Federal Utility Partnership Working Group
Spring 2013 – May 22-23
San Francisco, CA

Working With Your Utility to Obtain Metering Services

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Wednesday, 22 May 2013

Hosted by: Pacific Gas and Electric Company

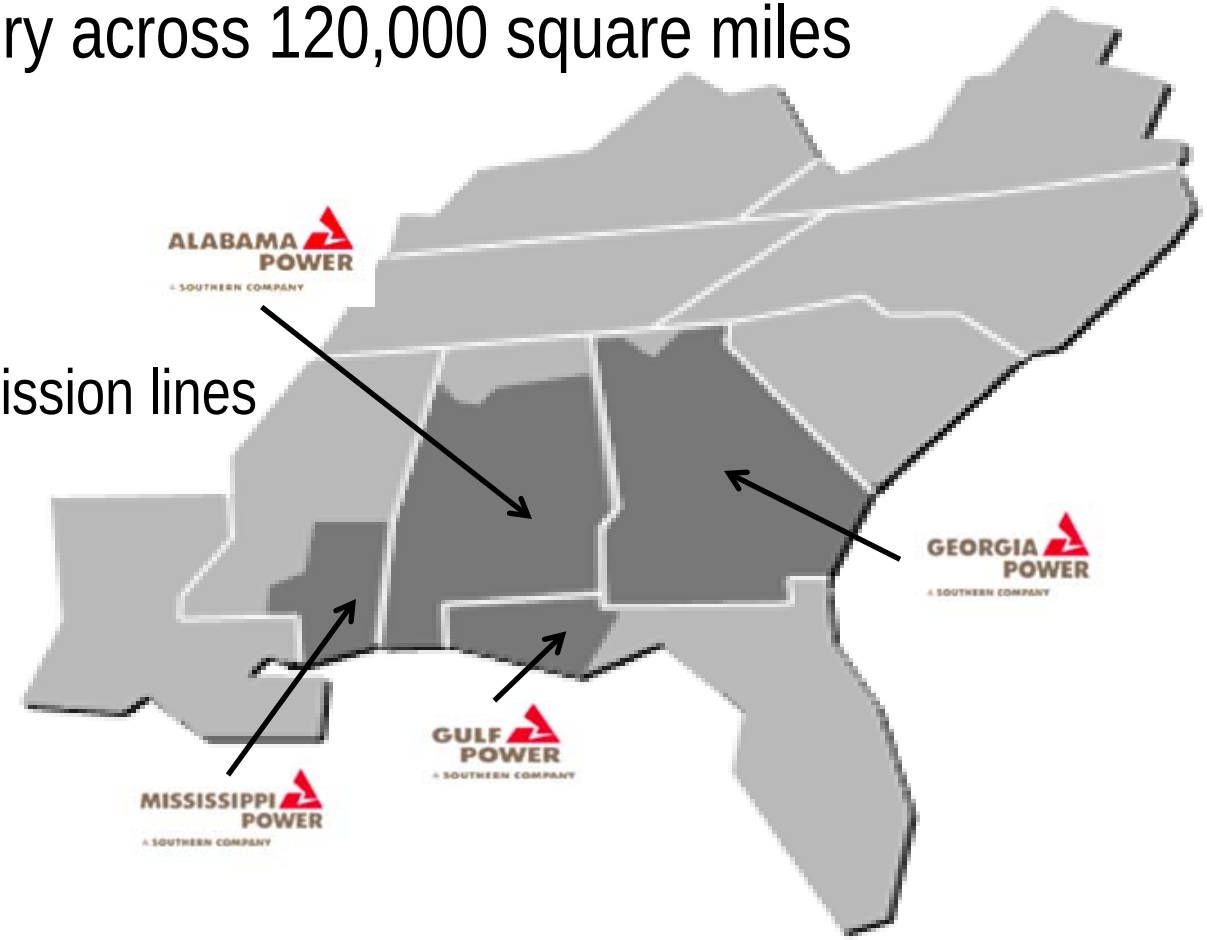
Topics

- What is the Government Requirement
  - New DoD Directive
- What is Available from Your Serving Utility
- Customer Metering Services
- Issues to Consider
- Conclusion

Who is Southern Company?

