

#### Revenue Protection











### About us

- The largest of the five electric utilities that make up the Southern Company.
- Serve customers in 57,000 of the state's 59,000 square miles.
- The company's 2.5 million customers are in all but six of Georgia's 159 counties.
- Operating revenues for 2010 were \$8.35 Billion
- Georgia Power has nearly 8000 employees throughout the state.





### **REVENUE PROTECTION**



#### Revenue Protection





## Cases Closed - 2006

## 14,052





## Cases Closed - 2010

## 20,958





### TOTAL IDENTIFIED REVENUE 2010

# \$11,996,494





#### Ratio of Combined vs. Cost

## 8:1







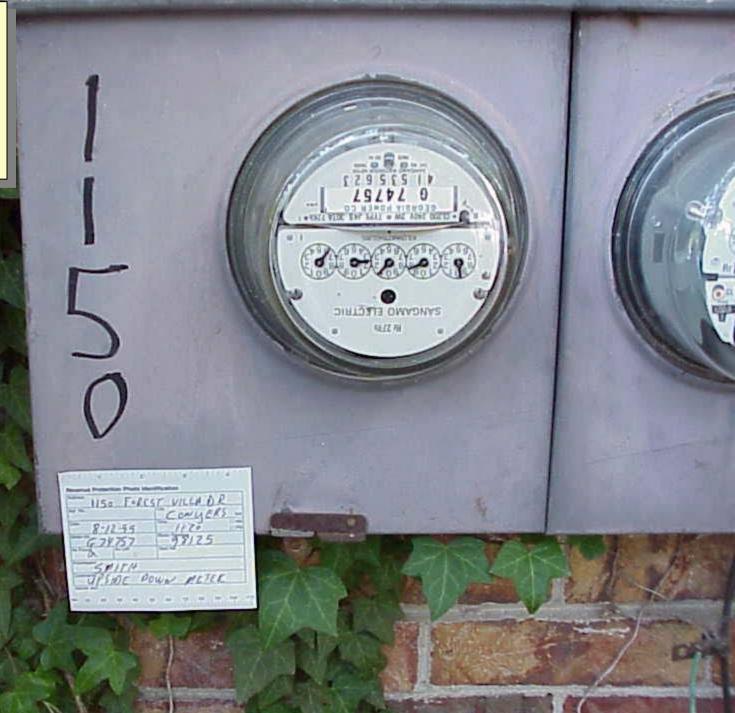
#### Revenue Protection

## EXAMPLES OF CURRENT DIVERSION



A SOUTHERN COMPANY

Meter is upside down. This will cause meter to run backwards. Taking registration off of meter.



Customer broke meter glass and inserted cardboard so disk would not register.

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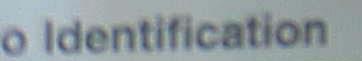
245 MANDR WAY

HARKEY BROKEN GLASS

2.23.00

1114094

Screw has been inserted through disk.



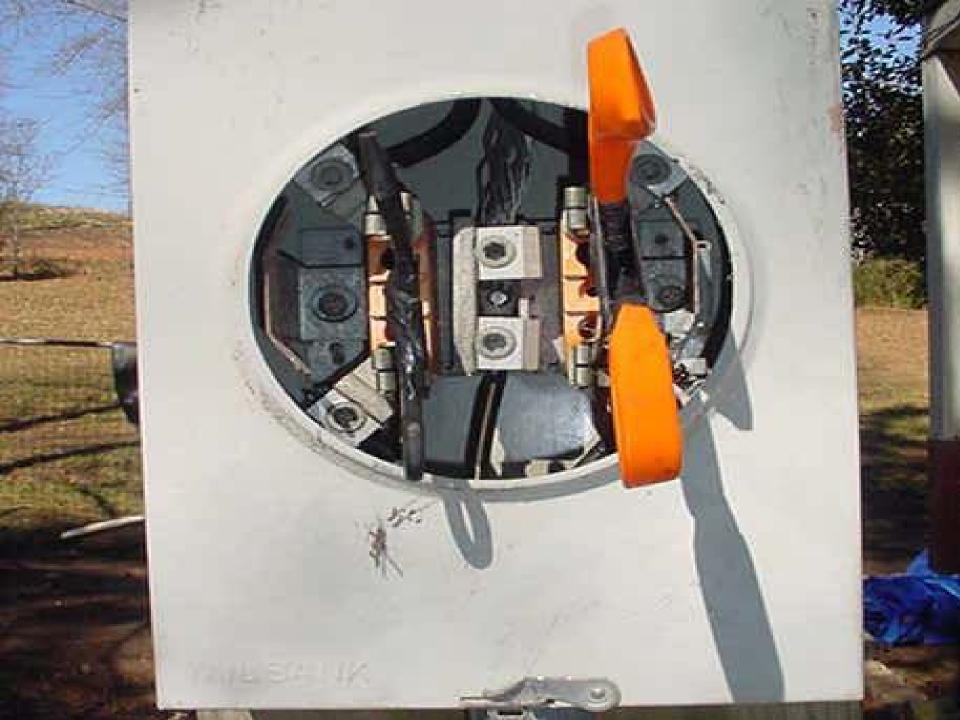




Wire on disk. Top view.









Someone has flattened copper tubing to jump out service.

Current Diversion Piece Internation

and so for the second second

Someone has burned out center of plastic cover and inserted jumpers.

684 160-

\*

10-21-95

E ONI

SMITH Junfels ARIAT CT. DECATOR 1100

WIA

14

Nail has been inserted in "hot" side of socket and wire attached to feed a breaker.

A

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Auto jumper cables being used to jump out service.

