

## It Takes a Team



*The 60' x 90' x 7' thick concrete pad was designed to support the massive structure and coker equipment.*



*The second stage of the coker construction was the construction of the 36' tall, 6' x 6' and 6' x 8', columns.*

Turner Industries Group, based in Baton Rouge, Louisiana, was contracted to construct a new coker unit and related structures for the Cenex Harvest States (CHS) oil refinery in Laurel, Montana, just outside Billings. The \$325 million expansion, the biggest in the refinery's history, had a very aggressive construction schedule that included building roads, a new rail car loading system, electrical substation and control room.

Cokers break down the asphalt produced by crude oil processing to create more gasoline and diesel fuel, leaving coke as a residual product. Coke is used like coal to fuel power generation plants. With the 15,000 barrel/day coker unit, the refinery expected to increase its production of gasoline and diesel by about 20 percent, without increasing the amount of crude oil refined.

Early in the planning stages, Turner contacted the local Symons Dealer, MaCon Supply Company, to ask about forms for the 7' thick concrete slab for the base of the coker unit. MaCon asked to visit the job site with Symons to get a feel for which systems to recommend for the slab and other parts of the project.

At the site, the Project Coordinator and Project Superintendent Stan Daniels talked with Symons and MaCon about the aggressive construction schedule and the large number of concrete structures that were planned. They liked the suggestion to support the table top and tie beams with brackets embedded in the columns instead of constructing the large number of shoring frames that the thick slabs would require, and they were anxious to hear more.

After looking at plans and seeing the scope of the project, MaCon and Symons could see that a total team approach was needed in order to get the sale. They immediately scheduled a sales presentation for a date a few weeks later with the promise to CHS that they'd bring plenty more good ideas to the table.

The meeting included key members from MaCon and Symons Steel Form Division, CHS project management and several carpenter foremen. MaCon presented a proposal that covered forms and accessories for all of the concrete structures planned. They answered questions about form availability and lead time, and pointed out the advantages to CHS of having their supplier close at hand in nearby Billings. The plan included weekly site visits from Symons or MaCon representatives for the first eight months of critical construction, and then visits as needed thereafter.

## SUCCESS STORY



At the meeting, Symons answered questions about the proposed system capacities and features that would directly benefit the contractor. They detailed the technical support and comprehensive construction plans that Symons would provide to ensure that the right equipment was on hand at the time it was needed.

Impressed with the thoroughness of the plan and the innovative forming ideas presented by MaCon and Symons, Turner decided to accept the proposal. Steel-Ply was immediately available for the concrete pad construction, and Max-A-Form panels were delivered a few weeks later when support columns for the coker unit were ready to be added.

Over 22 months, the project proceeded smoothly despite record precipitation totals in that area of the country. The project was complete at the end of 2007, and it earned the 2008 Excellence in Construction award for mega projects from Associated Builders and Contractors.



*Column-mounted Anchor Brackets and self-spanning Max-A-Form capability eliminated conventional shoring.*



*Panels 4' high formed the circular footing for a new storage tank at the facility.*



*A new rail facility, electrical substation and control room featured concrete.*



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