Retail Service Territory across 120,000 square miles

- 4.4 million customers
- 42,000+ MW
- 27,000 miles of transmission lines
- 3,700 substations
- 26,000 employees



Other subsidiaries:

Southern Linc, Southern Power, Southern Telecom, Southern Nuclear

Government Requirement

- Section 103, EPAct 2005 – All Federal Agencies
  - Meter electricity on all facilities 30,000 SqFt and larger
  - Meter those facilities with significant energy usage
  - Meter electricity and other utilities if practical
  - October 1, 2012 Deadline
  - Perceived need for Agency to “ping” meter
- DoD 16 April Directive –
  - 30 September 2020 Deadline
  - Meter electricity, gas, water, and steam

DoD 16 April Metering Directive

SUBJECT: Utilities Meter Policy

"In order to effectively manage energy and water use across the Department of Defense (DoD) facilities portfolio, it is critical to develop an accurate and detailed understanding of how the Department uses energy and water on its installations".

"This policy directs Components to develop a **Meter Data Management Plan (MDMP)** specific to the attributes of their installations to establish unique Component-specific metering goals".

"The intent is that these plans will improve management of energy and water consumption , resulting in reduction in use, improved mission assurance, and increased reliability".

DoD 16 April Metering Directive

Expand Meter Deployment

"Effective immediately , it is the Department 's policy to install advanced meters on individual DoD-owned facilities in order to meet the following objectives":

"***For Electricity***: Components shall install sufficient advanced meters on individual facilities to accurately capture a **minimum of 60% of electricity use with a goal of 85%** of electricity use at the Component level…**".**

"***For Natural Gas***: Components shall install sufficient advanced meters on individual facilities to accurately capture a **minimum of 60% of natural gas use with a goal of 85%** of natural gas use at the Component level…".

"***For Steam***: Components shall install sufficient advanced meters on facilities connected to district steam systems to accurately identify individual facility steam use and system losses…".

"***For Both Potable and Non-Potable Water***: DoD Components shall install advanced meters on all water-intensive facilities…".

All elements to be completed by the end of Fiscal Year 2020

DoD 16 April Metering Directive

How to Fund: "OSD encourages components to maximize cost-effective deployment of meters, using a programmatic approach to life-cycle costing to capitalize on the intangible and systemic benefits of a wide network of integrated advanced meters. Components shall use an energy savings factor of at least 5%".

Meter Data Management

"For the purposes of this policy, advanced meters are electronic meters that have the capability to, at a minimum, measure and record regular interval use and communicate that data to an advanced metering system (AMS). An AMS must automatically and reliably collect and analyze regular interval data from advanced meters and distribute information to key stakeholders as determined by Components".

