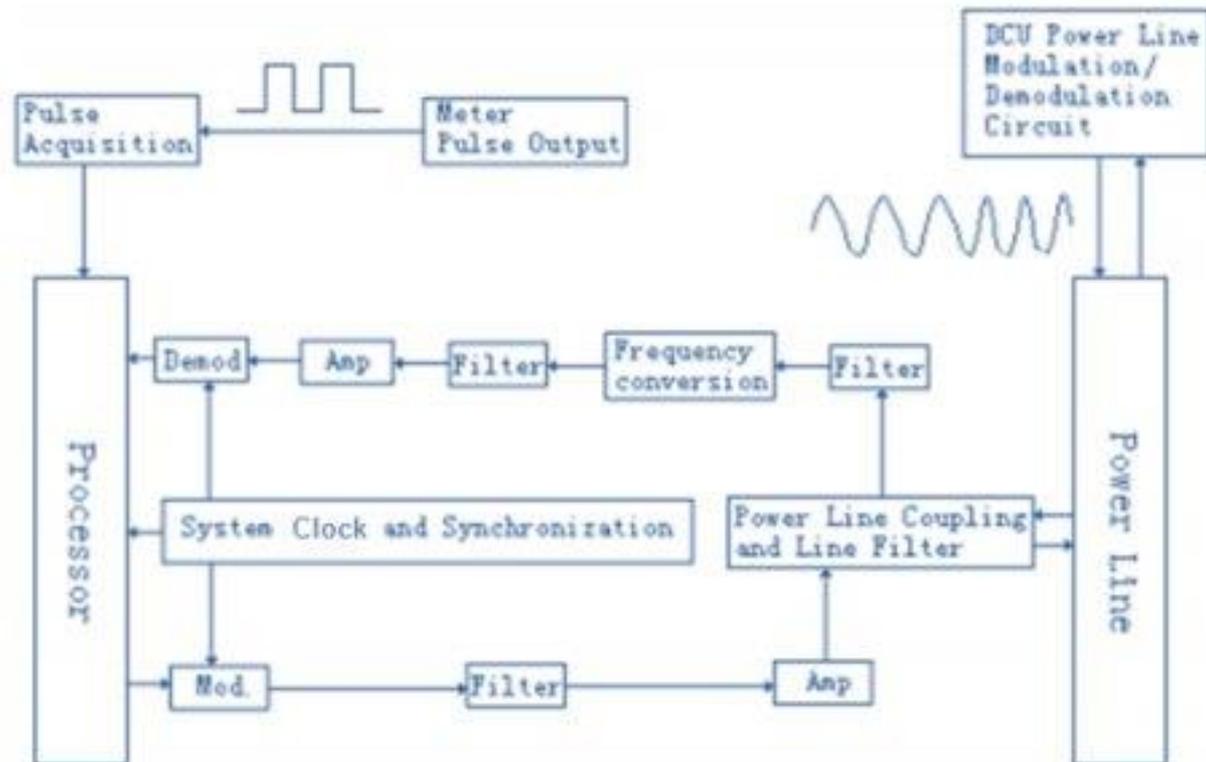
### Advanced Metering Infrastructure



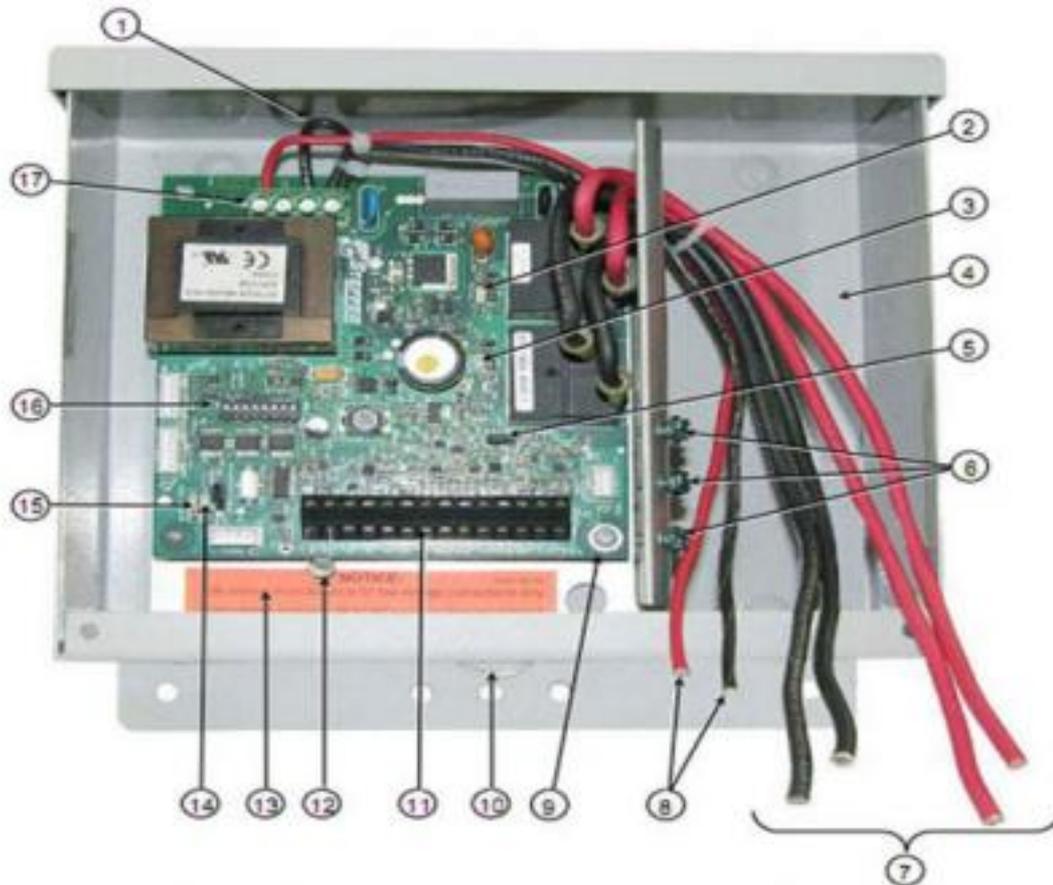
# Power Line Carrier Communications

## Operating Principle

The communication device used for the communication over the power lines is a MODEM, commonly known as Power Line MODEM (PLM). It works as both transmitter and receiver, i.e., it transmits and receives data over the power lines. A power line modem not only modulates the data to transmit it over the power lines and but also demodulates the data it receives from the power lines. By using modulation techniques, binary data stream is keyed on to a carrier signal and then coupled on to the power lines by PLM. At the receiver end another PLM detects the signal and extracts the corresponding bit stream.



## PLC Modems/Transceivers



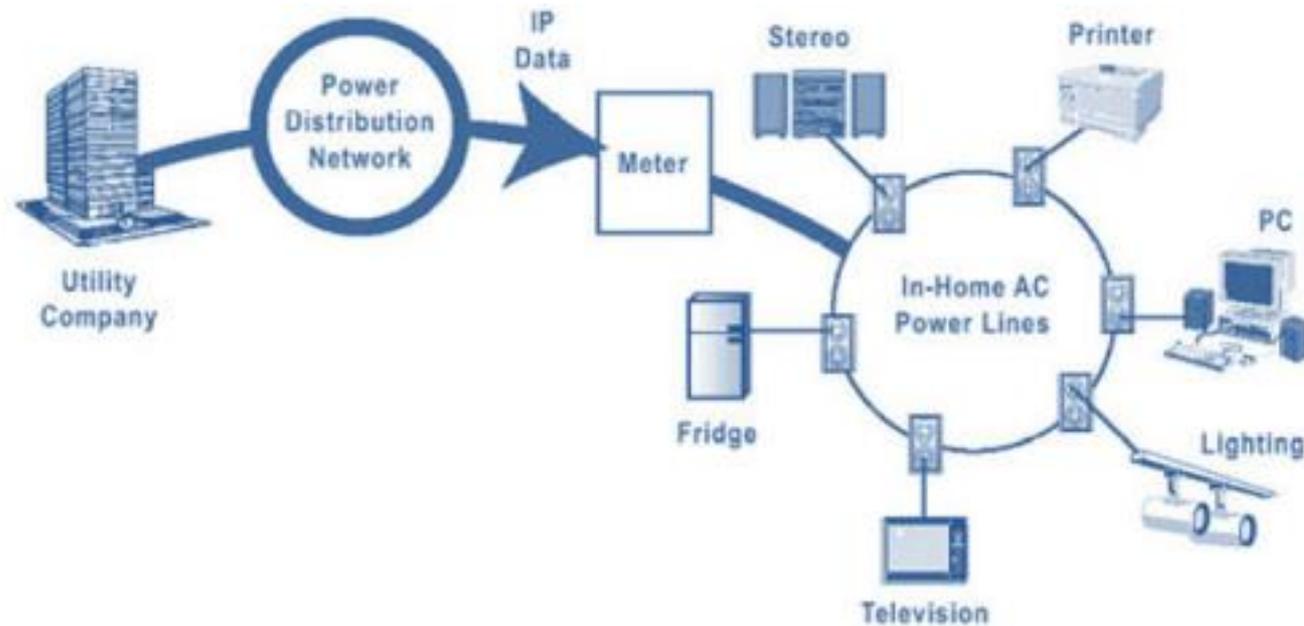
- |                                                             |                                                         |
|-------------------------------------------------------------|---------------------------------------------------------|
| 1 - Line Voltage Tapping [Page 9]                           | 10 - Security Lockout/Seal Loop                         |
| 2 - Relay #1 LED (marked "Relay 1") [Page 11]               | 11 - Low Voltage Terminal Block [Page 13]               |
| 3 - Relay #2 LED (marked "Relay 2") [Page 11]               | 12 - Temperature Sensing Thermistor [Page 13]           |
| 4 - Line Voltage Connection Area [Page 9]                   | 13 - Low Voltage Connection Area [Page 13]              |
| 5 - Transmit/Receive Jumper ("TRRC") [Page 12]              | 14 - Outside Temperature Indicator LED ("L3") [Page 17] |
| 6 - SecureGround™ Ground Bond Screw [Page 10]               | 15 - PLC Signal Indicator LED ("L4") [Page 17]          |
| 7 - Supply Conductors (from circuit breaker panel) [Page 9] | 16 - DIP Switches [Page 13-16]                          |
| 8 - PCB Line Voltage Conductor "Control Circuit" [Page 9]   | 17 - Line Voltage Terminal Block [Page 9]               |
| 9 - Low Voltage Ground Screw                                |                                                         |