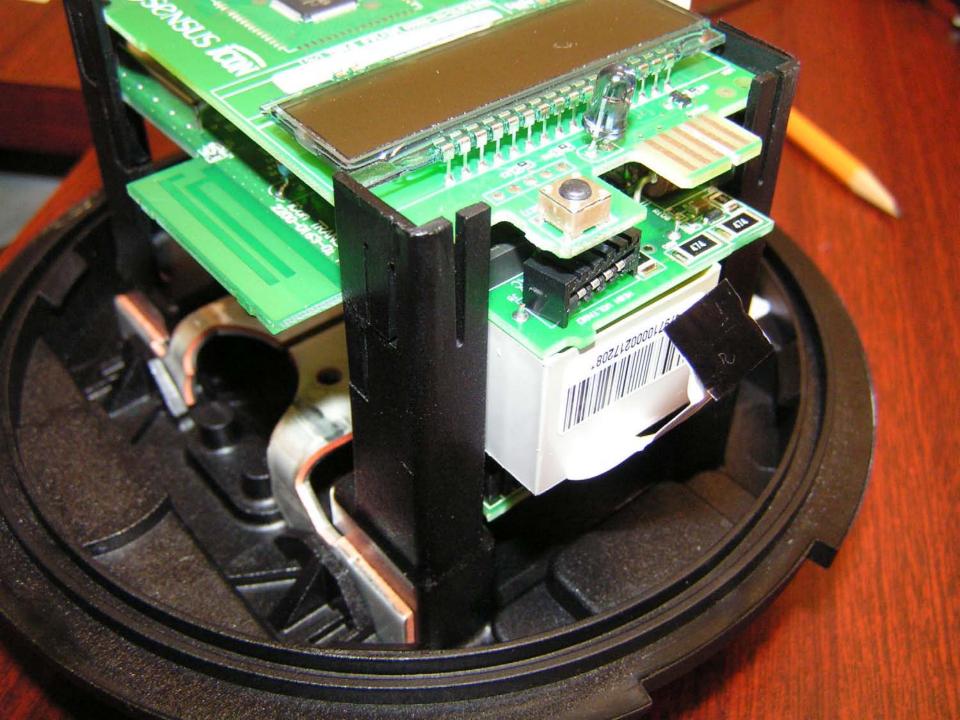
27 Hokomb Spir Ad Additorille 6-15-00 GMIISO West Jumper Cobles 0