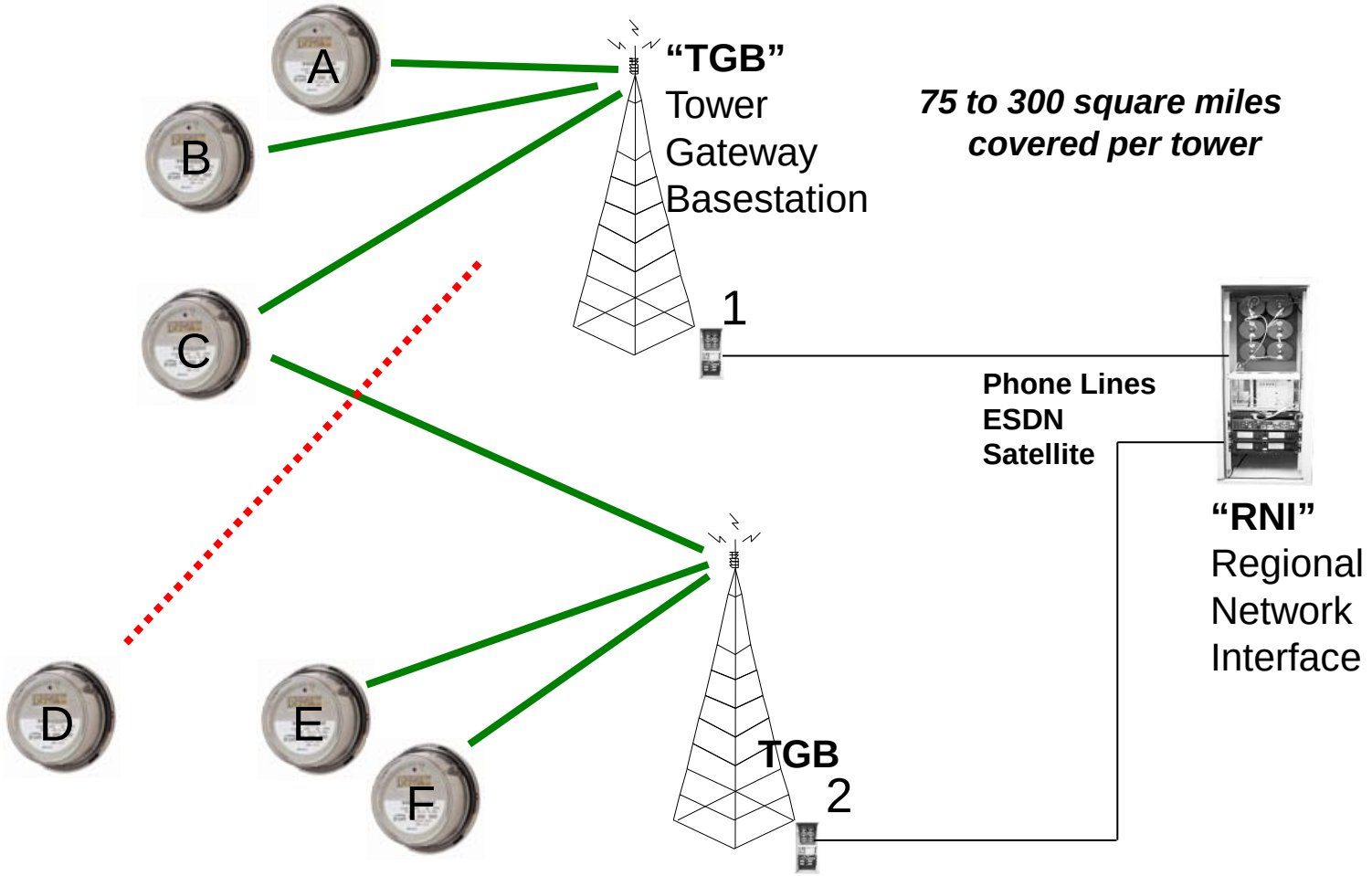
DoD 16 April Metering Directive

"**Not later than 1 year after publication of this policy, Components shall develop a MDMP**, to be approved by the Deputy Under Secretary of Defense for Installations and Environment DUSD(I&E), which describes how each Component plans to deploy advanced meters/ AMS and intends to use their meter data to manage energy and water use. MDMPs shall be informed through a bottom up review of installations and shall explicitly establish a Component-specific metering goal for electricity and natural gas, based on distinctive attributes of Component buildings and operations. Component metering goals shall be a minimum of 60%".

So What's Available from Your Serving Utility

- Metering is a CORE competency of your serving utility
  - Installation, Repair and Maintenance
  - Proper Test Equipment and Certified Personnel
  - And the infrastructure already exists