PLC Transceiver is the key component of a PLCC system. It is the device which transmits & receives data to & from the power lines and acts as a hub between the power stations and our Computers/Network utilization devices. They are wired with the electrical voltage lines at home or business and work on two modes – transmit mode and receive mode. In transmit mode, they simply receive data from receiver end installed on the same network and further transmit them. In receive mode, they work the opposite way.

A number of companies provide PLC transceivers and other networking devices for PLCC communication. A PLC transceiver is shown in the following image.

## PLCC Technology in Home Automation

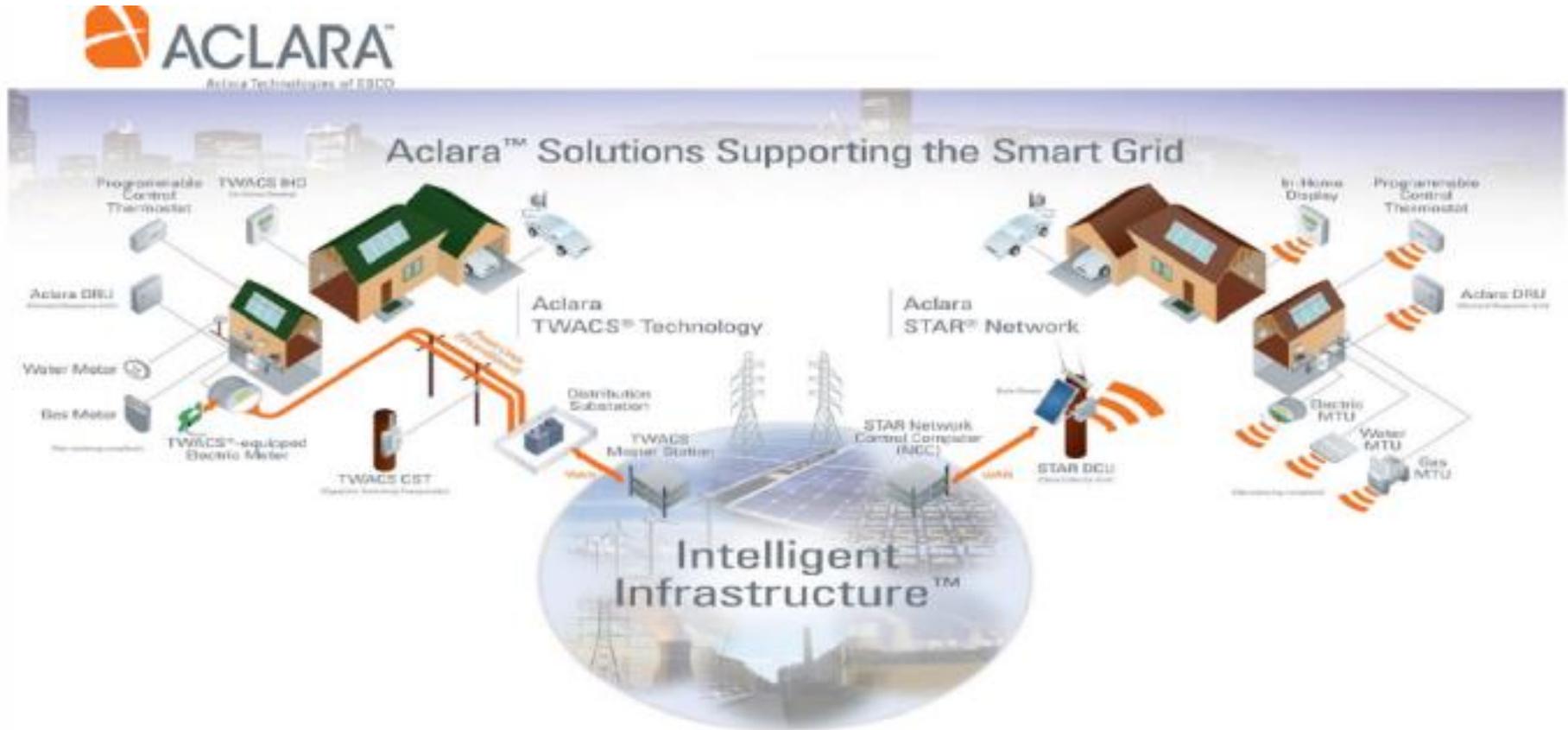
Home automation or also known as Smart Home technology is a collection of systems and devices in a home that have an ability to interact with each other or function individually in order to be optimized in best way. Using PLCC technology, existing power wirings of the house is used to connect home appliances with each other as well as with internet



