

## Columbia Water & Light

### Planning for Electric Utility Infrastructure



Electric system long-term planning has many different facets. Integrated Resource Plans are updated every five years to plan for future power supply needs and identify opportunities for reducing consumption. Compliance with Federal guidelines often requires upgrades to Columbia's power generation sources and transmission systems. Various evaluation tools are utilized to determine improvements needed in the electric transmission and distribution systems. This includes evaluation of electric circuit loading during peak usage conditions, patterns of growth both in number of customers and individual customer usage and modeling where upgrades/replacements may be needed due to problems. Plans must include room for extra capacity on the electric systems so power can be rerouted when problems occur on another part of the system.

#### City of Columbia Capital Improvement Program

The City of Columbia's Capital Improvement Program (CIP) is a five year plan for investments in infrastructure. The CIP also includes facilities and equipment that supports future infrastructure needs. Projects within the CIP are intended to reflect the community's values and goals and the overall policy goals of the City Council including existing city-wide long range plans. City departments with infrastructure projects review the CIP throughout the year to plan work flow and make adjustments as needed for future needs. CIP projects and funding are reviewed by department staff members, the Finance Department and the City Manager's office. In many cases, there are citizen advisory committees that are involved in the review process. The City Council has the final say on the CIP projects and budget after they receive feedback from the public at a series of public hearings.

- Columbia Water & Light uses a combination of revenue collected through rates and from voter approved bond funds to pay for CIP projects. No tax revenue is used for water or electric projects.

#### Special Studies/Reports

- Integrated Resource Plan: Completed by an outside consultant in 2008 and 2013, this report outlines power supply options for the future and the cost/benefit analysis of energy efficiency programs.
- Cost of Service Studies: The Rates and Financial Division reviews the utility's finances and the cost to serve the different customer rate classifications throughout the year. Periodically an independent consultant is hired to update cost-of-service models. The most recent update for the electric utility was in 2012. Part of the cost-of-service study is to provide a model so new data can be incorporated. City staff members have recently updated the electric model with 2014 information.

- Reliability & Federal Regulations: The North American Electric Reliability Corporation (NERC) is the certified Electric Reliability Organization in the United States. SERC is the regional agency that enforces NERC reliability standards in all or portions of 16 central and southeastern states. Columbia Water & Light is a member of the Mid-Continent Independent System Operator (MISO), the Regional Transmission Organization. All of these agencies have many layers of oversight. Most of the reporting to these agencies must remain confidential to protect the security of the United States' electric system.
  - Columbia participates in the following planning studies through SERC: Long Term Study Group, Near Term Study Group, Dynamic Study Group and the Short-Circuit Database Working Group.
  - Columbia Water & Light participates in MISO's Coordinated Seasonal Assessment.
- Power Production:
  - SEGA has developed a draft air construction permit application to cover the optional strategies available to enable the plant to remain operational and compliant.
  - MACT Compliance at the power plant was performed by Trinity Consultants in May of 2005.
  - Power plant controls assessment performed by SEGA in 2012, with the final report issued in January of 2013.
  - The Municipal Power Plant Condition Assessment was performed by L, D & B during 2012. The final report was issued in 2013.
  - Phase 1 of the boiler 8 NOx reduction project was issued on August 4, 2014 by SEGA.
  - Controls upgrade technical specifications report for the Columbia Energy Center was issued by SEGA in March of 2015.