The Sensus "Flexnet" System



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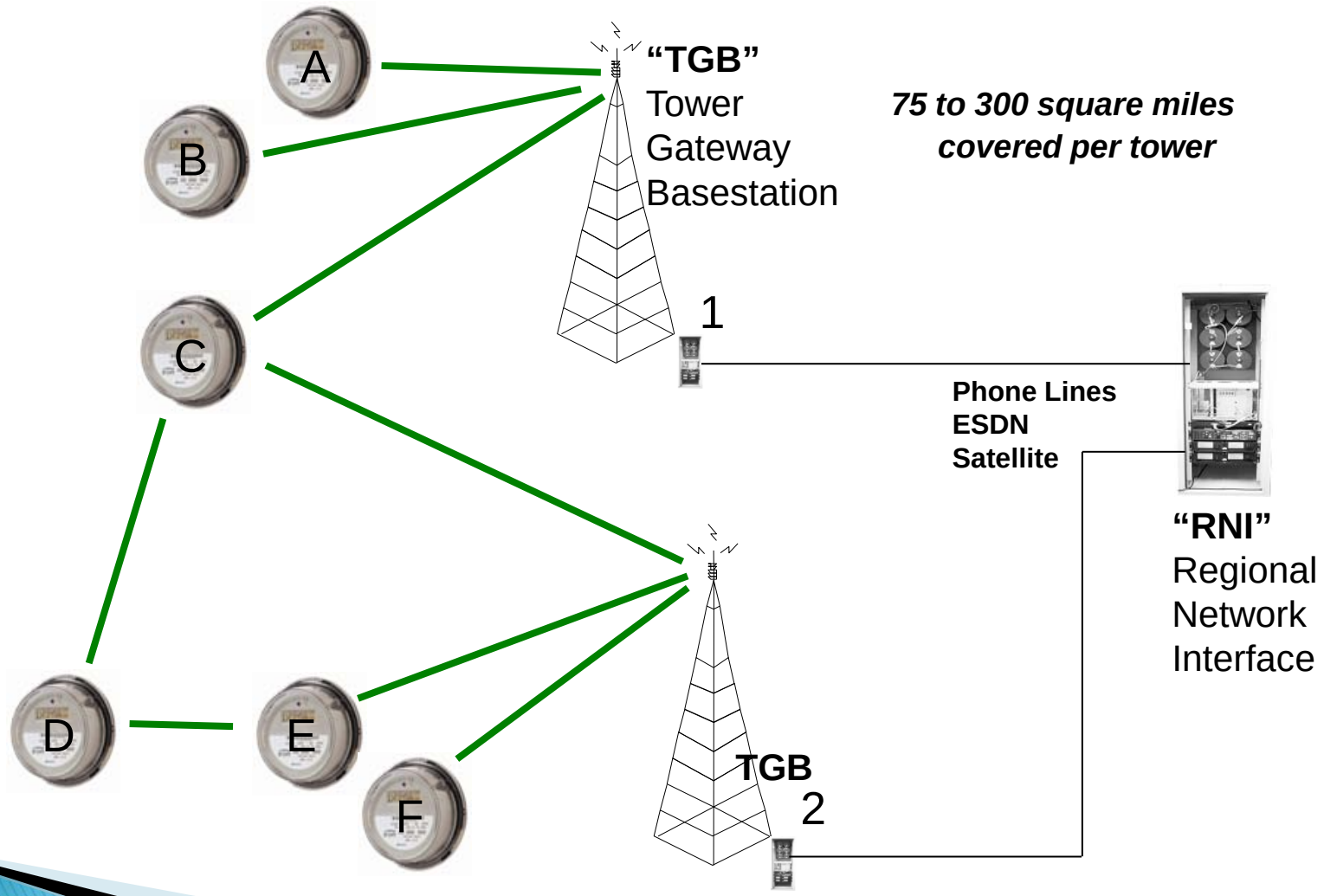

So What's Available from Your Serving Utility

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- Procuring Metering Services is within the Scope of GSA Areawide Utilities Contract

Contractor's ID NO. _____ (Optional)
Ordering Agency's ID _____ (Optional)

EXHIBIT "A"
GEORGIA POWER COMPANY

AUTHORIZATION FOR ELECTRIC SERVICE, CHANGE IN ELECTRIC SERVICE,
OR DISCONNECTION OF ELECTRIC SERVICE UNDER
CONTRACT NO. **GS-OOP-06-BSD-0472**

Ordering Agency: _____

Address: _____

Pursuant to Contract No. GS-OOP-06-BSD-0472 between the Contractor and the United States Government and subject to all the provisions thereof, service to the United States Government under such contract shall be rendered or modified as hereinafter stated. Contract Article 2 and 4 shall be followed for the initiation of service under this contract.

PREMISES TO BE SERVED: _____

SERVICE ADDRESS: _____

NATURE OF SERVICE: ☐ Connect, ☐ Change, ☐ Disconnect, ☐ Continue Service, ☐ Line Extension, Alteration, Relocation, or Reinforcement, ☐ **Metering,** ☐ Special Facilities, ☐ Ancillary Services, ☐ Other

OTHER TERMS AND CONDITIONS: _____

Attach any other relevant terms and conditions under which service will be provided.