Architecture of a PLCC based home automation system is shown in the above image. Various home appliances are connected within a loop through the existing power cables. This technology can connect each device with the network which is connected to an AC outlet. All appliances are also connected with a centralized control panel which controls them.

# ACLARA Two-Way Automatic Communications System (TWACS)

St. Louis, July 14, 2008 - ESCO Technologies Inc. announced that ESCO's Aclara Power-Line Systems Inc. TWACS® advanced metering infrastructure (AMI) solution has been selected by Idaho Power (IPC) for its entire electric service territory.



# ACLARA Demand Response Unit

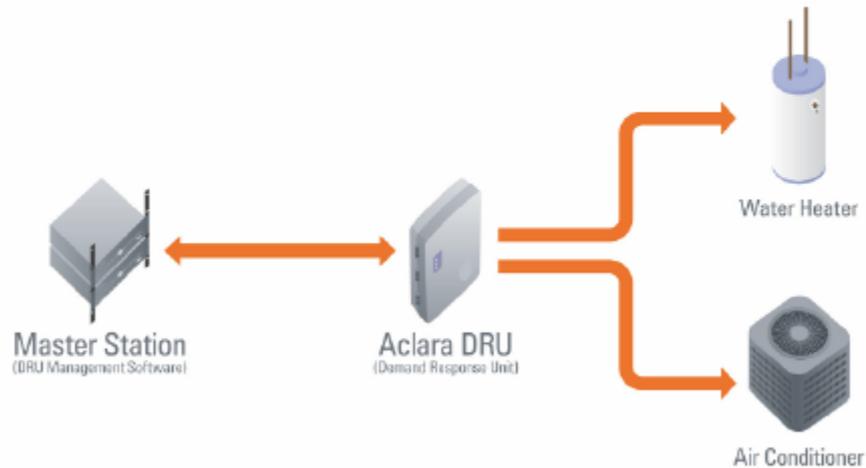
So they say...



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## ACLARA Demand Response

- When energy demand is high, the Aclara DRU reduces peak-power costs without impacting customer service.



