



## Turnaround

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**TURNAROUND** or outage management mainly deals with the replacement, repair or refurbishment of machine components which have malfunctioned in some way or are worn, corroded or damaged. In some instances, it also deals with improvement in efficiency.

These activities are usually planned in a particular sequence, using specific methodology, technology and resources based on certain assumptions. Serious thought and emphasis should also be given in exercising control over this work to meet or beat the schedule and budget.

Turnaround is a complex event during which unpredicted or unexpected problems may arise. The major challenge is that additional or emergent works, and sometimes highly significant uncertainties, lies at the heart of the project itself.

For instance, the degree of wear or damage is unknown until the plant is opened for inspection, accidents and internal conflicts. 'If the incident is not properly controlled, the routine can rapidly become unexpected and the unexpected become catastrophic.'

Proper planning and preparation will reduce the unknown to a minimum, and to create a routine of everything that is known. The following figure shows the basic element of an effective turnaround.

It is also crucial to include contingencies such as collaborating with other operators who have similar machines and spares, and having a list of contacts for specialists, service providers and second-hand dealers (relating to the plant – depending on the extent of the damage, sometimes replacing with

a used or reconditioned unit may be a worthwhile consideration).

This paper describes the challenges of a turnaround manager and actions that can be taken to complete the turnaround on time or, at the very least, minimise the over run.

### THE TURNAROUND MANAGER

Daily routines are the most effective way for a turnaround manager to control and stay in touch with the progress of all critical items. A daily routine helps the turnaround manager to keep his finger on the pulse of the event and apply pressure when and where it is needed.

He constantly keeps in contact with key people in the organisation on a regular basis, which includes workmen on the job, to gain insights into an actual situation of which he would otherwise miss.

In addition, he must be proactive enough and not be too dependent on information fed to him by others, and to always verify that the information fed to him is in accord with the overall progress and performance of the work.

Everyone is relying on the turnaround manager to keep things on track. He is probably the one who sees the whole picture, and anyone who manages a turnaround should have plenty of opportunities to perfect this skill.

The following process is used to fulfil the routine which forms part of his life because solutions to the many problems that arise during outages must be created there and then. There is little time for deliberation.

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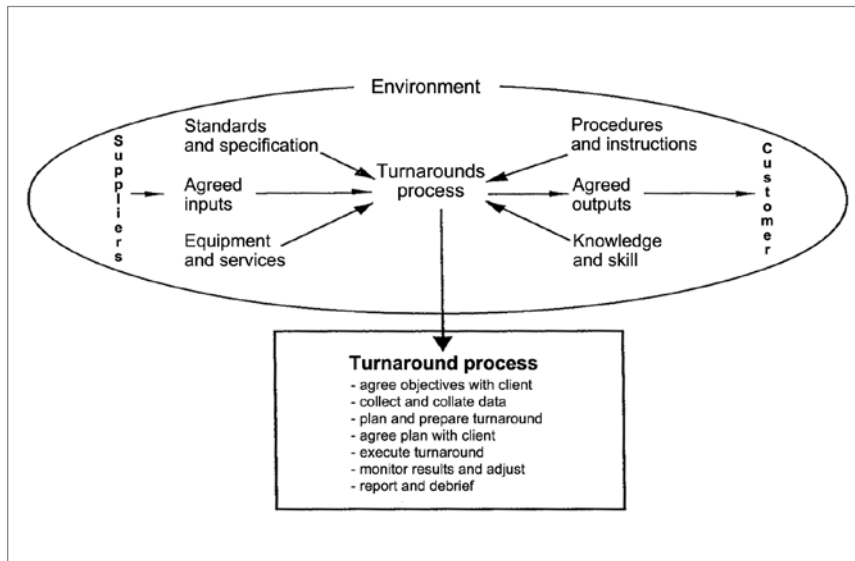


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- Examine the situation to gain understanding
- Decide if there is a problem and, if there is, define it
- Expose the root cause of the problem
- Create a solution for the problem
- Take action or delegate action to implement the solution
- Record the action taken
- Monitor the effectiveness of the solution

The turnaround manager's daily routine should include, but is not limited to, the following:

- Review of night shift progress
- Control of work
  - Turnaround schedule
  - Look ahead schedule
  - Run-down graphs and S-curves
  - Work control sheet
- Critical path job
- Expenditure
- Site health and safety issues and inspection
- Site logistics should be visited and current situation and any anticipated difficulties noted
  - No violation of sites rules
  - Utilisation of cranes, heavy plant and vehicles
  - Disposal of toxic or effluent substance
  - Issues relating to facilities such as toilet, rest area, smoking area, etc

- Workshop visits to ensure work is on schedule and work priorities are followed since workshops are off-site to avoid the 'out of sight, out of mind' adage
- Work permit issues
- Working pattern, especially on the night shift, must be regularly checked against the amount of work being achieved
- Quality inspection teams to discuss problems. If time pressure is resulting in shoddy quality, it will result in delay in start up or unreliability. Root cause resulting in poor quality must be exposed and eliminated
- Coordination carried out regularly to
  - Resolve any technical problems
  - Discuss and approve or reject request for extra work
  - Formulate strategies to keep the event on schedule
  - Resolve any industrial relationship problems
  - Resolve any interface conflicts
  - Discuss and define the consequences of any change of intent

**MANAGING THE UNEXPECTED**

In the event that emergent work arises as a result of an inspection by the turnaround manager, the latter, together with the plant and engineering or maintenance manager, must react quickly and effectively to minimise any

negative impact on the project. This emergent work may change the entire critical path from one task to another, and it is extremely important to closely monitor its effect.

As the effect of emergent work is so significant, the turnaround manager must, at all times, monitor the impact of the work and make effective changes to ensure the turnaround achieve its objectives.

- Increase the budget to cover extra expenditure
- Altering the content of the task
- Altering the sequence of the activities
- Altering the logic of the schedule
- Performing sequential activities in parallel
- Reducing the duration of, or eliminating, any individual activities
- Reducing or eliminating gaps between critical path activities
- Altering resource levels or shift patterns or overtime levels
- Eliminating others, previously planned
- Using a different methodology
- Using different technologies

A turnaround manager should only declare an extension to any outages should the above process and considerations are exhausted.

An important thing that a turnaround manager must note is that changes will always have negative impact on the routine and are bound to cause frustration among affected members. He must move to minimise this and motivate the workforce. The costs of emergent work must also be closely monitored and kept separate from the turnaround budget.

**CONCLUSION**

Turnaround management is duration-driven. Due to the shortage of time, technical, logistics, etc, problems are magnified and must be matched by a methodology which is equal to the task. Reality teaches us that there are many ways to achieve the same results, assumptions limit us to only one way. ■