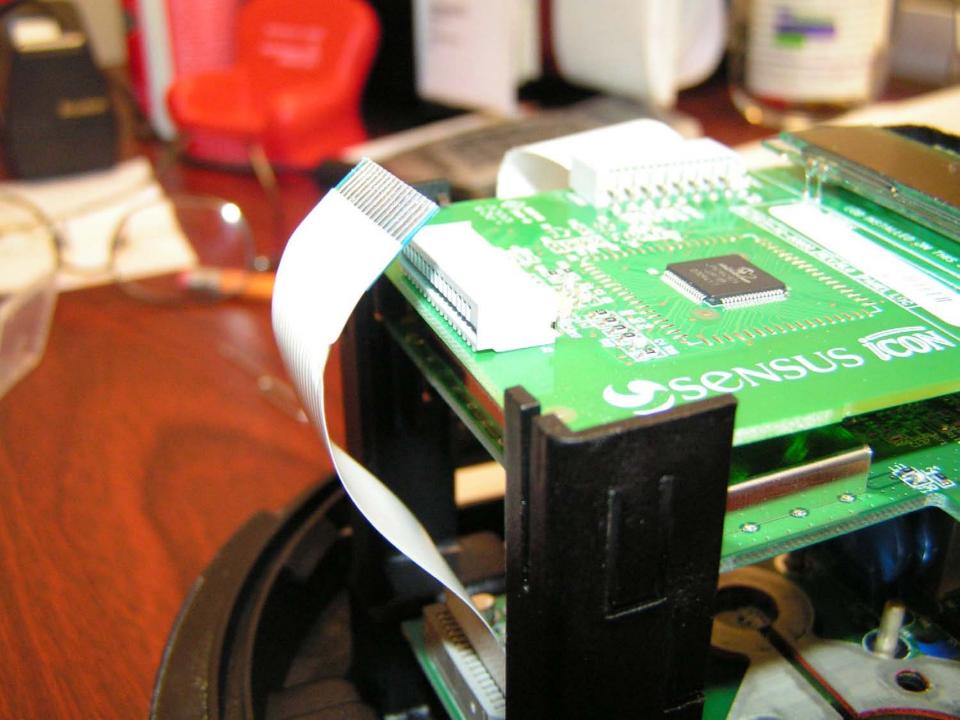


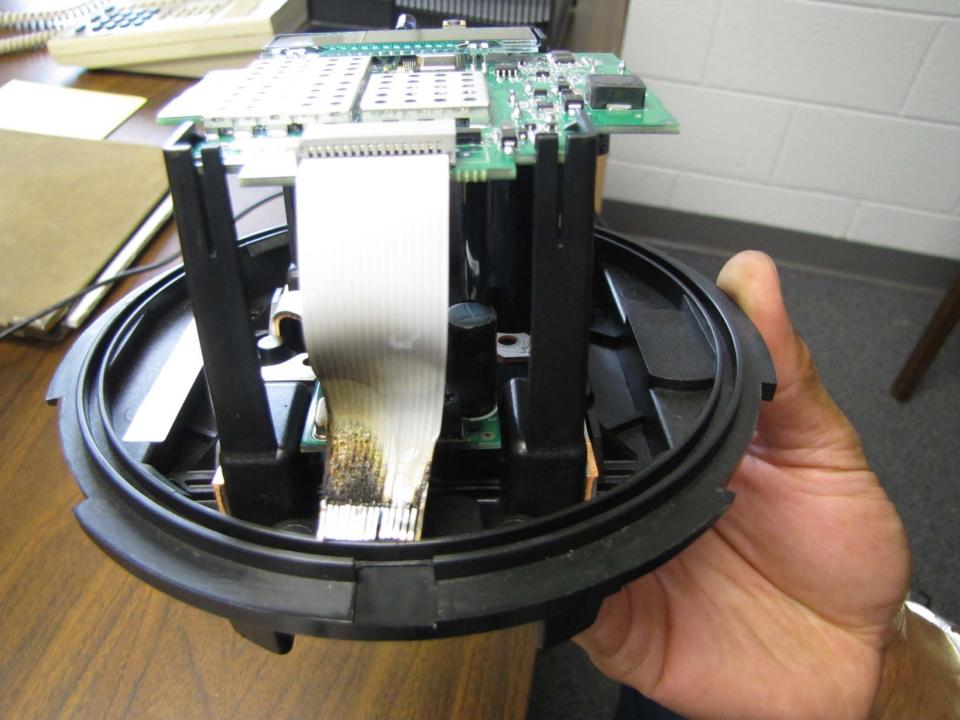


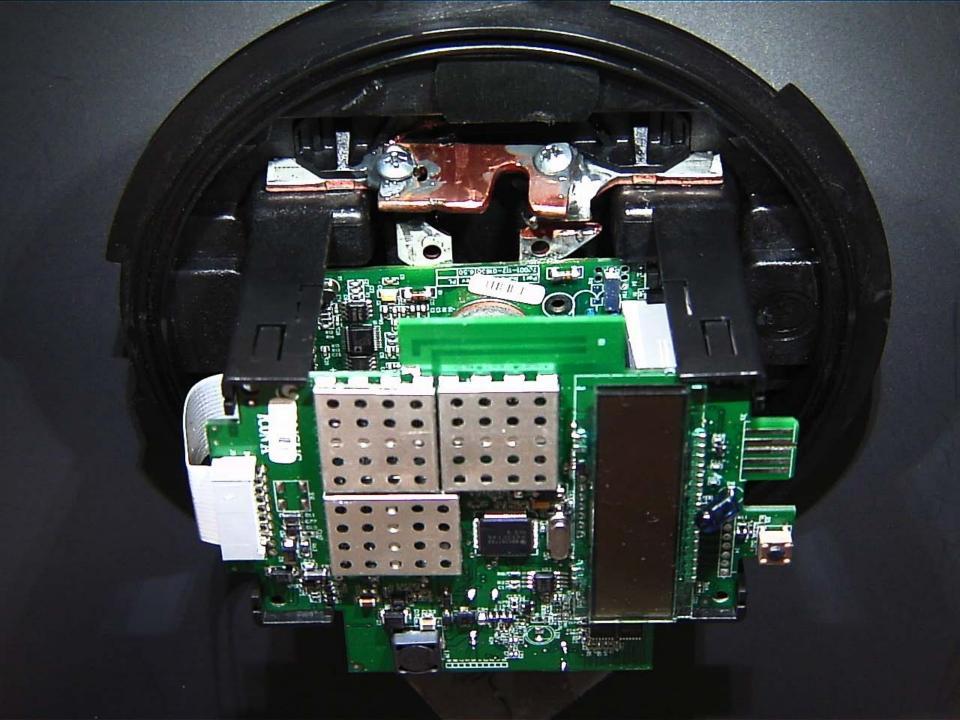


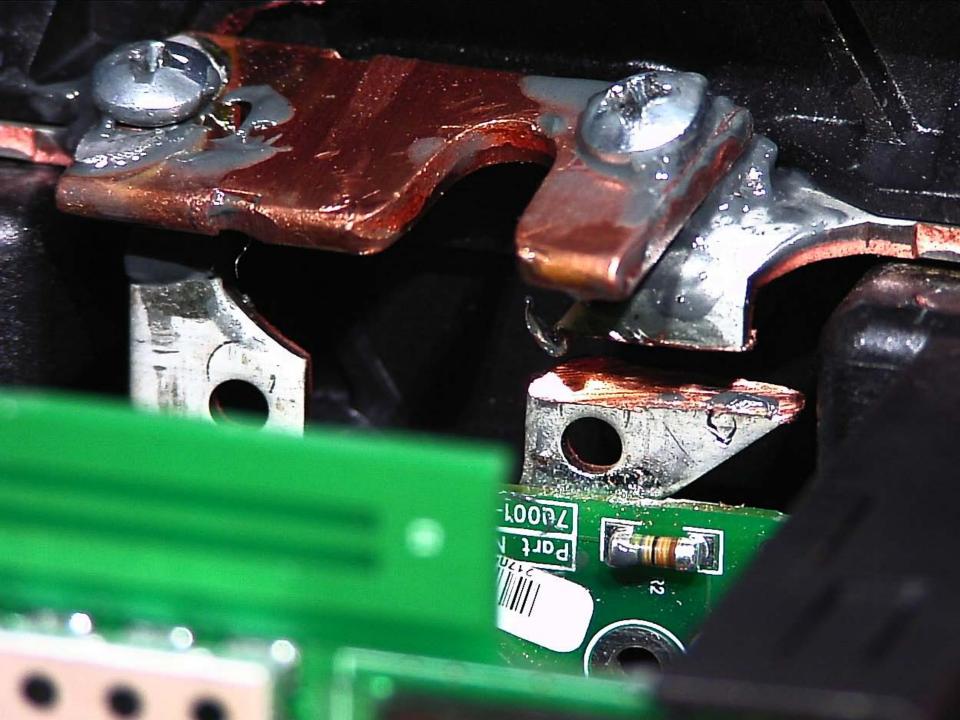








