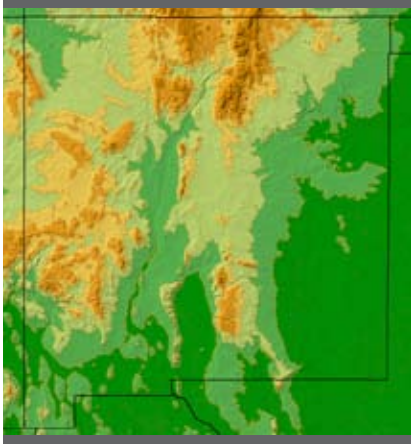
New Mexico Gas Company

Rapid GIS Deployment and Training within Budget

CASE STUDY



CHALLENGE

New Mexico Gas Company needed to quickly build a comprehensive platform for operations and engineering on a limited budget.

RESULTS

- **Within three months, the utility consolidated disparate data into a geodatabase and trained its staff on ArcGIS technology.**
- **Budget constraints were met.**
- **Data is now available to everyone on staff.**
- **Operations and engineering activities are streamlined.**

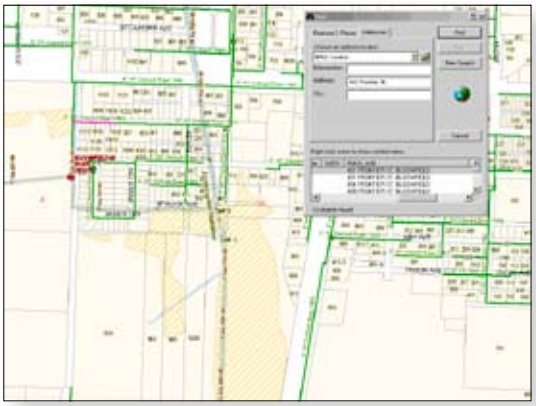
"Our GIS is up and running with data converted, field software deployed, and staff trained. ESRI was very helpful in the implementation phase of this project."

Curtis Winner,
Manager of Land Services,
New Mexico Gas Company

New Mexico Gas Company provides natural gas service to more than 500,000 customers in New Mexico and maintains more than 10,000 miles of gas distribution and 1,600 miles of transmission pipelines. The utility purchases most of its natural gas from the state's own rich reserves. New Mexico Gas Company was formed when New Mexico's combined gas and electric utility, PNM, sold its gas utility assets. New Mexico Gas Company is a subsidiary of Continential Energy Systems, LLC.

The Challenge

After the purchase of the natural gas utility, New Mexico Gas Company faced a significant hurdle—maintain existing service levels and stay within budget while building from scratch an infrastructure to support the new company. The utility needed to migrate all its disparate distribution data to one place where information could be stored, managed, and accessed by everyone on staff. A legacy geographic information system (GIS) and mapping systems had to be converted to one GIS. In addition, the company needed a core technology solution to facilitate engineering work and field access to data. To maintain high-quality service, New Mexico Gas Company's new technology would have to be deployed rapidly, and the staff of field crews, designers, and technicians would have to be brought on board quickly.



By building a combined address locator of street data and parcels, New Mexico Gas Company is able to quickly locate areas of interest.

The Solution

The utility selected ESRI's ArcGIS® Desktop technology as the platform for its infrastructure development. New Mexico Gas Company decision makers recognized the value GIS would carry through to the operations, maintenance, and engineering functions of the utility.

The first step was migrating existing transmission applications. The second step was to focus on the data stored in its homegrown record-keeping database for gas distribution, AMIGO. Information such as construction orders, asset data, leak reports, and repairs was pulled into the GIS by linking each piece to relevant points, lines, and polygons.

"We looked at what we had, and we knew we could tie in the AMIGO data with attributes in GIS to clean up the database," said Curtis Winner, New Mexico Gas Company manager of land services.

To enhance the geodatabase and the information it provided, New Mexico Gas Company brought in aerial photography, county street data, parcel data, and available environmental data.

The utility built specific task assistant procedures for both distribution mapping and design. New Mexico Gas Company was able to streamline training and set many of the specific editing tasks in the background. This helped flatten the learning curve for first-time users and ensured consistency in the database.

New Mexico Gas Company

ESRI SOFTWARE USED

ArcGIS Desktop
ArcGIS Spatial Analyst
ArcGIS 3D Analyst™
ArcGIS Publisher
Job Tracking for ArcGIS (JTX™)
ArcReader™
ArcIMS®
RouteMAP™ IMS

OTHER SOFTWARE USED

Microsoft® SQL® Server 2005
GeoFields®
Citrix v4.5®

DATA USED

Asset and facility data
County assessor and parcel data
Aerial imagery
Topography
Customer information

HARDWARE

Dell® R900 4x Opteron (2.2 GHz)
Intel® Xeon® CPU E5405 (2.0 GHz)
4x Dell M600 Blades

FOR MORE INFORMATION

ESRI
380 New York Street
Redlands, CA 92373
Phone: 800-447-9778
Fax: 909-793-5953
Web: www.esri.com

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New Mexico Gas Company rapidly deployed ArcGIS Desktop throughout the organization so utility data and GIS tools could be used by staff for operations and engineering on day one.

The Results

Within three months, the utility reached its goals of consolidating disparate data into one place and deploying GIS tools for operations and engineering. As the company had hoped, the GIS deployment was speedy, budget constraints were met, and staff members were trained in time to use the new technology.

"The GIS system is running smoothly and being used company-wide. Without ESRI's supportive staff, this would not have been possible," said Deborah McDonald, GIS administrator, New Mexico Gas Company.

With GIS-based utility maps, the operations staff is able to view county assessor and parcel data, along with topography, aerial images, and customer information, and can see their relationship to the company's transmission lines.

Field crews can use Global Positioning System (GPS) data to track facilities and update asset information. Because all the data is geospatially enabled, the utility is able to quickly create work orders for new construction and maintenance.

Task assistant tools have empowered New Mexico Gas Company designers with the ability to map designs for new construction and maintenance.

Using GIS-based spatial analysis, New Mexico Gas Company performs least-cost analysis to site potential pipeline corridors. In addition, these routes can be imported into the utility's hydraulic modeling software, ensuring accurate and timely model runs.

"Potential routes can be identified quickly, and we know the exact length for generating accurate cost estimates," Winner said. "We have taken a lot of the what-ifs out of the equation and can quantify our recommendations."

New Mexico Gas Company also uses GIS for environmental planning and permitting. Staff members are able to view assets in relationship to groundwater discharge zones and other environmentally sensitive areas such as cultural sites and threatened and endangered species habitats.

"With GIS-based maps, we can see our entire state at once," Winner said. "I turn on the aerial imagery, and all of a sudden I'm in Carlsbad, a five-hour drive. It really helps staff evaluate projects and saves on travel. Using GIS tools such as bookmarks, we can jump all over the state without leaving the office."