Southern Company
120,000 square miles

Alabama Power
1,370,479

Georgia Power
2,000,000

Mississippi Power
193,000

Savannah Electric
139,826

Gulf Power
393,858
Hurricane IVAN

- Alabama Power: 825,000, 60%
- Georgia Power: 400,000, 20%
- Mississippi: 70,000, 36%
- Gulf Power: 364,000, 92%
Southern Company Distribution Production Architecture

Current Environment

ORACLE 9i 64 bit
ArcGIS 8.3.1
ArcFM 8.3.1

Laptops/TabletPCs

XP Desktops

WAN

Citrix Farm – Dell
4 by 8

Web Server
Dell 2 by 2

ArcIMS App. Server
Dell 2 by 2

Sun V880
8 by 32

4 SDE Oracle Instances
## Southern Company Distribution Production Architecture

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<tr>
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<th>Pilot</th>
<th>Conversion</th>
<th>Production</th>
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</table>
Alabama Power Company

- Headquartered in Birmingham, Alabama
- 1.3 million customers
- 44,500 square mile service territory

Electric Distribution GIS

- 300 GIS Field Users
- ArcMap and ArcFM delivered via Citrix
- View and Query only
- Centralized Posting and Data Management
Pole Inspection via GIS
Mark Swindall

Simple Mobile Design Tool
Michael Cleland
Pole Inspection via GIS

Mark Swindall
Principal Engineer – Power Delivery Methods and Systems
Alabama Power Company
Pole Inspection at APC

- 1.6 million distribution poles
- Eight year inspection cycle
- 200,000 plus poles inspected per year

On PAPER maps!
Pole Inspection at APC

- Pole Inspections are directed by personnel within each operating region, and reported to a corporate level.
- Inspection areas are established by either map or by feeder.
- OSMOSE numbers the poles.
- The sheet number/pole number is on the invoice.
- Reconciliation is manual between the map and invoice.
OSMOSE Fastgate

- Utilizing Shape files, APC can now provide GIS data to OSMOSE
- Feeder data including poles, circuits, and other equipment can be emailed to OSMOSE
- Data is processed and sent to field personnel
With a little help from our friends…

• Viable option to send electronic data to OSMOSE
• Select only desired layers
• Export tool developed by MESA Solutions utilized
Feeder Selection

- Primary & Secondary poles selected
- Roads
- Subs, xfr, all switches
- 200 scale map grid
OSMOSE Fastgate Mobile

- Utilizing Windows CE field device for APCo project:
  - Uses our data for existing poles
  - GPS positioning of poles not in data
  - Visual survey of equipment & attachments
  - Spacing and clearance
  - QA/QC processing in the field
Import Process

Inspection Data

Import & Reconcile

SDE

Reporting System

Map Objects
Import & Reconcile

• Data is received via email in an Access .mdb file
• Imported into edit session via MESA tool
Import & Reconcile

• First the data is inspected for validity against SDE
• Report produces table

• The table drives the Map Document Symbology
Import & Reconcile

- Inspection Record...FIF
- Pole attribute different
- Equipment discrepancy
Import & Reconcile
Post to SDE

The valid data is now Posted to SDE

• The Pole Inspection data will be kept in history for the 8 year cycle
Reporting System

Inspection Data

Import & Reconcile

SDE

Reporting System

Map Objects
Reporting System
Reporting System
Reporting System
### Reporting System

#### Gabrielle Pole Inspection and Tracking
Completed APCO Priority and Replacement Pole Report

**Region: Birmingham / Eastern**  
**Operation Center: <ALL>**  
**Month: SEPTEMBER**  
**Year: 2004**

<table>
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<th>Operation</th>
<th>Task</th>
<th>Work Order</th>
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Reporting System
Successes

- No more plotting maps for inspection crews
- No manual numbering of poles
- No manual matching of maps to paper invoices
- More efficiency in the field – a single device/no maps
- Automated reconciliation of billing information
- Easier reporting to management
Simple Mobile Design Tool

Mike Cleland
Principal Engineer – Power Delivery Methods and Systems
Alabama Power Company
Project
Field Evaluation of Tablet PC’s

- Test hardware
- Simulate a mobile desktop environment
- Demonstrate mobile GIS functionality
- Evaluate user adaptability to tablet PC’s
- Focus on simplicity
- Limit investment
- Leverage existing knowledge
Opportunities and Issues

Opportunity
• Show the potential of GIS in the field

Issues
• Needed a GIS tool, with more than display and query
• Personnel already familiar with the ESRI draw tool

But ...
• More efficiency desired
• Which required tool specialization
• We had to keep it simple
The Result

This Standard tool: Becomes This:

![MESA Solutions Logo]
Simple Design/Implementation Approach

- Works with PGDB
- Designed a tool to automate symbol selection
- Uses existing graphics capability of ArcMap
- Allows continued use of the ESRI drawing tool

The project was done with MESA Solutions, Inc.
Completed and ready for testing in a few days.
**Work Order**

**Sketch of Proposed Work - Simplified W.E.**

<table>
<thead>
<tr>
<th>Customer</th>
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<th>Date</th>
<th>Time</th>
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<td>N BREVON RD</td>
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**Acquisition Agent**

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<th>Name</th>
<th>Phone</th>
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<tr>
<td>John Doe</td>
<td>555-5555</td>
<td><a href="mailto:john.doe@company.com">john.doe@company.com</a></td>
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**Miscellaneous**

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</table>

**Notes**

- LOCATE AT BREVON RD
- THIS IS BETWEEN 42700 AND 42702

---

**Diagram:**

- Substation
- Transformer
- Lines

---

**Legend:**

- **Yellow**
- **Blue**
- **Red**

---

**Table:**

<table>
<thead>
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<th>Item</th>
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<td>Cable</td>
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---

**Signature:**

- John Doe, Project Manager
- Jane Smith, Engineer

---

**Contact Information:**

- Alabama Power
  - 123 Main St
  - Phone: 555-5555
  - Email: info@alabamapower.com
Planning Palette
Planning
Successes

The Tablet Tool was a success!

- It showed the wisdom of deploying a simple tool
- It spawned additional similar tools
- Users requested that it be implemented on Citrix for the desktop

Sometimes Simple is better!
Questions?