Safety First! – that is a principle that any decision maker would confirm before a shutdown. But the reality is often different. A study reveals the tension between safety, time and cost pressures.
No two plant shutdowns are alike. Despite this, experience from previous projects allows optimisation approaches to be derived for future shutdown projects: "Better planning for safety measures" for example – this is an intention expressed by every second participant in an expert survey carried out by T.A. Cook on behalf of Dräger. Establishing a resource buffer is also important to participants in the survey: almost one in every four individuals is planning to improve flexibility in situations where additional safety personnel and equipment is needed. Both results reflect a simple lesson, learnt from experience, that every industry insider will be ready to confirm: every shutdown is an exceptional situation in which nothing is as certain as the occurrence of unexpected incidents.

Shutdowns are what science refers to as “critical situations” – situations or processes with a high degree of unpredictable and unforeseeable influencing factors. The risks that are known in advance are joined by numerous unpredictable ones: for example, unexpected activities to be performed, which require additional material and manpower. Not just for the trades involved, but also in safety management! Consider the following situation: A tank is to be cleaned and workers discover, as they are entering it, corrosive pitting on the bottom plate. To keep lost time to a minimum, the repair needs to be performed immediately. With luck, one of the welders present at the site might just at that moment report spare capacity and offer to do the job. Supposing the work permits have been completed, work could start immediately – provided that the welder’s personal protective equipment is complete, adequate gas warning devices are in place and the necessary safety officers are available.

Resource planning: cost cutting could be risky

The survey of experts showed that a consistently high level of safety during a shutdown is their absolute top priority, and that it is considered to be significantly more important than the cost efficiency of the safety concept, for example.
At the same time, nearly every industry insider with project experience will confirm that cost awareness is playing an ever increasing role, even at the planning stage, in purchasing policies, despite the fact that, especially with regard to efficiency aspects, early and sound resource planning is of the utmost importance. During a shutdown, every hour that is required to organise additional, short-term equipment or personnel will result in enormous costs. In practice, however, the requirement estimates made during the preparation phase of a shutdown tend to be rather rough, something like "We expect 20 hot work operations and five entrances simultaneously every day, so we will need 25 safety officers", for example. And then, for reasons of cost, only 20 are requested to begin with, and the team is subsequently topped-up if required. Safety equipment, too, is often ordered conservatively. In some cases companies deviate from their safety philosophy that applies in normal operation in order to save costs during a shutdown – for example, during shortages, the requirement to permanently carry personal gas warning devices is no longer applicable and a team of workers is equipped with only one detector. This is where thrift definitely becomes a safety risk.

The decision makers also have high demands with regard to the qualification of safety personnel. Over 70 percent of the experts interviewed by T.A. Cook identified the training and experience of employees as the key criterion when selecting a safety service provider. Doubtless every plant operator considers it important that the safety officers employed on their premises during a shutdown have industry experience; that they are aware of the dangers and are capable of countering any hazards that may arise at their specific places of deployment. But once again: a timely and adequate requirements calculation helps the safety service provider assemble a team that is specially tailored and appropriately trained to meet the customer’s needs, especially if certain standards need to be complied with.
Long-term relationships increase flexibility

“As much as necessary, as little as possible”: during a shutdown, this principle can quickly reach its limits. The aim of requirement planning must be to cover all foreseeable events and to be adequately prepared for unforeseeable incidents. This must always be based on sound basic requirement plans plus an additional safety buffer, where possible, in order to cover unplanned peaks where necessary.

For example, Dräger offers its customers material reserves that are billed on use. Where personnel is concerned, this kind of solution is not quite as straightforward as it is for equipment – which is why it is advisable to establish a long-term relationship with a partner in order to concentrate and secure plant-specific know-how. For example, if a framework agreement is in place, the safety service provider can respond to short-term requests much more quickly, as they are already familiar with the customer and their requirements. This allows not only material to be made available more quickly, but also personnel who are familiar with the site. A framework agreement also

SAFETY FIRST – EVEN AND ESPECIALLY DURING SHUTDOWN

First priority for the interviewed experts: A constant high standard of safety

- Shift handover of safety personnel
- Cooperative partnership between all parties
- Efficiency of the safety concept
- Efficient approval procedures
- Safety briefings for workers and contractors
- Communication between plant management, contractors and safety service provider
- High standard of safety during project

Source: T.A. Cook / Dräger
enables the customer to secure resources which, in the event of a shortage, might otherwise have been allocated to other uses.

“*It has always gone well so far*”?  
The study by T.A. Cook testifies to high expectations: “Safety first” is the unanimous and overwhelming credo of those interviewed. When it comes to negotiating capacities, resources and budgets in the planning phase, however, the HSE manager frequently has to defend their requirements against time pressure and cost arguments.

This discrepancy between a safety strategy’s requirements and its implementation is, paradoxically, often due to a false sense of safety based on the motto “Nothing will happen anyway”. Sometimes it will take an accident for this discrepancy to be realigned. Let’s not let it get to that stage. Safety and efficiency do not have to contradict each other.