

TURNAROUND MANAGEMENT

OUR TURNAROUND APPROACH IN FOUR PHASES



STRATEGIC PLANNING

This phase starts well ahead of the turnaround. We support you from strategic decision making to detailed planning and procurement.



PREPARATION

Our team ensures all tools, parts, contractors and consumables are ready for a successful turnaround.



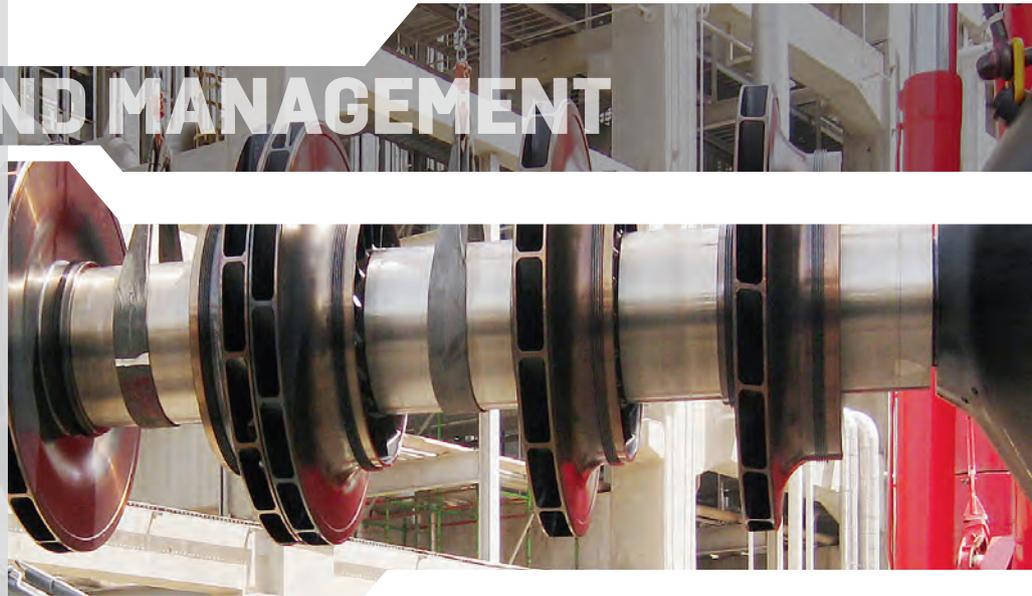
EXECUTION

You will benefit from an experienced, well organized team performing your turnaround.



CLOSE-OUT

During close-out we will review reports, statistics and lessons learnt.



3 reasons you benefit by engaging AST Turbo

We plan your turnaround success

Turnarounds are typically a rare event at any petrochemical plant. The development of experience in-house is often difficult to achieve with reasonable effort. The time between turnarounds is continuously extended and the actual event shortened to improve competitive edge or just to keep up with the market. The critical rotating equipment is typically on or near critical path and considered as the single biggest task of the event.

Reason 1 – Planning Tools

Simultaneous turnarounds on multiple critical rotating equipment involve considerable manhours in a restricted space within a short time frame. This requires specialized planning skills and tools that AST Turbo specifically developed for the purpose. Attention to detail, focus on the essential as well as alternate plans ensure all eventualities are covered before the machines are shutdown.

Reason 2 – Risk Management

Overhauling large compression trains involves many risks such as dangerous chemical products, heavy lifts, loss of containment, technical risks, human error to name only a few. AST Turbo manages the different risks with state-of-the-art risk management tools, again specifically designed for the turnaround environment.

This involves specific training of the crew, frequent communications, as well as clear, well defined work instructions and procedures.

Reason 3 – Experience

The maintenance departments of many operators have seen the retirement of a generation of skilled personnel that was maintaining plants for decades. AST Turbo firmly believes in experience on top of tools and procedures as being a key component for safe and quality turnaround work. AST Turbo thus maintains an active communication culture that supports the fast acquisition of experience. Experience is what comes into play when unusual situations are encountered. Given the short duration of turnarounds and imminent risk of delay, immediate response to unusual situations is crucial to successful job completion.





AST Turbo – Your Experts for Turnaround Management

AST Turbo is an independent service provider specialized in critical rotating equipment for the Hydrocarbon Processing Industry. AST Turbo is committed to serve the customer by reducing maintenance expenditures.

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Phase 1: **STRATEGIC PLANNING**

This phase starts at least 12-18 months before the units are shut down. Together with the customer AST Turbo Project Managers determine the most economic approach to long term plant requirements. This phase addresses the following aspects:

- > **workscope, turnaround duration and work pattern**
- > **spare parts & special tools**
- > **lifting & rigging**
- > **local services**
- > **crew and logistics**

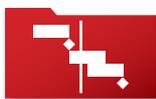
As positive side effect the relationship building takes place which will be an asset for the execution phase.



Phase 2: **PREPARATION**

The preparation phase starts two weeks before the shutdown. A preparation team ensures the site is ready for the main crew upon arrival. Spare parts, capital spares, special tools are checked and kept ready in safe locations. Turnaround tools and consumables are placed in position near the units.

The whole crew undergoes site induction and receives final job briefing. This phase ensures that the crew can commence safe and effective work. Formalities such as issue of work permits and further customer requirements are clarified.



Phase 3: **EXECUTION**

Once the deck activities have started recording of clearances and component condition is important for quality control. The safety at work situation is constantly controlled to avoid unsafe acts.

Progress is monitored using effective tools and proactive communication.

The customer participates with signing off quality plan items as identified during the planning phase.

The AST Turbo project management team conveys to you the experience obtained from several projects annually. The team is supported by a back-up organization capable of reacting to unforeseen events effectively and immediately.



Phase 4: **CLOSE-OUT**

After successful recommissioning of equipment and plant, parts are returned to the warehouse, tools and rigging/lifting gear are inventoried and the technical reports finalized.

AST Turbo supports the customer with on-site inspection of capital spares to support repair procurement process.

AST Turbo then calls for a close out meeting to conclude the project:

- > **HSE statistics**
- > **Quality aspects and technical reports**
- > **Planned vs. actual cost**
- > **Follow-up actions**