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Targeting Success



# Landis+Gyr Information Succubus

Multi-Energy Advanced Metering  
Personal Energy Management  
Network Management

**Introducing Landis+Gyr Gridstream.**

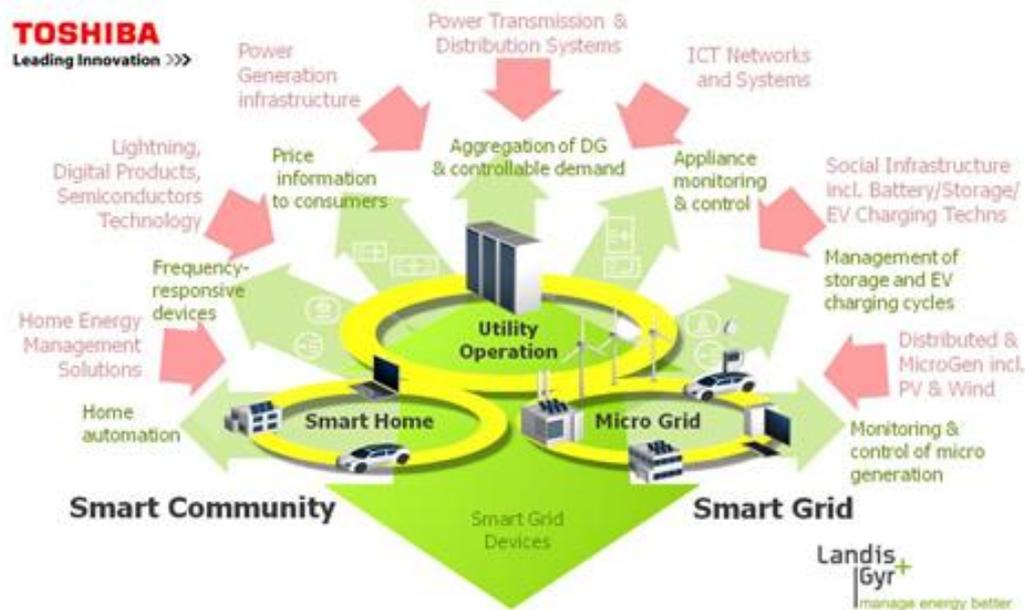
 **Gridstream**



# Landis+Gyr & Toshiba

## A Vision of Smart Community and Smart Grid

We believe that it is necessary to provide effective solutions to the world's environmental issues for our customers, leveraging our advanced technologies, products and services. As the world leader in smart metering solutions, Landis+Gyr along with Toshiba will look to expand existing businesses while also entering into new businesses leveraging both firms' strengths.



Smart Grid.... Stupid Americans



## **The Joke's on you American People**

### Landis+Gyr and Toshiba

One Step Closer to our Vision Toshiba and Landis+Gyr are now one step closer to their collective vision of becoming the world's leading eco-company. With the completion of the acquisition, Landis+Gyr has become a consolidated subsidiary of Toshiba and a member of the Toshiba Group. This is a defining moment in the history of both companies. First, it is recognition of the companies' rich, century-long histories of engineering and innovation. Furthermore, it is an unprecedented opportunity where Landis+Gyr, as a stand-alone growth platform within Toshiba, is positioned to further accelerate the enablement of Smart Grid and Smart Community and the delivery of new benefits to our customers and their markets.

Leveraging Landis+Gyr's smart metering and smart grid solutions technologies and Toshiba's extensive expertise in energy management and power distribution network products, will allow us, over time, to provide additional, new solutions for our markets and customers worldwide.

