



Turnaround Assessment Optimization

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Executive Summary:

Turnarounds, shutdowns and outages are significant events in the life of a facility. In most cases these heavily planned events take place over a turnaround cycle that spans many years.

Turnarounds by the very nature of the quantity and difficulty of work being executed are highly stressful activities. Turnarounds require significant planning to assure that the work is completed safely, on schedule and within budget to ensuring long-term equipment reliability in a safe and environmentally sound manner.

Planning for turnarounds, due to the complexity, is not something that is accomplished overnight. Typically, for large turnarounds, organizations will begin planning two years or more in advance of the actual execution. These planning activities involve gathering and validating scope, planning the actual work activity, hiring execution contractors and a long list of other details that need to be in place prior to execution to achieve success. A significant problem encountered as you attempt to create a turnaround plan is that the work is far into the future and there are many tasks required of the organization on a day-to-day basis that take precedence. Another issue is that planning for these events requires involvement and input from every organization within the plant; something that is often difficult to facilitate.

To resolve these and other issues a site turnaround team spanning all functions within the facility is assembled to assure that all the details associated with a good turnaround planning effort are addressed. The role of this team pre-turnaround is extremely important. Failure on the part of the team to address all the details associated with a highly efficient execution effort will lead to significant problems and be a major contributor of the organization failing to achieve their turnaround goals.

There is an inherent problem with an internal turnaround team preparing for an upcoming turnaround. If the individuals on the team have worked on turnarounds before they bring to the



process a great deal of experience. This is invaluable information, but it is strictly limited to what they have done in the past and most likely has gaps in the requirements that need to be addressed. Those new to the team with no turnaround experience do not have a good grasp of everything that is required and can overlook important elements.

In most cases the team will focus on the creation of a viable scope of work because the scope dictates the required work necessary and drives many of the other aspects of turnaround pre-planning. However, there is a great deal more that needs to be handled prior to the execution to assure success. The goal of a turnaround assessment effort is to assure that all the details are addressed thereby minimizing negative impacts during the execution phase of the work.

Solution:

While it is possible for an organization to do an internal turnaround assessment it is typically not in the best interests of the organization. Instead great value can be attained by conducting an externally facilitated objective assessment. Such an assessment can be facilitated by either intercompany representatives from other locations and/or external Subject Matter Experts. However, when utilizing internal resources care must be taken to avoid organizational bias, including at least one external resource can help alleviate this issue. An assessment effort of this nature has several components each conducted at a different time during turnaround preparation:

- Initial Effort (Execution time T-24 months) - This assessment is conducted at the very beginning of turnaround planning. It is designed to assure that a team has been assembled and there are work assignments made to develop documentation that will direct the remaining effort prior to and during execution. The assessment is also designed to assure that the team understands what is required to assemble the turnaround work scope.
- Planning (T-18-T-14) – The assessment at this point deals with the development and completion of the detailed documentation which will support the following two stages. This assessment is also checks the development of the turnaround work scope assuring that work items are properly vetted for inclusion
- Application (T-11-T-9) – At this level the assessment addresses the status of the preparation activity associated with the categories and subcategories within the developed documentation. Once again there is a detailed check on the status of the work scope which should be almost to the point of "scope freeze."



- Pre-Execution (T-4 through T-2) - This is the final and last assessment before actual execution of the work. In this assessment all the details need to be in place or completed within a short period of time. Significant gaps identified here have the potential, if not corrected, to have a negative impact on the execution effort.
- Post Execution (Within six weeks of completion) – Following a turnaround it is imperative to conduct a “lessons learned” review by a third party. This effort is designed to identify things that went well so that they can be repeated at the next turnaround. It is also designed to identify opportunities for improvement, so these issues can be corrected the next time. Internal efforts of this sort can suffer due to individual or group bias and should be avoided. Without a post execution review there will be no value added to future turnarounds since the information will be lost.

There is enormous value in an externally facilitated objective turnaround assessment. First, it validates all the work done by the site turnaround team and helps identify gaps in the development effort providing time to close these gaps thereby avoiding negative outcomes. Second, the job of the turnaround manager is to bring together all the diverse parts into a viable execution plan; an extremely difficult task. Having a third-party SME identify gaps in the effort provides the turnaround manager the ability to engage senior leadership to help close these gaps. Lastly, it is important to understand that “the devil is in the details.” An objective third-party with extensive turnaround experience can help your organization identify details that may appear to be insignificant during the pre-turnaround stage but will be significant during actual execution.

PK Technology can deliver to your organization an objective multi-phased turnaround assessment tool, complete with detailed checklists covering all phases of turnaround preparation. PK Technology offers several options to acquire this tool, ranging from a simple subscription enabling you to utilize internal resources as facilitators all the way to a full-blown multi-phase process facilitated by external SME’s with vast Turnaround knowledge and experience or any combination in-between.

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