Selling GIS Inside Your Organization

Cindi Salas, CenterPoint Energy
Gathen Garcia, Public Service Company of New Mexico
Roxanne Cox-Drake, ESRI
Desired Outcome

Given the vast opportunity for GIS use in utilities, determine whether or not the user community wants to engage in the collection and sharing of reference materials supporting development of GIS strategy and plans.
Session Today

• Quick Review of the Tools use in Local Government - Roxanne
• The challenges facing today’s GIS Managers in utilities – Cindi
• Planning Process at PNM – Gathen
• Discussion for EGUG community actions
Lots of Ways to Look at GIS in Utilities

Continuous Interrelated Processes

Energy Procurement → Gas/Electric Transmission → Gas/Electric Distribution → Customer Care

Supply Chain/Logistics → Information Technology → Finance and Accounting → Corporate Services
Lots of Ways to Look at GIS in Utilities
Lots of Ways to Look at GIS in Utilities
## Functional Knowledge - Priorities

<table>
<thead>
<tr>
<th>Police</th>
<th>Description</th>
<th>Why GIS</th>
<th>Case Studies</th>
<th>Reference Material</th>
<th>Business Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crime Analysis</td>
<td>Written description of solutions</td>
<td>Business value of GIS applied to this business process</td>
<td>Examples of user experience for GIS in this area</td>
<td>Other reference material available to support business case</td>
<td>ESRI business partners offering solutions in this area</td>
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<td>CAD Files</td>
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<td>AVL</td>
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<td>Megan’s Law</td>
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<td>Drug Tracking</td>
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<td>Link Analysis</td>
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CenterPoint Energy

Cindi Salas
CenterPoint Energy

- One of the largest energy delivery companies in U.S.
- Electric transmission and distribution
- Natural gas distribution sales
- Interstate pipelines and gathering operations
- 14K MW electric generating capacity

Repliant Resources

- Wholesale and retail energy services
- Unregulated power generation
- Retail electricity service
CenterPoint Energy Arkla
- 730,000 natural gas customers
- 27K main and service lines
- 621 communities (AR, MS, OK)

CenterPoint Energy Entex
- 550,000 natural gas customers
- 21K main and service lines
- 337 communities (LA, MS, TX)

CenterPoint Energy Minnegasco
- 700,000 natural gas customers
- 22K main and service lines
- 240 communities (MN)

CenterPoint Energy Houston
- 982,000 natural gas & 1.8 million electric customers
- 25K overhead & 8K underground distribution lines
- 4K overhead transmission lines
May, 1998

That Was Then …..

Houston Lighting & Power

Distribution / Transmission

GIS

Smallworld

ArcInfo

ESRI EGUG 2004

CenterPoint Energy

ESRI
Corporate Enterprise GIS

- One common GIS environment

Leverage

- Common data models (gas, electric, land)
- Common applications and interfaces
- Common architecture
- Centralized support
2003

This is Now.....

Enterprise GIS

MS  LA  OK  AR  MGC  Stx  Etx

Distribution / Transmission

Houston / Texas Coast

ArcGIS
Organizations Using GIS

- Electric and Gas Operations & Maintenance
- Electric and Gas Dispatching
- Electric and Gas Engineering
- Electric Transmission Operations
- Electric Major Underground Operations
- Streetlight Operations
- Gas Corrosion Protection
- Surveying & Mapping
- Land & Right of Way
- Meter Reading
- Claims
- Marketing
- Revenue Accounting
- Governmental Relations
- Environmental
- Corporate Tax
- Line Locating
- Leak Survey

More Than 4,500 GIS Users
The Tip of the Iceberg

Must Now Satisfy Strategic Demands

- Asset Optimization Models
- Business Risk Models
- Prediction Models
- Leverage Existing Investment in Technology (OMS, SAP, SCADA, Work Management…)
GIS

Value Creation

Strategic

Tactical

Technology Improvements

Replace Manual Process

Executives

Front-Line Users

Technologists

Maps in Trucks

Batch Plotting

Automated Mapping

Design Tool

Prediction Models

GIS
**STRATEGIC**
- Benefits are substantially greater than investment
- Benefits impact a broad cross-section of the business
- Executive Ownership

**TACTICAL**
- Benefits are multiples of investment
- Benefits impact a specific part of the business
- Executive support, management or front-line ownership
GIS Vision

At CenterPoint Energy, GIS is an enterprise-wide solution that when integrated with key business processes, enables strategic analysis and decisions that enhance our ability to increase shareholder value and gain competitive advantage.