# Home Information Invasion

Overview

Towards the smart grid

Introducing Gridstream

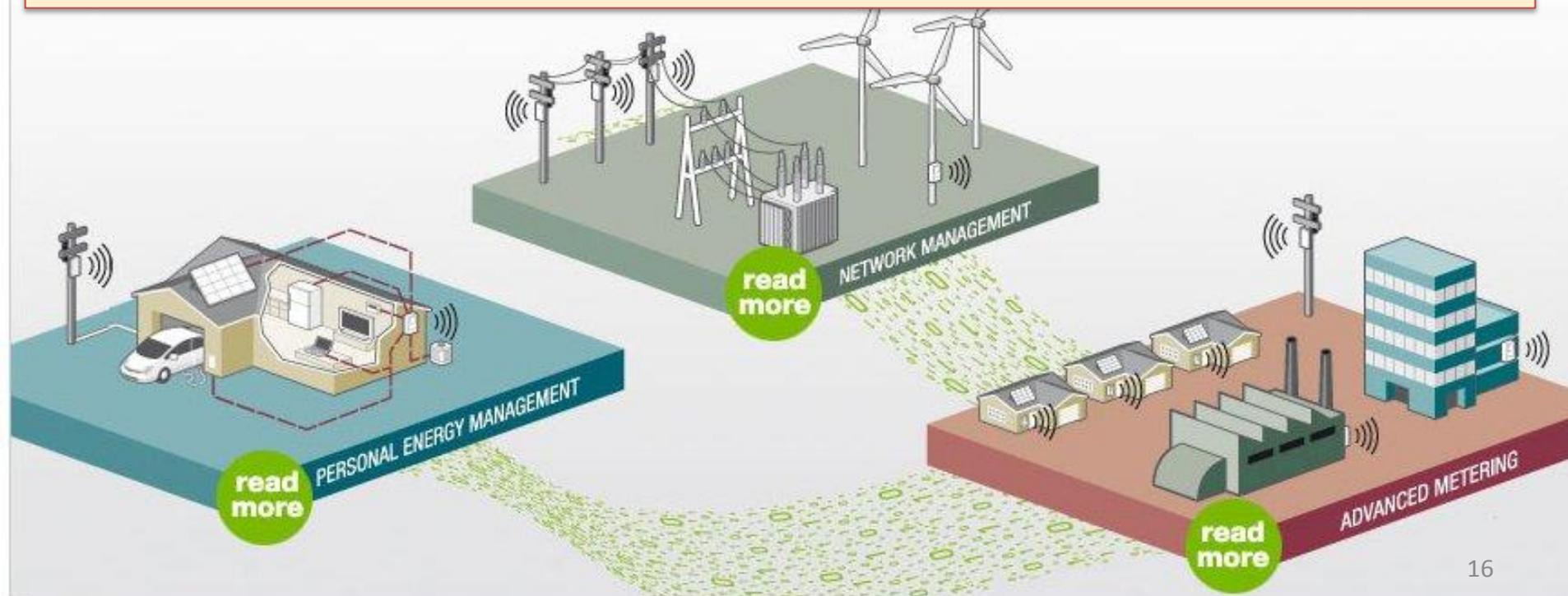
Applications

Gridstream Suite

## Gridstream: accelerated energy intelligence

 Gridstream

Those 1's and 0's are streams of data containing details of my life through the lens of electricity use violating the sanctity of my home and they are the instructions from the utility company to the devices in my home – removing them from my control, putting them under their control.



## Idaho Public Utilities Commission Orders to Idaho Power

Idaho Power's letter dated December 1, 2011 states the following:

*“Idaho Power must replace existing meters with Advanced Metering Infrastructure pursuant to Idaho Public Utilities Commission Order Nos. 29362, 30102, and 30726. once installed, this infrastructure will enable Idaho Power to provide enhanced customer services and reduce its operating expenses to keep customer rates as low as possible.”*

Order No. 30726

### **CONCLUSIONS OF LAW**

The Idaho Public Utilities Commission ***has jurisdiction over Idaho Power Company***, an electric utility, and the issues presented in this case pursuant to Title 61 of the Idaho Code, Specifically Idaho Code §§ 61-302, 61-336, 61-501, 61-503, 61-526 and 61-624.

## COMMISSION DECISIONS AND FINDINGS (excerpt)

We find that both the present and future public convenience will be served.... We find that the deployment of AMI technology will also offer substantial future benefits by providing an essential platform for remote connect-disconnect capabilities, time-of-use pricing and other “smart grid” operations. Finally, AMI technology will also prepare the company to meet the future demand-capacity requirements posed by rapidly evolving technologies; e.g. charging stations for hybrid electric vehicles. The Commission directs Idaho Power to submit a report detailing the Company’s Plan to introduce its Time of Day, Energy Watch and/or other pilot programs throughout its Service territory **once the requisite AMI technology is fully deployed.**

## ORDER

IT IS HEREBY ORDERED that the Application of Idaho Power Company for a Certificate of Public Convenience and Necessity authorizing the Company to install AMI technology throughout its service territory, accelerate the depreciation of its existing metering infrastructure, and include the corresponding operation and maintenance benefits as they occur is approved.

IT IS FURTHER ORDERED that within 120 days of the issuance of this Order Idaho Power Company shall submit a report containing a detailed evaluation of the types of measures considered and/or utilized by the Company in order to facilitate the resale, recycle or prudent disposal of its existing metering equipment.

## Order No. 29362

### Time of Use Pricing for Residential Customers

Due to extremely low water conditions and large purchased power costs, Idaho Power's residential rates increased approximately 39% over base rates between May 2001 and 2003. Over the last two years the Commission **heard from many frustrated residential customers who did not have the information and options necessary to make informed choices relative to their use of energy. To address these concerns and investigate ways to reduce peak load for the benefit of all ratepayers, the Commission instigated this docket to evaluate the viability of residential time-of-use (TOU) metering.** (Note: there is no informed choice necessary... power is OFF/ON... OFF/ON.)