POINT OF DELIVERY: _____

TERM OF SERVICE: _____

SERVICE HEREUNDER SHALL BE UNDER RATE SCHEDULE NO. _____

•Hereafter amended or modified by the regulatory body having jurisdiction. (see article 5 of this contract.)

•ESTIMATED ANNUAL ENERGY USAGE: _____, KWH, ESTIMATED DEMAND: _____KW

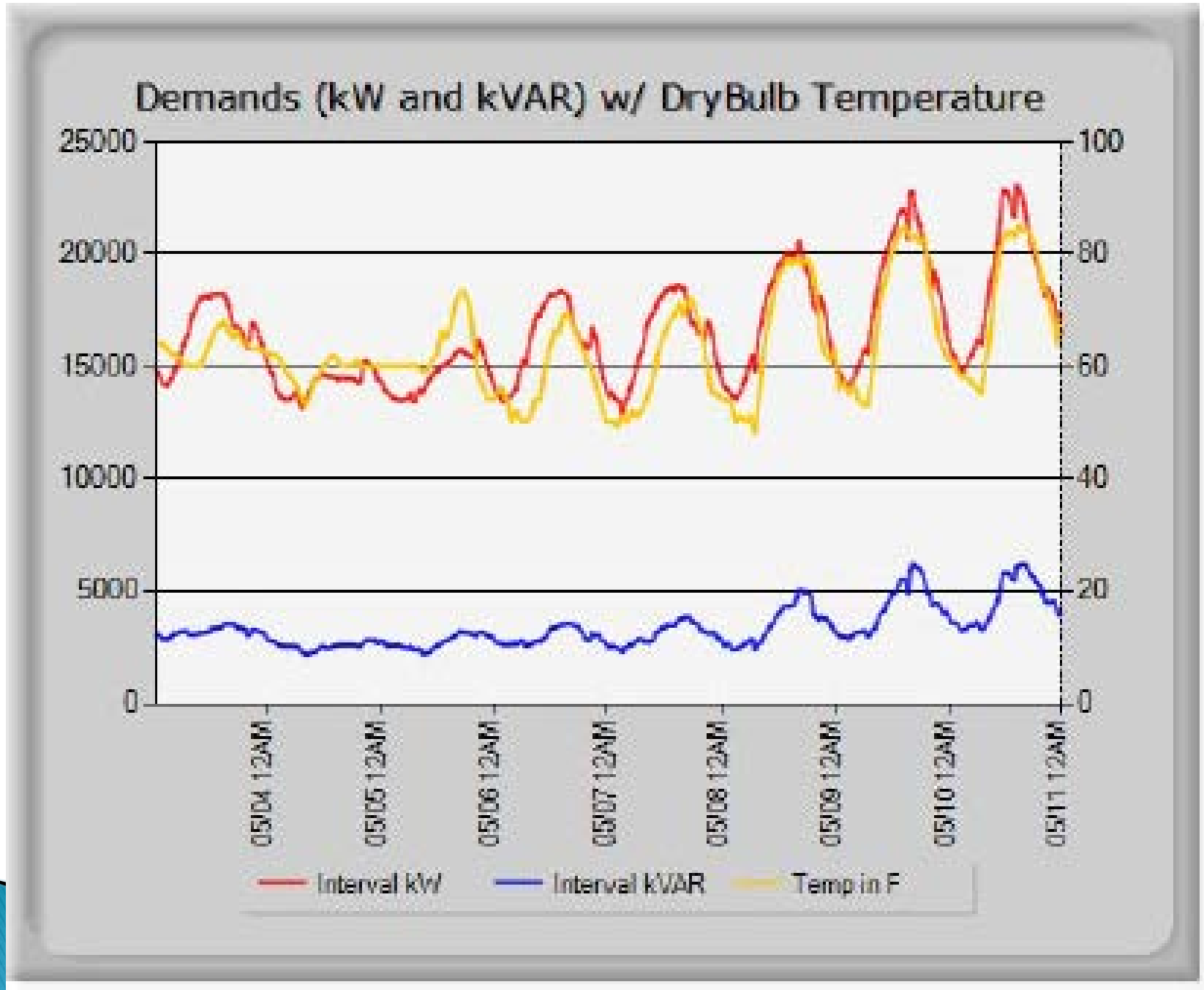
ESTIMATED ANNUAL SERVICE COST: _____

So What's Available from Your Serving Utility

- Metering is a CORE competency of your serving utility
  - Installation, Repair and Maintenance
  - Proper Test Equipment and Certified Personnel
- Procuring Metering Services is within the Scope of GSA Areawide Utilities Contract
- Interval Data – Minimum (Revenue Meter)
  - *May* require installation of a Pulse Initiator to interfaced with Customer EMCS
  - Information provided at end of billing period
  - Nominal Fee

