



Back to basics: Fundamental turnaround principles

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Turnarounds (TAs) are frequently the largest single annual expense in an asset-intensive industry. These projects can consist of hundreds of different jobs, all of which must be executed within a tight schedule and strict budget. To meet cost, duration and safety targets, preparation must be methodical. This article will explain the basic principles required to build a strong TA foundation. Although these principles alone won't guarantee all targets are met, they will put a site on the right track for success.

- **Strategy** — To begin the front-end loading (FEL) process, a clear strategy should be created. Though the strategy needs to be concise, all TA goals, drivers and justifications for each event must be included. Early in the FEL stage, the strategy will need to be agreed and signed off on by site leadership, including all key stakeholders, the site manager, and the heads of both the production and maintenance departments. For a medium-sized TA, this should occur somewhere between 22-24 months prior to execution. Then, the strategy will be formally recorded, entered into a

TA premise document (PD) and distributed to all key personnel. A strict governance process, paired with the PD, will promote accountability throughout the TA lifecycle.

- **Scope** — The next step is scope definition. It is imperative only work that falls within the constraints of the PD is included. For a work order to qualify, it must be a prerequisite for maximum production throughput and can only be completed while equipment is not in use. Any scope proposal must be reviewed and validated based on regulatory requirements and equipment inspection data. The scope should be frozen no later than 16-20 months prior to execution. In most cases, about 85 percent of the scope can be identified ahead of time. Although scope creep is inevitable throughout the entire FEL process, it can and must be managed.

Though some additional work may truly need to be executed during the TA, all too often what's approved does not meet PD requirements. A well-documented scope management process can help control scope creep. First, all tasks should be evaluated using criteria established before the scope

freeze to decide if it qualifies for inclusion. Second, any new tasks should go through the Scope Change Requests (SCRs) process before and during execution. The same site leadership team that created the PD should be consulted when developing the SCR. A word of advice: The closer to execution, the higher the "threshold of acceptance" must be to accept scope changes. This reflects the potential impact late additions to scope have on proper planning, schedule integration, and material and labor acquisition.

- **Risk** — Excellent risk management practices are imperative for large maintenance overhaul projects. A standardized risk matrix will help rank tasks by importance consistently and factor in the probability of potential financial, environmental, health and safety impacts. With input from all TA stakeholders, these factors can be discussed, weighted and potentially mitigated in a single risk register. For a medium-sized TA, risk evaluation meetings should begin 20 months before execution and take place every month thereafter. The risk tolerance level and management plan should be decided by the TA Steering Team.

- **Resources and timing** — By assigning qualified, high-level employees to be a part of the TA process during the first month or two of FEL, a site has a much better chance of smooth project execution. By putting the right people in the right roles with the right responsibilities early in the planning phase, the group will have the opportunity to interact with each other, develop trust and ultimately foster a strong team environment. Along with the TA team's full involvement, communication must be open and fluid. Site needs should be explained, expectations should be set, and the team should be aligned on all the principles outlined in this article. Although many other activities will go into the TA preparation and execution process, strategy, scope and risk management will build the foundation. If site leadership takes the time to ensure all stakeholders are properly coordinated and held accountable, implementing these basic principles are sure to pay dividends in the end.

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