Before the Commission can consider implementing TOU rate designs in the future Idaho Power must first install the necessary metering infrastructure. Although automated meter reading allows the meter to be read remotely and thus reduces operating costs, the most beneficial rate designs (i.e, critical peak TOU ) require advanced meter reading (AMR). As discussed below, advanced meter reading also has significant benefits beyond those offered by traditional remote meter reading.

Based upon the evidence in the record and in furtherance of the public interest, the Commission directs Idaho Power to collaboratively develop and submit a Phase One AMR Implementation Plan to replace current residential meters with advanced meters in selected service areas.

## Liars, Damn Liars and Thieves

The power costs between 2000 and 2001 were due to manipulation of the electricity market that was made possible by deregulation at the wholesale level. Enron was the poster child for the market fraud, but Idaho Power was involved. The investigation of the fraud was concluded in 2003.

The Idaho Public Utilities Commission was complicit in the fraud by virtue of Order No. 28596, Case IPC-E-00-13, December 19, 2000 in which they approved the splitting off Idaho Power's purchasing unit into a separate subsidiary of IDACORP, Idaho Power's holding company. It was the subsidiary trading company that defrauded the electric consumers by manipulating the price of electricity in a market that was an artificial creation by the deregulating regulators.

# Idaho Public Utilities Commission Selective De-Regulation

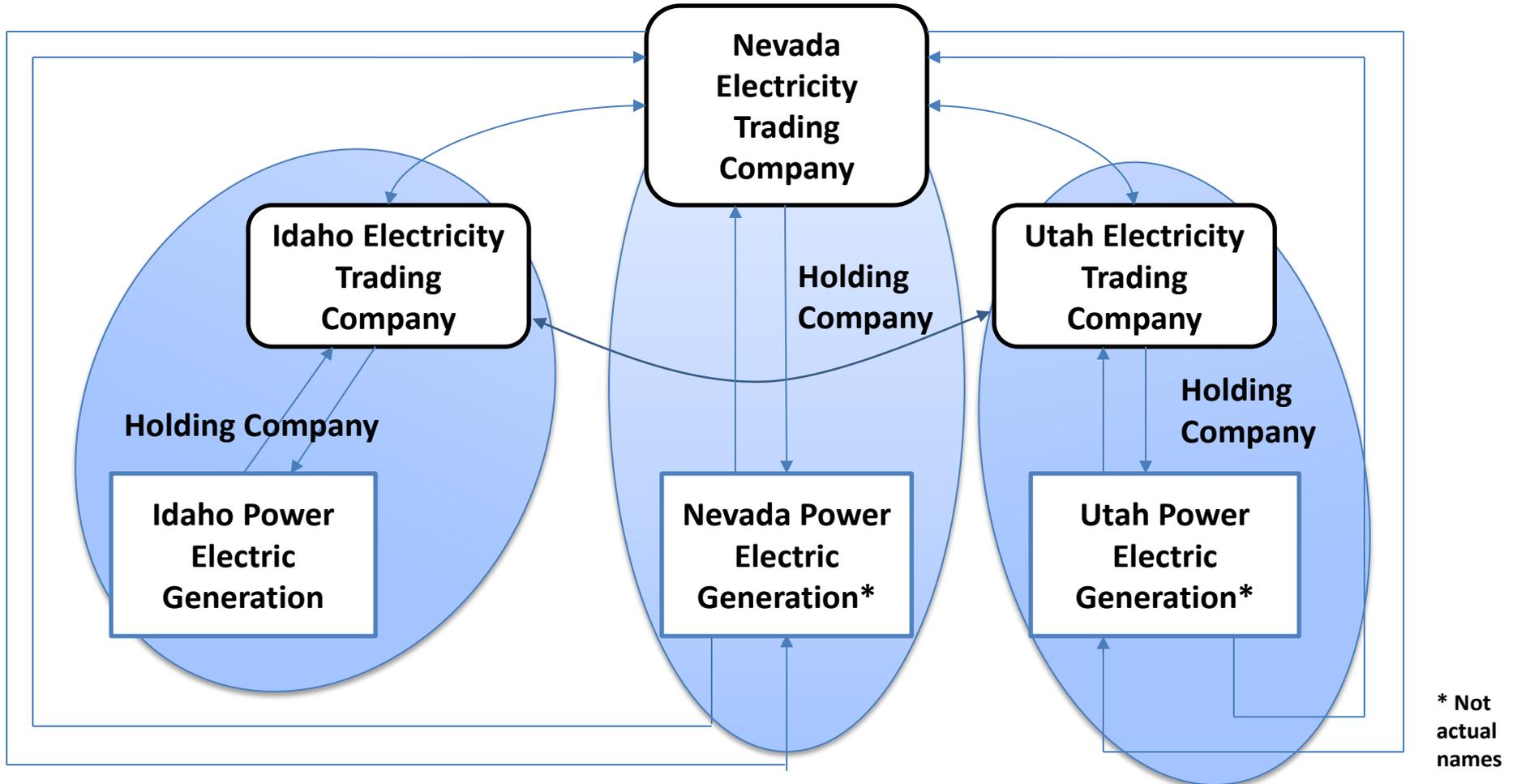
Order No. 28596, Case IPC-E-00-13, December 19, 2000

