



TURNAROUND

Turnaround projects require exceptional project management



Whether planned or unplanned, any time an entire unit of an oil refinery or gas processing plant is taken offline, it has a significant impact on the bottom line. There is both the cost of lost production and the cost of the design, labor, materials and equipment needed to get it back up and running as quickly as possible. If well managed, however, these turnarounds can often offset those costs, and more, through increased process reliability and efficiency, and lower risk of unscheduled outages.

Because of their unique characteristics, turnarounds are among the most challenging of all construction projects. Brinderson's professionals understand the challenges associated with turnarounds and have developed proven, systematic approaches to executing them. Over the past 30 years, we have successfully completed **[hundreds?/more than X_]** of these projects. Our phased approach, powerful project management tools and depth of experience enable us to perform this work safely, on time and within budget.

BRINDERSON[®]
an AEGION[®] company

TURNAROUND

Turnkey turnaround services

The turnaround process begins long before a planned shutdown and continues on after the maintenance or other work is completed. Brinderson delivers complete turnaround services needed to see each project from start to finish, including:

- Estimating, planning and scheduling
- Safety consultant/techs and attendants
- Heaters
- Procurement
- Pipefitting and field welding
- Hydraulic torquing
- Subcontract management
- Shop fabrication
- Instrument and electrical services
- QA/QC, weld and flange integrity
- General mechanical and rigging
- Ground support and cleanup
- Towers and vessels
- Exchangers

AllSafe Services® deliver world-class safety

Executing turnarounds requires many specialized skills, the most important of which is knowing how to work safely. By systematically identifying and eliminating potential hazards from the workplace, strictly enforcing safety procedures and continuously monitoring safety performance, we have achieved total incident rates that are among the lowest in the industry. Each turnaround we lead is staffed with safety attendants, traffic controls, hazwoper and environmental technical, safety officers, fire marshals and other safety professionals from AllSafe Services®.

Innovative phased approach saves time, money

A scheduled plant shutdown that takes days or weeks to execute can take many months to plan. At Brinderson, we take an innovative phased approach that reduces turnaround congestion, shortens schedules and reduces costs.

We achieve schedule and resource optimization, for example, by partnering with our clients during planning. We also shave time off the shutdown by maximizing pre-turnaround work, starting the first job each day early, using an automated tool check in and out system and using web-based scheduling and resource tracking, among other innovations. Our DelayTrakSM system enables us to identify delays in real time, while our daily performance reports tracks productivity, daily headcounts, change order and budget variances, among other critical measures of progress.



NCCER-certified crafts persons

Brinderson's 2,000 person workforce includes approximately 200 engineers, project managers and supervisory personnel. The remainder are NCCER-certified crafts persons who self-perform major construction activities, including:

- Mechanics
- Riggers
- Pipe fitters
- Rig welders
- Crane operators
- Equipment operators
- Electrical and instrument techs
- Hazwop techs

When needed, we have access to a national labor pool that is ten times the size of our full-time staff.

BRINDERSON[®]

an AEGION[®] company

Brinderson, L.P.
3330 Harbor Drive
Costa Mesa, CA 92626
714.466.7100
www.brinderson.com