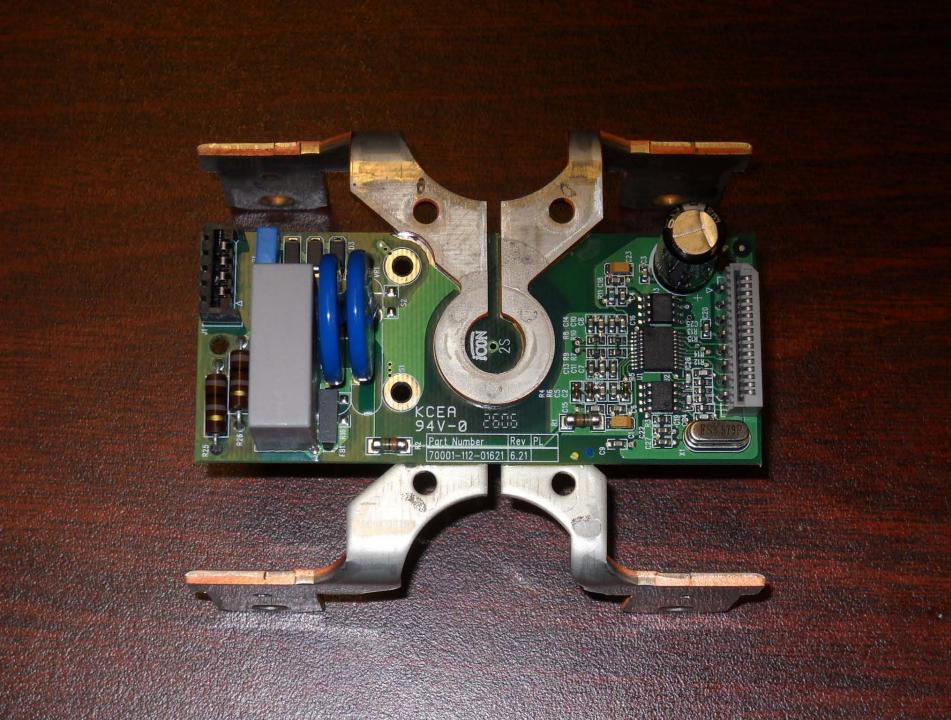






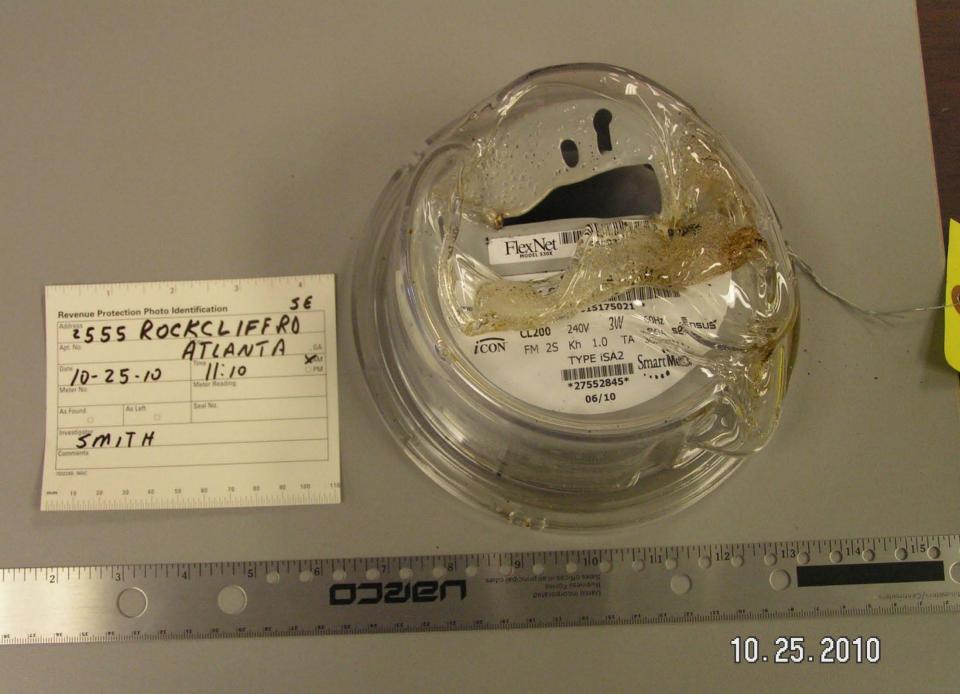


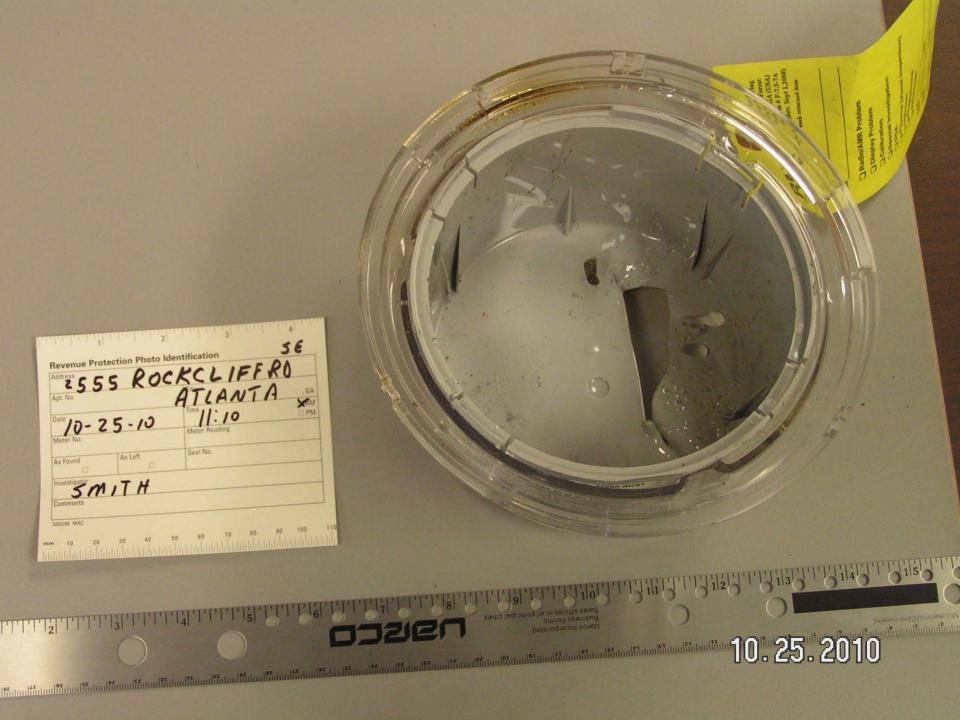
















Someone has tapped into our cut-in ahead of the meter.

