



LIPTENTM

A Quarterly report from the "Hands On" EPC Energy Solutions Company

advantage

2nd Quarter, 2011

Steamin' Hot NEWS

- Lipten's Video Brochure is online. Visit: www.lipten.com/digitalbrochure
- Lipten to provide a turn-key boiler installation including a new 2000 HP boiler and controls at a Nebraska food processing plant.
- Lipten to provide custom controls including three boiler master control panels, a plant master control panel, and Energy Center instruments for a new medical research facility in Maryland.
- Lipten has completed the engineering phase and begun installation of a turn-key heat recovery steam generating and turbine project at a natural gas processing plant in Oklahoma.

HISTORIC QUOTES

"What you are will show in what you do."

-Thomas A. Edison

"Quality means doing it right when no one is looking."

-Henry Ford

"Don't let what you cannot do interfere with what you can do."

-John Wooden

Waste-to-Electricity Project at Water Treatment Plant

Lipten is providing engineering, procurement and startup services for an Energy Recovery System (ERS) for the Northeast Ohio Regional Sewer District. This project involves creating steam using waste heat from sludge incinerators to drive a 3MW turbine. Lipten's equipment scope of supply includes: 3MW turbine, condensers, water softeners, reverse osmosis system, deaerator, blowdown systems, chemical feed systems, condensate receiver, desuperheaters, miscellaneous tanks and transfer pumps as well as local equipment controls and ERS supervisory controls.



Lipten's engineering scope includes: confirm equipment design and functionality is in compliance with drawings and specifications, equipment fabrication expediting, drawing redlines based on updated engineered design and finalized equipment, confirmation of controls hardware and software architecture, confirm pipe sizing and material of construction, and additional oversight of the ERS design and installation.

This contract was awarded to Lipten in the Spring of 2010. Startup is scheduled for Summer 2012. Lipten services and equipment are critical to the success of this over \$100 Million project.

Spotlight On . . .

Henri Onuigbo P.E., Mechanical Engineer



Henri Onuigbo P.E.,
Mechanical Engineer

Henri is an experienced mechanical engineer with vast knowledge of utilities systems including expertise in steam generation, piping and thermal dynamics. As a former chief engineer at one of the largest district heating and cooling facilities in the United States, Henri provides an owner's perspective of the requirements for successful utilities operations.

"If it flows through a pipe, I'm your guy!"

Henri has a B.S. degree and a Masters degree in mechanical engineering and is a certified Professional Engineer (PE). His major project accomplishments include:

- Lead engineer for renovating 15,972 feet of underground steam piping; initial pressure at source of 225 psi and flow of 500,000 pph, NPS 26 inches.
- Design of a condensate recovery system utilizing wasted high energy condensate from boilers to warm boiler feedwater; saving both energy and water. The water and sewage bill alone was reduced by approximately \$850,000 per year in addition to significant fuel cost savings!

LIPTEN CONTROLS CORNER



Jason Bradshaw
Senior Technician

Lipten presents the following solutions for a common steam boiler problem that can be addressed with Lipten controls upgrades.

Problem: Boilers are running dry due to load swings. **Addressed by:**

- Implementation of two-element (steam flow and water level) control with advanced control algorithms. Allows for proactive feeding of water to the boilers. Systems anticipate future water level drop based on steam flow and feed more water to the boiler rather than waiting for a dangerous drop in water level.
- In non critical process situations, Lipten controls can allow the main steam header pressure to temporarily drop below normal setpoint as firing rate is limited to prevent low boiler water level. This is suited for heating applications where a temporary drop in header pressure would not have noticeable effects.
- Systems can include operator selectable setpoints to maintain optimal water level and efficiency. i.e. Water level can be kept at a safe lower level for increased efficiency at steady loads and be scheduled to increase at a known time when additional load is expected. This is best suited for a batch processing situation in which there may be a sudden predictable steam demand associated with a particular stage of the process.

We provide steam generation, power generation, chilled water systems, compressed air systems, water and treatment systems, controls and related Energy Center equipment and services. Our level of support can vary from an advisory role to complete turn-key facility construction. Services include: design, engineering, drafting (CAD), equipment specifications, procurement, installation, site construction management, site audits, start-up, operator training and maintenance.

Lipten Company is an Engineering, Procurement and Construction (EPC) firm that specializes in Central Energy Plant (CEP) General Contracting. Lipten also has a controls group that provides traditional and custom control solutions.

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