



KLINGER Turn-Key Mechanical Maintenance



Your partner in optimizing your performance.



Since 2006 KLINGER has consistently provided top quality maintenance support services to South Africa's petrochemical, power generation, mining, pulp & paper and sugar industries. We bring you the cornerstones of a safe, successful and leak free start up and commissioning.

WHY KLINGER?

Because **safety** is our **top priority** and Integrity Management has always been part of our **DNA**.

OUR SHUTDOWN MANAGEMENT TURN-KEY SOLUTIONS INCLUDES:

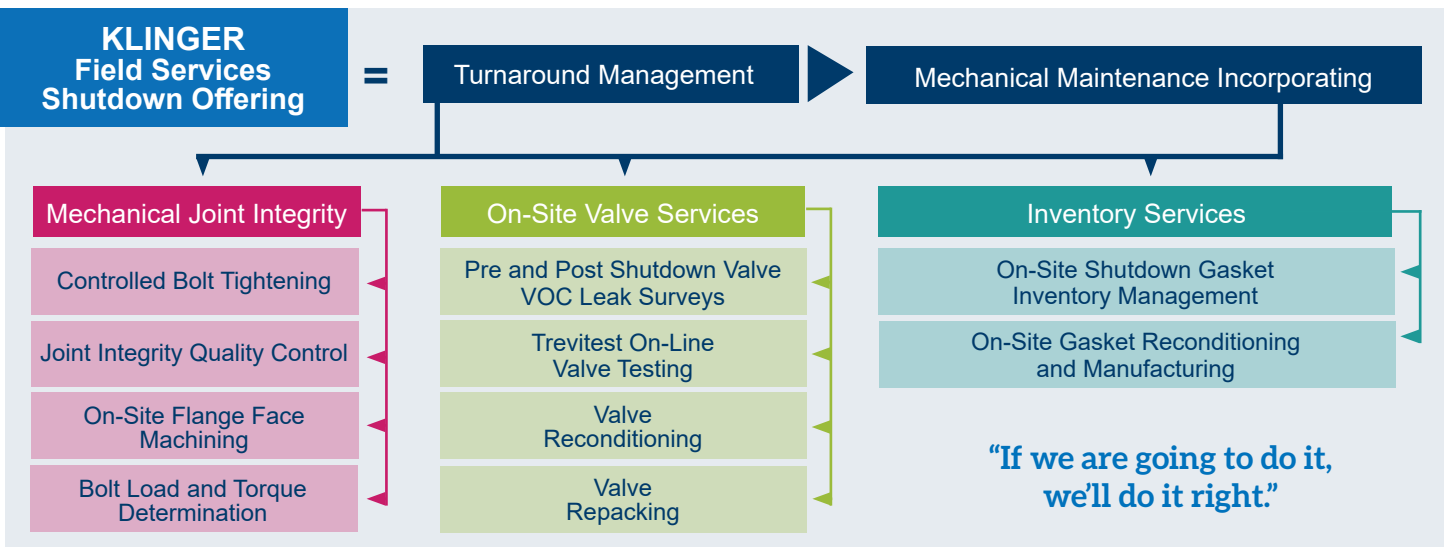
- » Mechanical Maintenance
- » Joint Integrity Management
- » On-Site Valve Reconditioning
- » Hydraulic Bolt Tightening
- » Valve Repacking
- » On-Site Flange Face Machining
- » On-Site Gasket Manufacturing and Inventory Control



WHAT DO WE BRING TO A SHUTDOWN THAT IS DIFFERENT?

KLINGER's Turnaround Management offering is not just a single mechanical maintenance service offering, but it is the culmination of every thing we do. Our comprehensive, all inclusive, approach is essential to ensure a safe start up of an operational asset or facility.