2

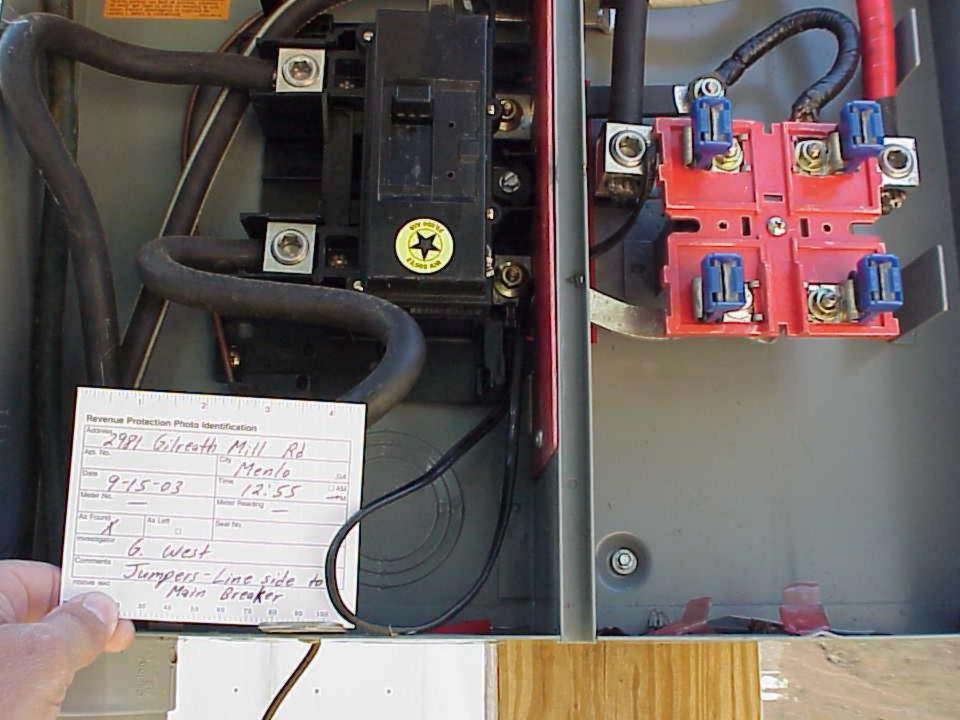


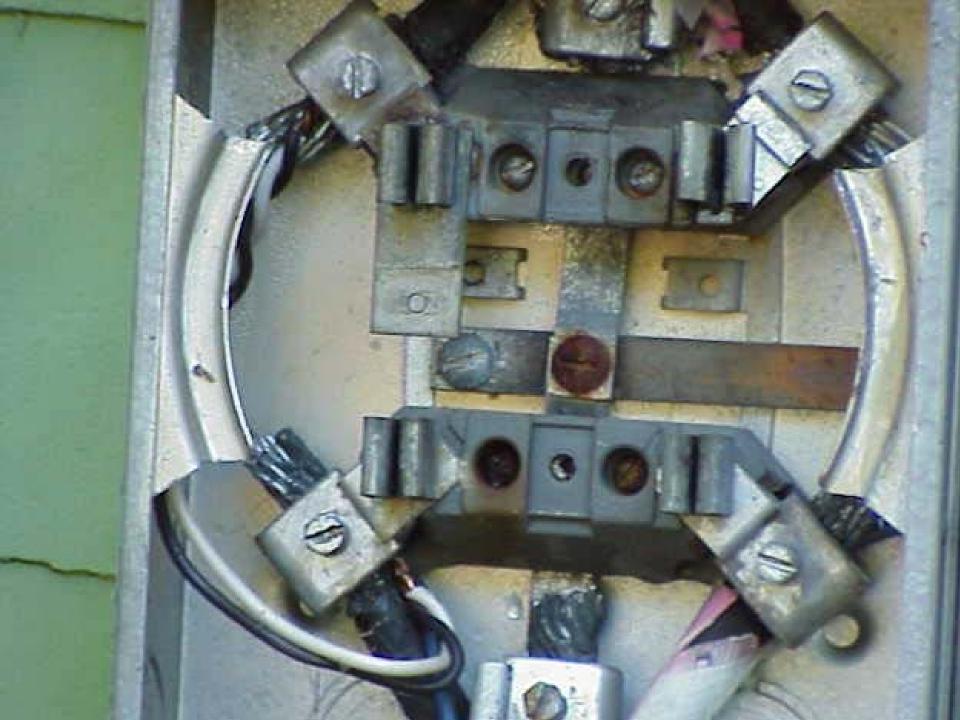


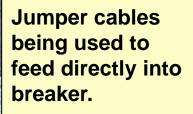












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Load wire in right socket is feeding directly from bus bar. Other wire is feeding from adjacent socket.

2013 ME	MALAR DR	
and the B	ATLANTA	.0
2-16-00	12:39	12
UE 2250	38327	
Ra Frange Re Laft	Rang No.	
SMITH		

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Beneath cover someone had bypassed meter using jumper cables

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Carton Descen From Houthaday 83
1 3155 PALM PLOSE ON
LITRIAL SA
1-7-9-00 A.S
178736 73.014
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Batt Internal

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Service entrance cable was running through attic. Wires have been attached ahead of meter. Some of the wiring feeding from the unmetered circuit.

1

Tap on wire running through attic. This is an unmetered circuit.

6755 Surry Break L

the last / building

Unmetered circuit feeding into electrical panel.

Invenue Protection Photo Identification 6755 JUNNY Brook LN ATLANTA 5-23-00 10:00 Arter Same No. MLee / G STENANT / M David-Eles Ty U/A wiring 

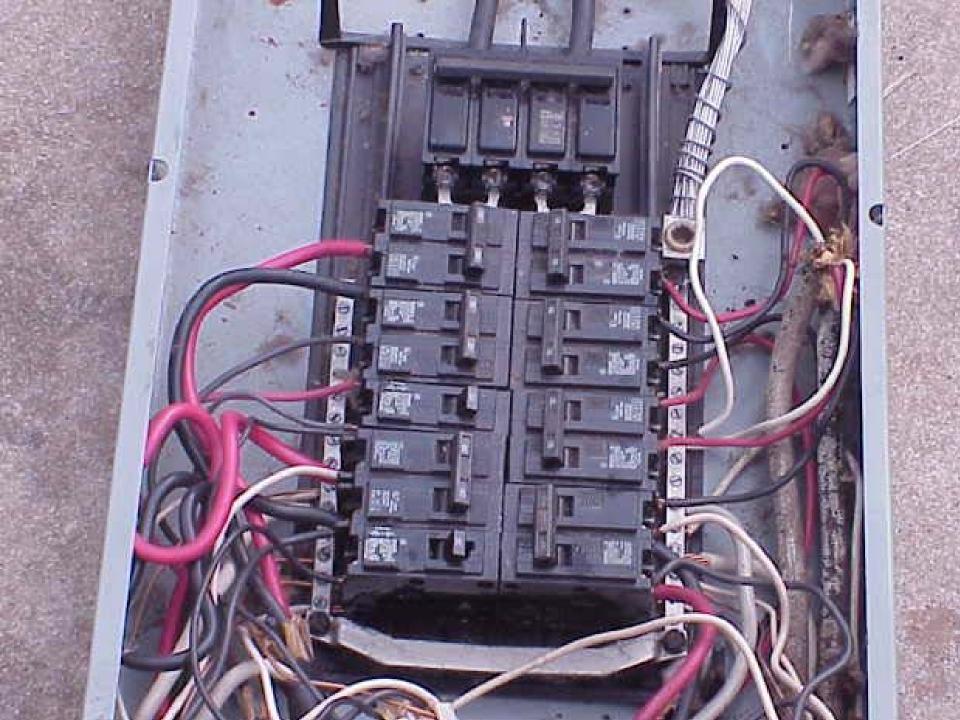
and the maintenance of the providence of 25. 25. 25. AL.













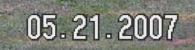


## HOME GROUN



## LOOKS LIKE YOUR AVERAGE, MIDDLE INCOME NIEGHBORHOOD HOME, RIGHT?

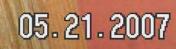




1.00

5908 AM





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### 05.21.2007

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#### LARGE RELAY FOR A/C

TIMER

CONT.

RELAYS

RELAYS SET FOR ALL POWER TO SHUT DOWN IF METER IS PULLED 02.21.2007



### The New Face of AMI Cases

- Data Mining
  - Finding patterns in very large data sets
- System generated event charts
- System generated load reading graphs
- Investigator developed cases







### A weekly cycle of Meter Swapping



Alarm	Date Meter Id	FlexNet Id	Address
PowerFail Tamper	5/31/2011 8:00	4309707	44803263 Unknown location
Power Restoral	5/31/2011 8:02	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:02	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:03	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:03	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:04	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:05	4533871	44344741 1408 RED-CLOUD CT
PowerFail Tamper	6/6/2011 7:16	4309707	44803263 Unknown location
Power Restoral	6/6/2011 7:18	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:18	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:18	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:19	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:20	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:21	4533871	44344741 1408 RED-CLOUD CT
PowerFail Tamper	6/20/2011 9:23	4309707	44803263 Unknown location
Power Restoral	6/20/2011 9:24	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/20/2011 9:24	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/20/2011 9:25	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/20/2011 9:25	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/20/2011 9:26	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	6/20/2011 9:27	4533871	44344741 1408 RED-CLOUD CT
PowerFail Tamper	7/5/2011 8:17	4309707	44803263 Unknown location
Power Restoral	7/5/2011 8:19	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/5/2011 8:19	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/5/2011 8:20	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/5/2011 8:20	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/5/2011 8:21	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/5/2011 8:22	4533871	44344741 1408 RED-CLOUD CT
rower nestoral	75/2011 0.22	45550/1	
PowerFail Tamper	7/12/2011 7:39	4309707	44803263 Unknown location
Power Restoral	7/12/2011 7:40	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/12/2011 7:40	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/12/2011 7:41	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/12/2011 7:41	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/12/2011 7:42	4533871	44344741 1408 RED-CLOUD CT
Power Restoral	7/12/2011 7:42	4533871	44344741 1408 RED-CLOUD CT



