No turning a blind eye: Part 1

The year: 2006. The place: San Marino Grand Prix in Imola, Italy. Chief mechanic Alistair Gibson signals too early to Jenson Button that he can leave his second pit stop; the team only barely escapes a catastrophe. Button stepped on the gas even though the fuel nozzle was still attached to the car. The pipe ripped open and liters of gasoline spilled across the pit. One of the mechanics was soaked head to toe in fuel. Nick Fryer, the team's CEO, later confirmed to the press that the situation had been extremely serious. A single spark could have caused the fuel to explode. Fortunately a number of colleagues with fire extinguishers quickly arrived on the scene.

So what does this have to do with risk management in turnarounds? Like refueling and tire changes in the pit lane, plant shutdowns in the chemicals and primary industry are also prepared in meticulous detail. Here too, various sections and areas of responsibility have to be perfectly coordinated. In racing, around 20 mechanics take mere seconds to change four tires, refuel the car, readjust the chassis and aerodynamics, and clean the driver's visor; between 500 and 4000 people might spend several weeks working on a turnaround. But one thing is true in both cases: that window of time between stopping and getting going again is the key to winning, or losing if something goes wrong.

Taking risks

'If your next project has no risks, then don't bother,' said Tom DeMarco and Timothy Lister over 10 years ago in their risk management guide 'Waltzing with Bears'. But it seems that their message has yet to reach the majority of corporate decision makers. Gibson wanted to send his driver back out as quickly as possible. If the team had taken their time, then it's likely nothing would have happened. Of course, he who dares, wins. And he also doesn't lose precious time. The same is true for managers who are under extreme pressure to realise a project in 30 days instead of a comfortable 40. Still, the chance to earn 10 days' worth of money means that most will take the risk. As on the racetrack, a good stop can make the difference between victory and defeat, so on site can a good turnaround convert huge losses into profits worth millions. Management's top priority should therefore be to avoid any and all problems and delays and/or counter them in advance.

'The fact that there is risk management in turnaround projects is a recognised standard,' Frank-Uwe Hess admits. Nevertheless, in his experience as CoCEO of T.A. Cook, the actions taken are often far too lax and too static. 'Working with risks is a double edged sword,' he said. Often a risk register is produced before a project kicks off. This register lists anything and everything that could threaten the success of the turnaround, such as bad weather, insufficiently qualified personnel, unexpected repairs, missing materials or the absence of key personnel. Preventive measures are defined accordingly in order to prevent these risks from occurring, possibly supplemented by countermeasures in case they happen anyway. And that's that: the register is hidden away in a drawer, at least until a problem actually arises. The register gives everyone a false sense of security, thinking that they have considered absolutely every eventuality. Ignoring risks this way is all too human. The risk manager is often also the shutdown manager. Their main concern is that the turnaround is a success, and they are more than happy to trust in the motto 'so far, so good.'

Risk management costs time and money after all and even in the best cases, most managers think that effort is in vain. 'As a result, only very few are adequately prepared for their project getting into difficulties,' said Hess. A professional approach thus has to go much, much further and empower shutdown managers to take preemptive action. The goal must be not to 'manage away' risks, but rather to be consciously aware of them, keep an eye on them and not just initiate countermeasures or preventive measures. 'Risk managers have the thankless task of putting pressure on pain points,' said Hess, describing what he and his colleagues bring to consulting projects. A risk is classed as anything that could potentially threaten a shutdown and/or its targets for quality, costs, duration as well as the environment, safety and health. The challenge is to identify

the said risk. 'We are seeing companies focus more intensively on risk management,' said Gert Muller, Senior Manager at T.A. Cook, who analyses shutdown projects and helps with preparation and follow up, 'but many hazards are simply not recognised as risks.'

Identifying risks

The differentiation between hazard and risk is essential to a progressive approach. A hazard is latent and only becomes a risk when it directly impacts on the project. One of the simplest examples of this is the weather. Subtropical regions are at risk from days of rain so heavy that it stops people from working, either in part or completely. This rain only becomes a project risk if management neglects to take precautionary measures, such as providing temporary roofing, or has planned the shutdown period with no buffers.

Taken all together, this means that risk management has to start well before the shutdown, at the same time as it is being planned. 'A comprehensive risk register is the ideal starting point,' said Muller. In practice, companies often produce this list using lessons learned in previous turnarounds. And that is a good foundation, but with one major flaw in that any potential problems that by chance did not occur in the past are basically ignored and not taken into consideration. 'In the worst cases,' said Hess, 'the risk register is recreated from scratch before every project.' Not only does that lead to more work, it is also extremely error prone since there is no standardization of any kind. T.A. Cook, for example, encourages its clients to first develop a non-project specific TAR standard risk register. Depending on the customer's industry, the register should cover between 100 and 150 potential hazards, such as the late delivery of materials or outstanding permits. It must also include more banal items, such as an insufficient number of parking spots or swing gates in cases where 3000 workers have to get onto the site during a shutdown rather than the usual 300. 'The hazards are always the same; whether they evolve into risks depends on the circumstances at the time,' said Muller. 'Are they relevant for my project or not?'

What remains is a condensed, project specific list of risks divided into nine hazard areas: scope, organisation, management, work planning, capex involvement, scheduling, purchasing and sourcing, environment, safety, health and quality, and execution. 'The most popular tool for managing identified risks is the risk matrix,' Muller explained. For example, the matrix uses two axes, one for probability of occurrence and one for impact, to map the risk of a contractor turning up with low skilled personnel. As a preventive measure,

the contractor is usually given instruction and has to provide certificates as evidence of their qualifications. But according to Muller, 'that's not enough. It is no help at all if you can predict an issue but have no plan B in place.'