



# Project Case Study

## Cape Girardeau

### Diaper Converting Utilities Project

#### Project Overview

The Cape Girardeau project encompassed definition, design, and construction of utilities and environmental systems for three diaper converting lines. In addition, PAK/TEEM performed scope defining assessments for three process components: *material handling systems* (bulk glue, fiber, and absorbent raw material), *facilities* (HVAC, glycol, and compressed air) and *processing* (vacuum systems and nuisance dust). The new converting lines were to be installed in an old facility where old converting lines had once been installed and since removed. This facility still contained some usable equipment. It was agreed that PAK/TEEM would salvage as much of the old equipment as possible.

#### PAK/TEEM Role

Our customer selected PAK/TEEM to serve them in the following capacities:

**Engineering and Design:** Responsible for converting utility systems including overall electrical power, FSC process air, FSC dust control, FSC low vacuum, CSX process air, CSX dust control, CSX conveyor vacuum, compressed air, glycol cooling, fiber delivery, housekeeping vacuum, and HVAC.

**Construction Management:** Compile input from the plant and corporate engineering and coordinating efforts among all contributors to achieve goals under budget and on schedule.

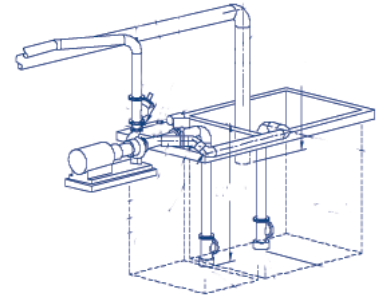
**Equipment Specification:** Evaluate new and existing equipment to ensure utilization of existing capacities and inform the acquisition of new equipment





#### Project Mandates

- Meet an aggressive, marketing-driven schedule requiring quick turn-around.
- Exercise flexibility in working with the construction company.
- Evaluate existing mechanical and electrical capacities and utilize as much existing capacity as possible.



#### PAK/TEEM Performance

- All engineering and construction was completed in 11 weeks, beating the most demanding scheduling goals. A memo from the customer described PAK/TEEM's accomplishment as, *"...truly a global benchmark effort that has been realized through excellent collaboration, creative solutions, and a continual 'can do' attitude..."*
- Minimized equipment costs. Not only did PAK/TEEM salvage existing capacity, equipment that had been targeted for decommission in the new utilities system was also incorporated in the design.
- Augmented existing online electrical power to meet new line requirements and conform to NEC regulations.
- Updated existing motor control centers to create capacity needed for new lines.
- Redesigned the ETA system to improve efficiency and reduce fan motor power from 75 hp to 60 hp for all fans in the system.
- Redesigned the FDS system making use of old balers and return fans while replacing duct work and scarf fans.
- Designed and installed a new AZO system for AGM delivery.
- Created safety circuits for all converting lines (shutdown signals for bag house, bale opener, and surge bin; fire e-stops for the surge bin and bale opener).
- Updated facility HVAC systems.
- Extended compressed air headers and lines

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