#### **Alarm Event Documentation**



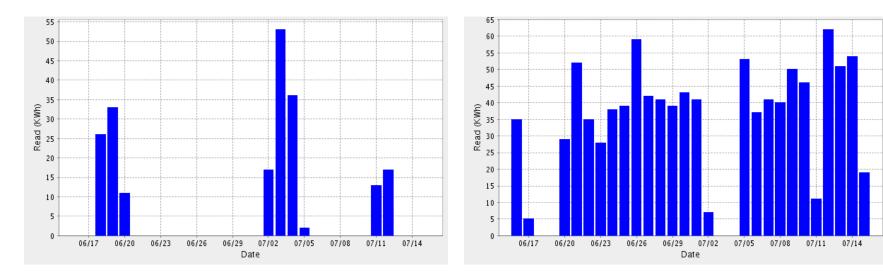
### Alarm Event Documentation

Alarm	Date	Meter Id	FlexNet Id	Address
PowerFail Tamper	5/31/2011 8:00	4309707	44803263	Unknown location
Power Restoral	5/31/2011 8:02	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:02	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:03	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:03	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:04	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	5/31/2011 8:05	4533871	44344741	1408 RED-CLOUD CT
PowerFail Tamper	6/6/2011 7:16	4309707	44803263	Unknown location
Power Restoral	6/6/2011 7:18	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:18	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:18	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:19	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:20	4533871	44344741	1408 RED-CLOUD CT
Power Restoral	6/6/2011 7:21	4533871	44344741	1408 RED-CLOUD CT





# Reading Chart Documentation 4309707 (unauthorized meter) 4533871 (meter of record) 6/16/2011 - 7/15/2011 6/16/2011 - 7/15/2011



## Revenue Protection





### A daily cycle of Meter Swapping



### Alarm Event Documentation

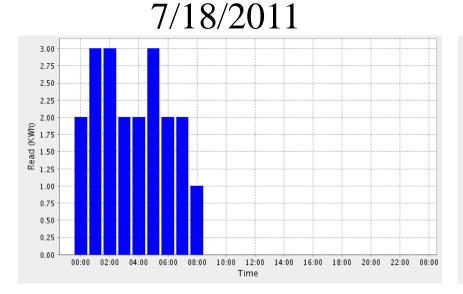
Alarm	Date	Meter Id	FlexNet Id Address	
PowerFail Tamper	7/18/2011 9:0	00 4086536	43973204 Unknown location	
Power Restoral	7/18/2011 9:0	02 5801956	44344741 1037 Holcombe RD	), APT B
PowerFail Tamper	7/15/2011 8:	15 4086536	43973204 Unknown location	
Power Restoral	7/15/2011 8:1	16 5801956	44344741 1037 Holcombe RD	), APT B
PowerFail Tamper	7/14/2011 5:0	06 4086536	43973204 Unknown location	
Power Restoral	7/14/2011 5:0	09 5801956	44344741 1037 Holcombe RD	), APT B



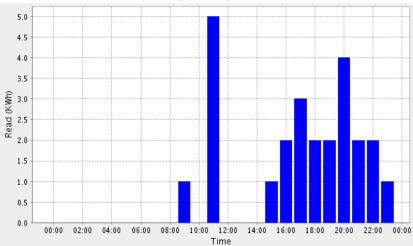


### **Reading Chart Documentation**

### Unauthorized meter 4086536



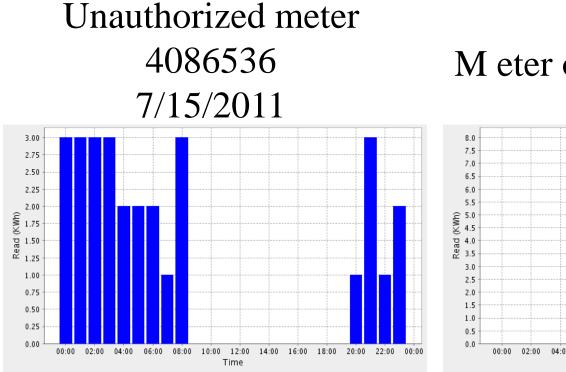
#### Meter of record 5801956 7/18/2011



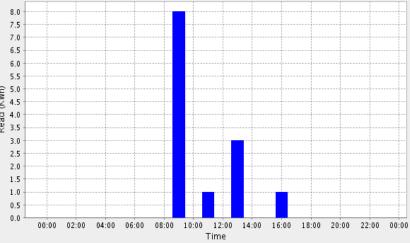
#### Revenue Protection



### **Reading Chart Documentation**



#### M eter of record 5801956 7/15/2011



#### Revenue Protection

GENERAL CO ELECTRI





#### **Duration of Theft**



### Alarm Event Documentation

#### Meter 4015427 alarm log

2011-07-05 19:11:13 PowerFail Tamper ← meter removed from address of record 2011-07-06 01:54:53 PowerRestore 2011-07-06 01:55:25 PowerRestore 2011-07-06 01:56:05 PowerRestore 2011-07-06 01:57:01 PowerRestore 2011-07-06 01:58:05 PowerRestore 2011-07-06 01:59:01 PowerRestore 2011-07-06 01:59:01 PowerRestore 2011-08-22 14:57:09 PowerFail Tamper ← meter removed from service at 406 Holderness St SW by Georgia Power investigators Hagan and Howard