Vision for GIS

What the GIS Vision Means

• A common GIS deployed to all CenterPoint Business Units

  **One Company**

• Analyze, solve problems, and make decisions using spatially enabled information

  **Get it Right**

• Having to do with critical core business

  **Grow**

“...Enterprise-wide...”

“...Solution...”

“...Strategic...”

“...increase shareholder value and gain competitive advantage”
Public Service Company of New Mexico

Gathen Garcia
Public Service Company of New Mexico

- New Mexico’s largest Investor Owned Utility
- Provides both Electric and Gas Service
- 405,000+ electric customers
- 459,000+ natural gas customers
- Approximately 2,800 miles of Electric Transmission
- Approximately 1,500 miles of Gas Transmission
- Approximately 7,200 miles of Electric Distribution
- Approximately 10,900 miles of Gas Distribution
Corporate Philosophy at PNM

- Leverage GIS technology whenever possible
- Implement Automation to Help Maximize Return on Assets
- Utilize existing applications where they make sense
- Develop custom applications when necessary
GIS Data Integrity & Quality Systems
Today's Challenges
Developing a GIS Strategy – Near Future

Green = Data Security
Red = Data Updates
Yellow = Data Quality
White = Design & Program Guidelines

Database design class to update design quality and education of standards
Centralized data source
Direct to applications

COM-based design allows for better security and reusability
Wireless GIS viability tests

SQL server and geodatabase replication methods more reliable

Department security guidelines and security plans for each project

Brio explored for generalized reporting

Automated GIS data update request
Easy to use web maps

Strategic plan being developed for interface to major corporate footprints

GIS Data Integrity & Quality Systems
Near Future Solutions

October 09-14
Future Look at GIS

GIS delta datasets send only data changes, not entire datasets.

Security procedures & development standards.

Single point of access manages data integrity, security and eliminates field replication.

Adoption of adhoc reporting with map interfaces.

Access for non-ArcGIS users.

Secure web maps to outside agencies.

Inter-System transaction history maintained for rollback and recovery.

Common info model & integration bus provides single-system level language & communication pathway.

Network bandwidth upgraded to accommodate GIS data.

Database review committees and standards.

Capture & track data or application update requests.

Consolidate and continuous data upload procedures.

Periodic data quality reviews and standards.

GIS configuration management plans.

GIS backup and recovery procedures.

Green = Data Security
Blue = Interfaces
Yellow = Data Quality
White = Design & Program Guidelines.

Outside PNM.

INNOVATIVE SOFTWARE SOLUTIONS

A personal commitment to New Mexico.

October 19-14
User Group Discussion
## GIS Possibilities

<table>
<thead>
<tr>
<th>Customer &amp; Market Service</th>
<th>Solution Description</th>
<th>Value and link to Corporate Goals</th>
<th>Case Studies</th>
<th>Reference Material</th>
<th>Products/Business Partners</th>
</tr>
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<tbody>
<tr>
<td>Billing</td>
<td>Rate case development</td>
<td>Communication tool for rationale</td>
<td></td>
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<td>Spatial Analyst</td>
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<tr>
<td>Economic Development</td>
<td>Public relations and load growth</td>
<td>PPL</td>
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<td>Energy Currents article</td>
<td>ArcIMS</td>
</tr>
<tr>
<td>Call Center</td>
<td>Outage visualization</td>
<td>Improved customer service</td>
<td></td>
<td>Energy Currents article</td>
<td>ArcGIS Desktop, ArcEngine, ArcIMS, ArcReader</td>
</tr>
<tr>
<td>Metering</td>
<td>Meter reading routes, meter re-read logistics, AMR deployment planning</td>
<td>Reduced overtime, reduced mileage and costs, operational optimization</td>
<td>CenterPoint Energy</td>
<td>Case study brochure</td>
<td>ALR, RouteSmart</td>
</tr>
<tr>
<td>Credit Collections</td>
<td>Collection by demographics</td>
<td>Revenue increase</td>
<td></td>
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<td>Business Analyst</td>
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<tr>
<td>Marketing</td>
<td>Target marketing for gas expansion</td>
<td>Growth</td>
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Group Discussion

• How might you use the tools?
• What other types of information would be useful?
• Are there other ways you’ve approached this challenge?
• What should the user community do to support this interest?