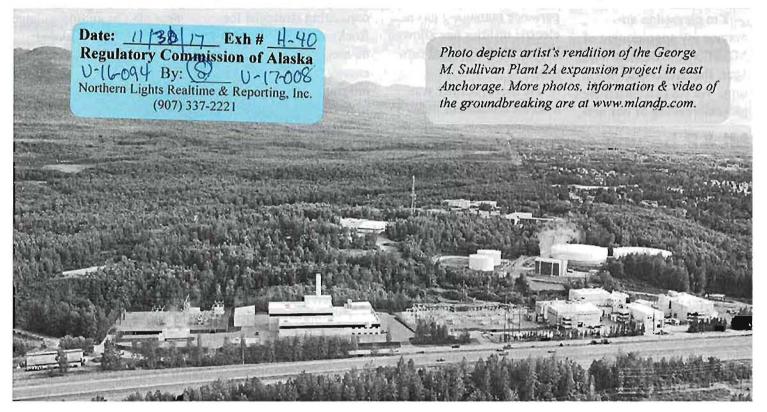




Summer 2014

## ML&P building world leader in efficient generation



Municipal and electric utility officials broke ground alongside contractors on April 23, 2014 to celebrate construction of what will be one of the world's most energy-efficient, thermal generation power plants.

The expansion of the 1970's-vintage George M. Sullivan Plant 2 in east Anchorage will use GE LM6000 combustion turbine technology. The new plant will produce 120 megawatts in a 2x1 combined-cycle configuration.

The \$275 million plant is expected to be complete in the summer of 2016.

"This highly efficient plant is expected to achieve significant reductions in natural gas use and emissions, while benefiting the community by improving the heating of the municipal water supply and by providing additional generation capacity to meet Anchorage's future power needs," said Mayor Dan Sullivan.

"ML&P's diligent maintenance program has allowed it to get more than the 30-year design life out of its gas turbine fleet," said General Manager Jim Trent. "But the time has come when generation replacement is more cost-effective. Even with our additional 54 megawatts from the new Southcentral Power Project, we need to replace aging-generation equipment to safely and reliably meet demand."

Quanta Power Generation was selected as the contractor to provide engineering, procurement and construction of the George M. Sullivan Plant 2 generation expansion project. Associated Quanta companies Price Gregory International and M.J. Electric, Inc.

are part of the construction team. IEC Corporation will augment ML&P's Generation/Engineering staff.

#### Plant 2A at a glance

120 megawatt, 2x1 combined-cycle, natural-gasfired power generation with 2 GE LM6000 PF combustion turbine generators (jet engine turbines) & 1 steam unit

- · Capital Cost: \$275 million
- Estimated completion: Summer 2016
- · More fuel efficient
- o 15% average reduction in overall natural gas use—an estimated annual savings of more than \$13 million
- o 35% more efficient than legacy turbines
- Fewer emissions
- o 97% less nitrogen oxides
- o 80% less carbon monoxide
- o 30% less carbon dioxide (approximately)
- Engineering, procurement & construction services provided by Quanta Politic B289th on



Dear Neighbor,
I'm pleased to announce my appointment of
ML&P's new General Manager, Jim Trent--and just in
time. We we celebrated the
groundbreaking of our new,

### A message from Mayor Dan Sullivan

highly efficient power plant on April 23, about two weeks after his arrival from California.

Mr. Trent's 30 years of leadership expertise in power system planning, design and operations experience managing gas and electric utilities has allowed him to hit the ground running.

He most recently was a senior consultant for

Rockwell Automation in Colorado, where he helped to expand the company's global capabilities to include design and build of energy/utilities/power generation programs.

He also was the senior consulting strategist for Rockwell Automation's 86 megawatts of trash-to-energy power generation programs in Puerto Rico, Idaho and Texas.

Jim served six years as Director of Yankee Gas Services Company in Connecticut and was president and CEO of Pacific Utilities Management in California.

There he founded and company's principle business plan as an unregulated California-based global power generation company with an emphasis on total energy solutions.

Welcome Jim!

## ML&P begins summer construction with Downtown improvements

Municipal Light & Power began construction on infrastructure improvements for Downtown Anchorage and a new service for the Hard Rock Café in early April to minimize disruption during tourist season.

The improvements are part of a 15-year plan to replace all the old 4,000 volt (4kV) system with a new 35kV system. The new, more robust service will enhance reliability.

#### ML&P Unit 8 outage

A high-voltage, underground cable providing power from Plant 2's Unit 8

An old bank vault is being converted into an electric vault as part of the Downtown electric service upgrade to enhance reliability.

transformer to the 115kV switchyard at Plant 2 was found to be defective during a test run of the generator in late February.

Precautionary thermal-image analysis and consultation with the manufacturer indicated potential catastrophic failure of the cable should the unit be placed back in service. Physical inspection revealed significant damage to several layers of the cable.

An overhead replacement design was selected because Unit 8 is critical to ML&P's operating capacity until Plant 2A is complete in 2016. Replacing the underground cable would take more time and be more costly than an overhead circuit.

Unit 8, installed in 1984, is one of the newer units in ML&P's fleet. Its less-efficient, simple-cycle generation is used as a contingency when Units 6 and 7 are out of service.

Municipal Light & Power returned Unit 8 to service in April. Generation Operators then discovered a hydrogen leak in Unit 7 and that unit was shut down until the old hydrogen seals on the collector were replaced.

Complicating matters was ML&P's reduced power from its share of the Bradley Lake Hydroelectric Project.

Project operator, Homer Electric, shut down Units I and 2 at Bradley Lake on March 12 with the discovery that approximately 100-150 gallons of hydraulic oil was missing from its operational system. It was determined that no oil escaped containment, but Unit I was shut down as a precautionary measure for a day. Unit 2 is operating at a reduced capacity until HEA is able to rebuild a 10-ton spare valve.

For a look at ML&P's major construction projects, visit www.mlandp.com, or find us on Facebook. Follow us on Twitter for construction updates and outage information.

# Municipal Light & Power 1200 East 1st Avenue Anchorage, AK 99501 ML&P Customer Service Lobby 1120 East 1st Avenue Anchorage, AK 99501 Main ....... Customer Se Power outage Locate call ce Streetlight rep

Lobby hours: Monday-Friday 7:30 a.m.-5:30 p.m.

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