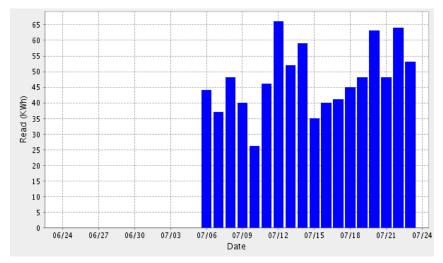
2011-08-22 14:57:09 PowerFail Tamper

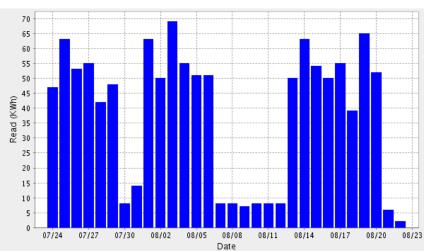




### **Reading Chart Documentation**

#### Unauthorized meter 4015427 – 7/5/11 through 8/22/11









### **New Tools for Revenue**

#### Field Meter Tech Service Tools

C ELECTRI

Drotoction	Sensus FlexNet Uti	ility: v2.0.4.0   DLL: v3.2.4.0	User2: SOCO_I	T   Config: _iConA77_	SAS_B3INX	
Protection	✓ Mag Loop COM03	Serial     Serial     Serial     Serial     Immediately Exe     Port Address:     PHiT	Enable BX		. 109 . 255	TX Mode: Automated TX Cli File Name: Password: Get
	F12 - Ping Ping Type: 16 Buddy Monitor	et BB Freq USA (N3L)		Micro Transceiver Show Command V TextLog Decode Histor Block Tower AC	Xs	Multi ID Ping Endpoints           Ping FlexNet ID 1:         13           Ping FlexNet ID 2:         14           Ping FlexNet ID 3:         15           Ping FlexNet ID 4:         16
Field Meter Tech Service Tools	✓ Filter         Enter CSV F           COM Time         VC FlexNet II           13:51:24 1          13:51:34 1            13:51:56 1          13:51:56 1	Tilter List	93 33 60 55 1	Image: Signal Alert [30]           AC AppData           37]00 08 02 00 1C 32 11           ************************************	C         Raw           7 00 00 00 00 00 00 00         -           00000 00000         -           00000 0000         -           00000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         -           01000 0000         00000000	D0 00 00 00 00 00 00 00 00 00 00 00 00 0
	00 00 00 00 00 00 0 08/24/11 13:51:55		01 95 01 00 67	99	7 08 02 00 00 00 10 00	00 02 00 00 00 00 00 00 00 00 00 00 00 🕥





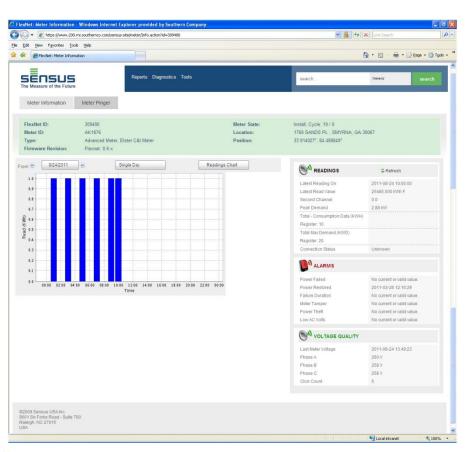
### New Tools for Revenue

### Protection

Web Based Tools

ELNERAL @ LUCTRIC Instant State

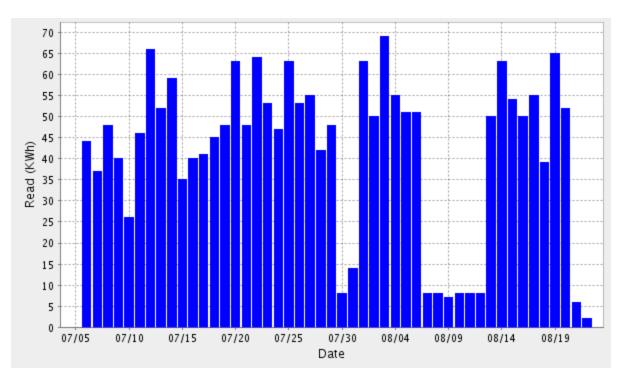
242 min Jam All



#### Revenue Protection



### **Reading Charts**







### **Event Histories**

FlexNet: Meter Information - Windows Intern	et Explorer provided by Southern Company			
💽 🗸 🔊 https://www.200.rni.southernco.com/se	ensus-site/meter/Info.action?id=43736080		✓ ▲	😽 🗙 Live Search
Edit View Favorites Tools Help				
FlexNet: Meter Information				🏠 🔹 🗟 🕤 🖶 🔹 🔂 Page 🔹 🎯 Too
	Reports Diagnostics Tools		search	Meterid search
Meter Information Meter Pinger				
	ter, IConA TOU Integrated Display , Metrology: 1.2.8	Meter State: Location: Position:	Install, Cycle: 2 / 0 2931 PANTHERSVILLE RD J1 33.702450°, 84.272355°	24 APT, MINOLA, GA 30034
From: (0) 7/5/2011 (+) To: (0) 8/22/2011 (+)	Select Date Range	Alarms	(Treadings	<b>ಘ</b> Refresh
			Latest Reading On	2011-08-22 11:00:00
ſime	Alarms		Latest Read Value	8514.000 kWh F+R
011-08-22 14:57:09	PowerFail Tamper		Connection Status	Unknown
011-08-22 14:57:09 011-07-06 01:59:01	PowerFail Tamper PowerRestore			
011-07-06 01:58:05	PowerRestore			
011-07-06 01:57:01	PowerRestore		Power Failed	2011-08-22 14:57:11
011-07-06 01:56:05	PowerRestore		Power Restored	No current or valid value.
011-07-06 01:55:25	PowerRestore		Failure Duration	1 day, 23 hours, 43 minutes, 34
011-07-06 01:54:53	PowerRestore		Hatas Tama ar	seconds
011-07-05 19:11:13	PowerFail Tamper		Meter Tamper	2011-08-22 14:57:08
			Power Theft Low AC Volts	No current or valid value. No current or valid value.
			LOW AC VOILS	No current of valid value.
				🔍 Local intranet 🔍 100%





### **Summary Screens**

	Stress 1
Latest Reading On	2011-08-26 16:00:00
Latest Read Value	29794.000 kWh F+R
Connection Status	Unknown
ALARMS	
Power Failed	2011-07-16 09:48:17
Power Restored	2011-07-18 07:57:08
Failure Duration	1 day, 22 hours, 8 minutes, 51 seconds
Meter Tamper	2011-07-16 09:48:17
Power Theft	No current or valid value.
Low AC Volts	No current or valid value.
VOLTAGE QUALI	тү
Last Meter Voltage	2011-08-26 16:00:00
Average	246 V
Minimum	244 V
Maximum	248 V

