
Rex Features

Keeping turnarounds short, on schedule and on budget is key

Planning is everything

Carefully managing maintenance turnarounds on chemical sites is imperative in a volatile market

AMY FAULCONBRIDGE T. A. COOK, BERLIN

European chemical producers have had a tough time of it lately. Weaker demand, overcapacity and increased competition from Asia and the Middle East in particular, where access to raw materials and cheap energy is higher, have had a huge effect on profit margins.

INEOS ChlorVinyls recently announced that it would close three plants in Germany and the UK, citing continued weak polyvinyl chloride (PVC) demand and "current and expected economic conditions".

Solvay also complained in an announcement marking its 150th anniversary last month about the "significant uncertainty" in Europe and blamed volatile ethylene price movements for the weak conditions.

The rapid margin fluctuations that occur as a result of that volatility mean that asset availability is crucial as they need to produce when required. This requires flexibility, which could in turn impact the start dates of turnaround projects: if margins are high, keeping the asset running and delaying the turnaround could be necessary, even if penalties may be due to contractors. In that context, properly managing the huge cost outlay for which these projects are notorious is vital to ensure both sustainability and indeed survival in highly variable market.

The first, and most important, task is to keep it simple, according to Dieter Korner, managing partner at T.A. Cook, a consultancy that advises companies on optimising their assets.

"The key is the scope," says Korner. "Exactly what will happen as part of the turnaround and what can be done when the asset is 'warm' must be clarified."

A good maintenance department will be able to manage certain repairs when the asset is running, meaning they will not have to be done during the turnaround. Considering the fact that these are 30-40% more cost intensive due to lower productivity rates, reducing the volume of work means the length of the turn-around will fall. "Decreasing the complexity and the duration reduces the cost; it's that simple," he says.

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Proper planning and scheduling are next on the list: exactly what needs to be done, when and by whom must be clearly set out and understood. This involves careful contractor management and engagement, as most turnarounds are carried about by a vast team of contractors and subcontractors.

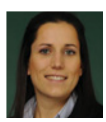
Anticipation and being prepared for the unexpected is crucial: the tools needed for the planned tasks must be available and in good working order. Management needs to plan between 10 units and 150,000 individual processes, meaning if resources are only used to 50% capacity, costly delays can occur. Approximately half of all turnaround projects are delayed by more than 20%, while over 80% go overbudget by more than 10%.

As projects are characteristically subject to changing conditions, being realistic is fundamental to their success. Frequently, the serious mistake planners make of basing costs or duration on previous shutdowns results in missed targets. Planners also often underestimate the time and resource requirements for individual work processes.

To overcome these pitfalls, a formalised risk management process that identifies and evaluates critical areas should be developed. It can then be used to build expected risks into the project plan with flexible dimensions – including minimum and maximum resource requirements. Finally, strict discipline is needed in the execution phase.

"All teams need to be actively managed to performance," says Korner, which means identifying deviations, getting to the root causes of them and addressing them immediately.

How the turnaround is steered may differ between low and high-margin segments, but the principle of management is the same, he added: "Reduce complexity and duration and you reduce costs. Planning is everything." ■



Amy Faulconbridge is communications manager, consulting at T.A. Cook Consultants in Berlin. Since 2006, she has provided strategic communications advice to European clients in the consulting and private equity sectors, while writing on a range of issues including the refining, chemicals and process industries.