Planning for every contingency

Rich Matthews highlights the importance of contingency planning for wastewater and discusses the key questions that must be asked before implementing any strategy.

With current climate pressures placing greater strain on capital investment, contingency planning continues to be a vital tool in ensuring that production and environmental compliance is not adversely affected.

Contingency planning for wastewater can often be overlooked in the production chain despite it being a vital component of the overall cycle of operations. In fact since the introduction of the '*Environmental offences: Definitive guideline*' which was published in 2014 there has been a standardised approach in which sentences for a pollution event are determined based not only on the significance of the incident, but also the size of the company and the degree of corporate culpability. In particular, the guidelines provide a culpability range from 'low or no culpability', where the incident might have been the result of accident or action of a rogue employee, through to 'deliberate', where there was an intentional or flagrant breach of the law by those in a position of responsibility.

One key stage in contingency planning is identifying the weak spots in a production process. So, what are these vulnerable areas?

Production spikes or new product lines: The introduction of a new product line or a sharp increase in production – typical scenarios for seasonal producers – can affect effluent characteristics, putting compliance at risk. This is because, although these are typically planned events, the planning often doesn't consider the impact on effluent and its consequences. With proper planning, contingency measures could be implemented, which could include using additional, temporary treatment equipment to boost capacity when needed.

This is particularly relevant where the economy impacts food and beverage demands, with product lines often seeing significant changes, and therefore placing significant stress on existing wastewater infrastructure.

Company expansion: Part of contingency planning is also looking at proposed growth plans and their potential impact. This requires sales and production functions to recognise the close interplay between what they do. Looking at contingency planning in this instance is seeking to expand an asset base that is often lower down the capex priorities. This often means that effluent treatment plants are stressed and therefore the ability to flex these assets becomes more critical through the use of bolt-on solutions to ensure minimal impact on the existing operations.

Other production changes: There are many other unplanned events which can have a similar impact, including spillages, out of specification product dumps, and new hygiene regimes. All will impact on effluent characteristics and as such, need to be part of a contingency plan.

It is not just what comes down the pipe that can cause havoc. If a company has an on-site treatment facility to manage, problems can arise there too. So, it is worth taking a critical look at all aspects of the treatment facility's management. It is important to identify those which have the potential to cause harm or a breach of compliance – consider the potential severity of the harm and its likelihood, and then agree measures.

Developing resilience strategies

Clearly, the degree of complexity and sensitivity on the waste effluent permitting will influence what resilience needs to be applied, but fundamentally it is considered to be part of contingency planning. Seeking a more agile investment approach is one way of implementing a resilience plan.

There is increasing interest in the use of modular temporary kits for their agility in installation and being easily deployed for seasonal loads, capital maintenance, and flexibility. This not only allows for proactive planned maintenance to take place but will enable a reduction of impact on the production line, maintaining the wastewater streams and compliance.

A little like Lego, companies are bolting together pieces of kit which have been manufactured off-site to tackle their effluent challenges. This approach is enabling more rapid innovation in the area, reducing the capital costs of systems, minimising disruption on site, and giving companies greater treatment agility. If circumstances change, or new consent criteria are set, the supplier can modify the system.

Aligning operational flexibility in modular effluent treatment plants provides an agile solution to managing the business risk on compliance, but equally offers the opportunity to enhance efficiency in the management of the waste streams. ■

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