On September 1 , 2000, Idaho Power Company (Idaho Power; Company; IPCo) filed an Application with the Idaho Public Utilities Commission (Commission) requesting approval of a proposed Electricity Supply and Management Services Agreement (Agreement) between Idaho Power and Idacorp Energy Solutions, LP (IES), an affiliate of Idaho Power.

## ORDER

In consideration of the foregoing and as more particularly described and qualified above, IT IS HEREBY ORDERED and the Commission does hereby approve the proposed Electricity Supply and Management Services Agreement (between Idaho Power and IdaCorp Energy Solutions, LP, an affiliate of Idaho Power) together with the terms of the stipulation subsequently submitted.

Artificial Market for increasing costs on the regulated side of the utility business to incentivize reduced demand for “sustainability” purposes . Creating income opportunity on the unregulated side of the utility business ostensibly to replace income lost due to forced demand reduction.



**Wholesale Market De-regulation      Enron was disposable – No Assets**

**Trading - Arbitrage of the Electricity Market**

**Creating Artificial Demand for Demand Management – (it’s called a dialectic)**

# Senate Committee on Homeland Security & Governmental Affairs

Press Release March 26, 2003

WASHINGTON - Governmental Affairs Committee Ranking Member Joe Lieberman, D-Conn., Wednesday welcomed the Federal Energy Regulatory Commission staff's conclusion that Enron and more than 30 other energy companies manipulated the California energy markets in 2000 and 2001 but expressed dismay at the fact that it took FERC three years to reach this conclusion.

In a staff report released Wednesday, FERC staff concludes that manipulation of the Western markets included widespread use of Enron's online trading platform, which resulted in over \$500 million in profits for Enron. **The report also names over 30 other companies that appear to have tried to gouge unsuspecting consumers.**

"Today FERC has finally taken its first real steps towards providing redress for the rampant manipulation of the electricity and natural gas markets in California and the Western U.S. that occurred in 2000 and 2001," Lieberman said. "It is totally unacceptable, however, that it has taken more than three years since serious problems in the California energy market first surfaced for FERC to finally reach this day. It is just astonishing to me that FERC examined Enron Online's trading practices in the midst of these events and found, at that time, that there was no cause for concern, and that FERC investigated other trading practices as far back as the summer of 2000 and took no action against individual market participants."

Source: Senate Committee on Homeland Security & Governmental Affairs

[http://hsgac.senate.gov/public/index.cfm?FuseAction=Press.MajorityNews&ContentRecord\\_id=edea196f-792b-4586-9e36-3437eb7ac997](http://hsgac.senate.gov/public/index.cfm?FuseAction=Press.MajorityNews&ContentRecord_id=edea196f-792b-4586-9e36-3437eb7ac997)

FERC – Federal Energy Regulatory Commission, Addressing 2000-2001 Western Energy Crisis

<http://www.ferc.gov/industries/electric/indus-act/wec.asp>

# Demand Side Management



The Shifting Line is the move by the Public Utilities Commission to regulate you rather than – or in addition to the utility company.



The Smart Meter with two-way communications capability and software to control your usage of electric power, water, and natural gas if you have it, is the tool for police state management of your home.

Once the meter is installed, there is no way to stop the extraction of information and the probing for new devices to control. There is no way to prevent them from controlling your home. You lose dominion over it.

THINK

Don't give  
them the  
power to  
control you