22

Click Count





### Ping From Your Desk

**Results** received

				: 44344741   <u>New Ping</u> eter Information Page			
		Initial Response	e Start Time	End Time	<b>Two Way Duration</b>		
		00:00:00	08/26/2011 20:57	:49 08/26/2011 20:57:55	00:00:06		
Current E1 Reading	Current E2 Readi	ng Tin	nestamp	Phase C Current Volta	ge Phase C Minimu	m Voltage	Phase C Maximum Voltage
29808.952 kWh	0 kWh	2011-08-26T2	20:57:55.200-04:00	248 V	V		V
tatus Details							
Timestamp	Messa	ige Type	ge Type Message Summary				
08/26/2011 20:57:55	5 ST.	ATUS	State: COMPLETE; Attempt #1 of 1 (via Au		mpt #1 of 1 (via Auste	II); Expectin	g: 0x ALARM
08/26/2011 20:57:54	ST/	ATUS	State: WAITING				
08/26/2011 20:57:54	ST/	ATUS	S State: WAITING; Attempt #1 of 10 (via Austell)			)	
08/26/2011 20:57:51	ST	ATUS	State: TRANSMIT				
08/26/2011 20:57:51	ST/	ATUS	State: CONFIRM; Attempt #0 of 10; Expecting: 1x ALARM			LARM	
08/26/2011 20:57:49	) ST/	ATUS	State: WAITING				







### Lost/Stolen Meters



A SOUTHERN COMPANY



# **MeterTrax**<sup>TM</sup>

The Industries First AMI / AMR / Smart Meter Location System



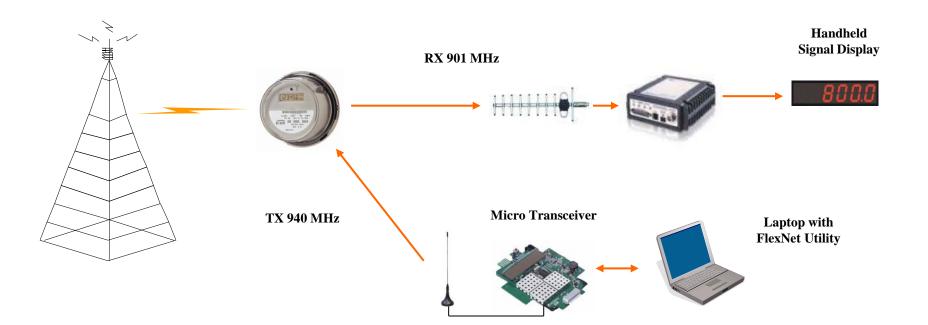
### **Product Attributes**

- Support for a wide range of systems
- Patent pending technology requires no changes to the meters or the metering infrastructure
- Increases investigator effectiveness
  - Recover AMI / AMR / SmartMeters quicker
- Increases investigator safety
  - Through increased location accuracy





### The MeterTrax<sup>™</sup> System







### The MeterTrax<sup>™</sup> System







### **Example Case - Sensus**

#### The unauthorized

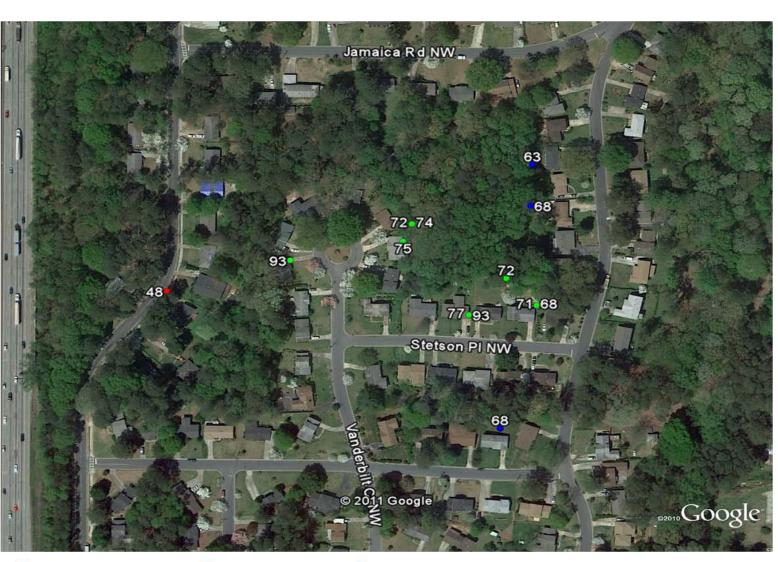


FlexNet ID 99942805 Meter ID 8372963 Start survey at: 2431 Cali Drive NE









CENERAL () ELECTRIC



FlexNet ID 42765093

Meter ID 2908944

2S / CL200

Buddy Sig 93

Buddy Address 3223 Stetson PI NW Atlanta

33.777127 N -84.493504 W

Buddy Flex ID 42785613

Buddy Mtr ID 2918977

- SummaryAdapt the existing tools
- Lobby for revenue protection enhancements
- Use the tools to make better cases
- Use the new capabilities to make new types of cases
- Train the staff
- Partner with other groups
- Think out of the box
- Be successful











### WORKING WITH LAW ENFORCEMENT GEORGIA

**A SOUTHERN COMPANY** 

Revenue Protection works closely with law enforcement.

### Crimes & Offenses

 16-7-25 Damaging, injuring or interfering with property of public utility companies, municipalities or political subdivisions

• 16-8-7 Theft by receiving stolen property





#### Official Notice Revenue Protection Georgia Power Company

Name				
Address			Apt. No.	
City		, Georgia	Zip Code	
Date and Time	AM	PM		
Letter left with or at:				

This is to notify you that it is unlawful to divert electric current or to use or cause to be used any electricity without the consent of the utility company which is supplying the electricity. Georgia Code Annotated 16-7-25 together with other sections of the Georgia Code and City Ordinances, make it a punishable offense to obtain service by deception and with the intent to avoid payment. It is unlawful for any person to engage intentionally and without authority in any of the following activities:

- injure or destroy any property of a company engaged in the manufacture or sale of electricity;
- (2) prevent an electric meter from duly registering the quantity of electricity supplied;
- receive, dispose of, or retain possession or control of a stolen or unauthorized electric meter, or;
- (4) divert any electric service of the company.

The violators of City Ordinance No. \_\_\_\_\_\_, Georgia Code Annotated 16-7-25 (Damaging, injuring or interfering with property of public utility companies, municipalities or political subdivision) and Georgia Code Annotated 16-8-7 (Theft by Receiving Stolen Property) are generally punished as for a misdemeanor and may be subject to a fine and/or imprisonment. Theft of service is also punishable in certain cases as a felony.

Be advised that Georgia Power Company will take all necessary steps to prosecute violators of Georgia Code Annotated 16-7-25 and 16-8-7 and will strictly enforce its rights.

If you have any questions with respect to this matter, contact Georgia Power Company in order to avoid any unnecessary misunderstanding.

Contact:	
	Customer Signature
Phone:	
Extension:	

Date

Dewigood 10/01/00







# QUESTIONS GEORGIA

**A SOUTHERN COMPANY**