So What's Available from Your Serving Utility

- Next Level – More Information (Revenue Meter)
  - Online data from Utility web portal
  - Data current through previous Midnight
  - Data displayed in a number of formats – digital and graphic
  - User selectable parameters
  - Normally includes more detail billing info
  - Normally at a cost
- Next Level – Near Real Time (Revenue Meter)
  - Graphic and digital data through the last interval
  - Normally at a cost


Demands (kW and kVAR) w/ DryBulb Temperature
25000
20000
15000
10000
5000
0
100
80
60
40
20
0
05/04 12AM
05/05 12AM
05/06 12AM
05/07 12AM
05/08 12AM
05/09 12AM
05/10 12AM
05/11 12AM
Interval kW
Interval kVAR
Temp in F

	kWD	kVAR	Temp
05/03/2013, 03:00 AM, Friday	14,110	2,819	63.0
05/03/2013, 03:30 AM, Friday	14,353	2,948	
05/03/2013, 04:00 AM, Friday	14,418	2,948	62.0
05/03/2013, 04:30 AM, Friday	14,774	3,094	
05/03/2013, 05:00 AM, Friday	14,904	3,078	62.0
05/03/2013, 05:30 AM, Friday	15,358	3,159	
05/03/2013, 06:00 AM, Friday	15,584	3,191	61.0
05/03/2013, 06:30 AM, Friday	15,957	3,191	
05/03/2013, 07:00 AM, Friday	16,265	3,224	60.0
05/03/2013, 07:30 AM, Friday	16,378	3,062	
05/03/2013, 08:00 AM, Friday	17,010	3,046	60.0
05/03/2013, 08:30 AM, Friday	17,285	3,029	
05/03/2013, 09:00 AM, Friday	17,545	3,029	60.0
05/03/2013, 09:30 AM, Friday	17,788	3,127	
05/03/2013, 10:00 AM, Friday	17,966	3,110	60.0
05/03/2013, 10:30 AM, Friday	18,031	3,127	
05/03/2013, 11:00 AM, Friday	18,112	3,143	62.0
05/03/2013, 11:30 AM, Friday	18,047	3,143	
05/03/2013, 12:00 PM, Friday	18,031	3,208	64.0
05/03/2013, 12:30 PM, Friday	18,176	3,337	
05/03/2013, 01:00 PM, Friday	18,176	3,321	66.0
05/03/2013, 01:30 PM, Friday	18,160	3,337	
05/03/2013, 02:00 PM, Friday	18,193	3,353	67.0
05/03/2013, 02:30 PM, Friday	18,160	3,386	

Custom Metering Services

- Custom Services – Limited Availability
  - Metering services beyond the revenue meter
  - Data collected through Utility's AMI system
  - Hosted on the web
  - Data owned by Customer
  - Capable of metering all utility commodities
- Drawback –
  - Likely no compatibility between metering technologies used by different utilities
  - Limited capability to "ping" a meter on demand by Customer

Other Issues to Consider

- Advanced meter system provide more information than expected
  - AMI systems components are very different from old electro-mechanical meters
  - AMI meters contain built-in alarms – overheating
- Does data need to be uploaded into a Gov't system for every premise?
- Does the Gov't really need real time data?
- Is there really a need for personnel outside the facility to be able to see data at will?

Conclusion

- Utility metering infrastructure already exists
- Almost all utilities can provide pulse data from their revenue meters
  - Data retrieved from Web portal or connected to Customer EMCS
  - Should meet needs of single service point agency premise
  - Free or for a nominal charge
- Larger Sites
  - Most larger Investor-owned utilities provide custom metering services for civil agency campus and military Installation sites
  - Non-Revenue meter data belongs to customer
  - Costs will vary, but easily contracted for

The Industry is Ready, Willing and Able to meet your metering needs