Standard market shutdown offering = Turnaround Management + Mechanical Maintenance Incorporating



GLOBAL LEADER

LOCAL PARTNER



THE KLINGER TURNAROUND PLANNING AND SCHEDULING PROCESS

OUR 5-PHASE MANAGEMENT SYSTEM OFFERS:

- » Focused attention to detail and coordination
- » Industry skills and experience
- » Effective estimations and cost control
- » Efficient safe executions, in the time-frame and budgets

PLANNING AND PREPARATION

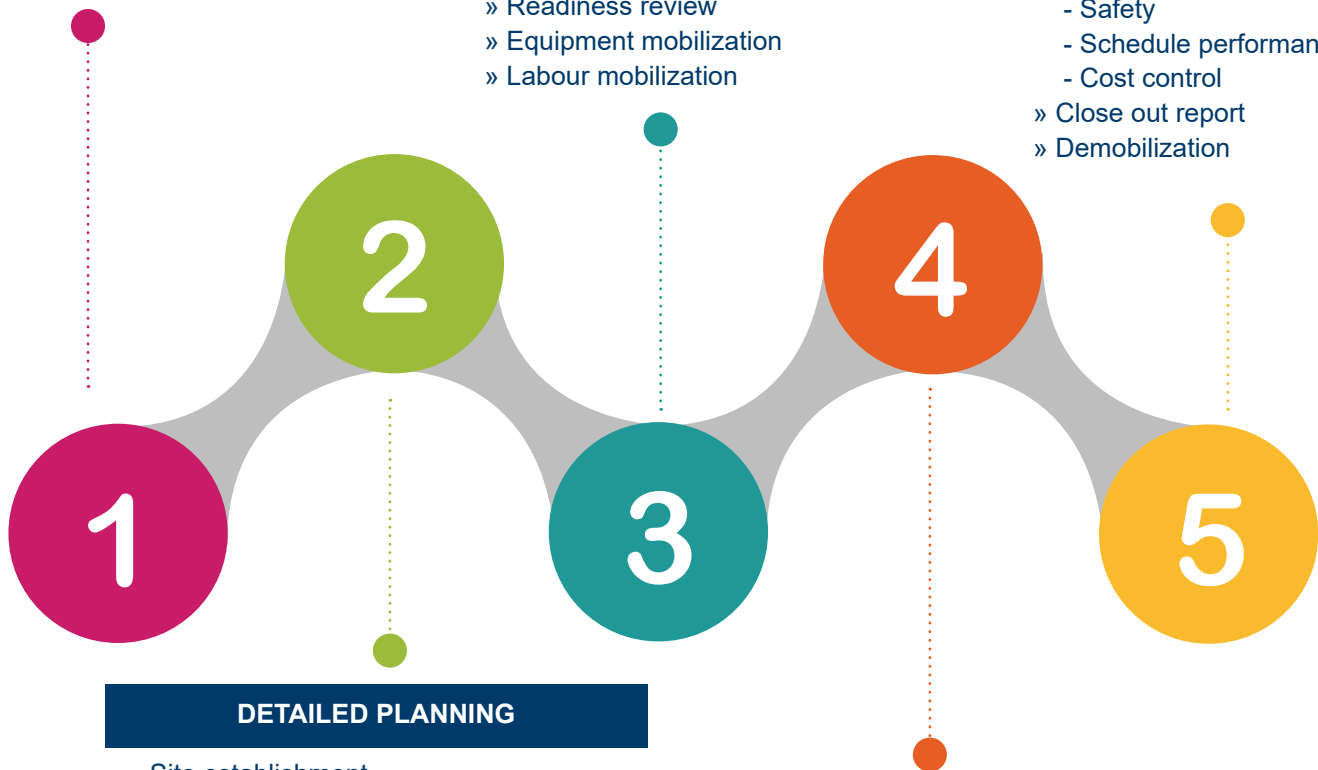
- » Plan for plan
- » Cost proposal & development
- » Basic logistics

PRE-SHUT PREPARATION

- » Sub-contractor implementation
- » Schedule freeze/review
- » Readiness review
- » Equipment mobilization
- » Labour mobilization

START-UP AND HANDOVER

- » Start-up support
- » Post shutdown review
 - Productivity
 - Safety
 - Schedule performance
 - Cost control
- » Close out report
- » Demobilization



DETAILED PLANNING

- » Site establishment
- » Detailed scope ID
- » Strategy development:
 - HSE - QA/QC - HR/IR
 - Sub-contracting - Project controls
- » Execution plan development
- » Bolt load and torque determination

TURNAROUND EXECUTION

- » Daily reporting
- » Management of processes and execution