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WATER TREATMENT

THE IMPORTANCE OF HAVING A CONTINGENCY PLAN

Rich Matthews, Managing Director at Silbuster Process Solutions, discusses the vital role contingency planning has to play for wastewater and explores some of the key areas that need to be addressed before implementing a strategy.

Contingency planning plays a crucial role in the wastewater industry, and with current climate pressures putting increased stress on capital investment, it is imperative that businesses continue to plan ahead so that production and environmental compliance is not impacted.

Since the [2014 Guidelines](#) were released, there has been a standardised approach in which the punishments for pollution-related events are determined on not just the significance and severity of the event, but also the size of the business and the level of corporate responsibility. These guidelines also outline a culpability range that ranks from 'low or no culpability' through to 'deliberate'. An example of a deliberate action would be if an incident could be linked to the acts of a rogue employee, or if there was a blatant violation of the law by senior leaders within an organisation.

For this reason, it is incredibly important to identify where the vulnerable spots are within the production process.

New products and increased demand

Both introducing new products and sudden increases in demand, which are typical for a seasonal businesses, can have a significant

impact on the effluent produced and put a plant's compliance at risk. Whilst these might be business decisions, and are therefore planned events, sometimes those in senior leadership positions don't see the link between increased operations and the impact that it will have on the treatment plant and the capacity it is able to perform at.

By taking the whole production line into account from the very beginning, contingency measures could be implemented. These could include using additional, temporary treatment equipment which increases capacity when it is needed. Often we see this at food and beverage plants, with demand fluctuating throughout the year, putting additional strain on the existing wastewater infrastructure.

Business Growth

Business growth is something that many organisations strive for, but it is important that contingency planning is factored in to negate any potential problems caused by the proposed expansion. This means sales and production departments understanding 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 usually means that effluent treatment plants are at capacity and therefore being able to flex these assets becomes critical and possible through more bolt-on type solutions, ensuring a minimal impact on existing operations.

Ask the right questions

It's not just what comes down the pipe that can cause problems. If a company has an



as the use of modular temporary solutions, which are becoming of greater interest due to their agility in installation and ability to be easily deployed for seasonal loads, capital maintenance, and flexibility.

To get better treatment agility, companies are using solutions that have been manufactured off-site, providing more opportunity for innovation, reducing the capital cost of systems, and minimising disruption on-site. Additionally, by aligning operational flexibility in modular effluent treatment plant solutions, you will have an agile solution to managing the business' risk on compliance and enhancing efficiency in the management of the waste streams.

At Siltbuster, we have the experience of developing these strategies with access to on-site laboratories that assist in solution development and process optimisation, plus an extensive range of rental equipment which allows for pilot trials to be conducted to not just resolve compliance, but to also support expansion plans in a responsive manner.



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on-site treatment facility to manage, issues can arise there too. With this in mind, it is important to understand all aspects of the treatment facility's management, identifying those areas which have the greatest potential to cause harm or a breach of compliance, and then agreeing what measure should be put in place.

There are a number of questions that should be asked and key factors that should be considered when planning for contingencies.

Power and/or Control Loss

When thinking about power and/or control loss, it is important to understand that this is not just centred around standby power generation. You need to ask:

- What if you had a catastrophic panel failure?
- How would the plant operate?
- Who is familiar with your PLC program?
- Where are the backups?
- Could temporary starters be rigged up if need be?
- Who can support you with this?
- Can part of your effluent volume be tankered away if need be and to where?
- And if so, who could do it and how much would it cost?

Pumping Capacity

Your pumping capacity is something that could be lost if you suffer a loss of power or a mechanical failure. By having your pump hire company involved, you can ensure you know what to ask for should a problem arise. When planning for this potential scenario, it is important you ask yourself:

- What would happen if the recirculation feed or the inlet pumping station was lost to the critical high-rate filter?
- How could you rig up a temporary diesel pump set?

- Where would you connect flexible hoses?
- What size pumps would you need?

Sludge Disposal

Most treatment plants generate sludge as a by-product, so it's important to ask:

- How secure is the disposal route?
- What happens if it becomes unavailable, either temporary or long-term?
- What alternatives are in place and what is the cost impact?

Chemical Supply

- What are the re-order levels, and which are the most critical?
- How often have you come close to running out and what would happen if you did?

Operators

Plant operators know their plants inside and out; they are 100% reliable. But what would happen if he or she fell ill? Having continuity of attention and ownership can make a big difference, so it is important to invest time into a reserve of people who can become familiar with the plant and stay competent.

Critical Spares

There is a possibility that you encounter problems with lead times on replacements of critical items, so it is wise to have spare inventories. If you are keeping spare inventories, it is important to keep them maintained and that items are re-ordered when used.

Looking at a more agile approach

The development of a resilience strategy is considered to be part of contingency planning, and the degree of complexity and sensitivity on the waste effluent permitting can and will influence it. One way to implement your resilience plan is to seek a more agile investment approach, such