

NOT TODAY, JELLYFISH

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New and unexpected events continue to emerge as a result of human influence on our planet Earth. Rising sea temperatures are transforming oceans with cascading effects, even down to jellyfish. In one of the more surprising events, jellyfish populations are swelling in the North Sea.

Previously exotic species to the North Sea are also being spotted. The rise in water temperature is creating a perfect breeding ground, even for previously rare and new, never seen before species. But these blooms of jellyfish are already having noticeable effects, as they increasingly threaten coastal infrastructure and operations.

Jellyfish Shut Down Nuclear Power Plants

While few beachgoers welcome their presence in the summer, jellyfish are an even greater concern for critical infrastructure. Over recent months, the consequences of these swarms have disrupted operations at desalination plants, coastal facilities, and even nuclear and thermal power stations. These gelatinous drifters can become trapped, clogging equipment and bringing some infrastructure to a halt.

Recently, France's Gravelines—the largest nuclear power plant in Western Europe—were brought to a halt on two separate occasions due to these swarms. Four of the six reactors went into emergency shut down when jellyfish clogged the seawater intake gates.

Sea water is essential for cooling reactor systems, but the overwhelming volume and weight of jellyfish blocked filters designed to protect the system. This wasn't an isolated incident. Previous identical incidents have been recorded in the Middle East, Scandinavia and Asia including a colossal bloom of up to 24,000 tons of jellyfish near nine thermal power plants near Ise Bay, Japan.

A New Frontier for Bubble Curtains

Fortunately, there is a humane and highly effective solution: **the bubble curtain**.

First developed in the 1940s by Dutch engineer Johan van Veer, the bubble curtain was originally designed to reduce salt intrusion in the Netherlands' extensive canal systems. Today, its applications extend far beyond that original purpose.

A bubble curtain is a simple yet powerful concept: a perforated pipe, anchored to the seabed, releases a stream of oil-free compressed air.

The resulting vertical stream of bubbles acts as a physical and acoustic barrier—deflecting marine organisms. This gentle diversion technique prevents the *Chrysaora hysoscella* (fancy name for jellyfish) from being sucked into the water intake system. Jellyfish are passive drifters.

The shift created by the bubbles gently disrupts their path, guiding them away from critical infrastructure without harm.

No chemicals, no harm. Just a safe diversion.

While bubble curtains are commonly used for noise and oil containment, jellyfish control represents something new: a biological application. This isn't just about keeping things out, it's about guiding living organisms away from danger, and doing it with precision and respect for the marine environment.

The Role of Compressed Air

Compressed air is critical to this application. Just as crucial, using oil free compressed air ensures clean, contaminant free air, which is essential for offshore and onshore operations. Sullair stationary and portable oil free air compressors deliver a variety of solutions for both offshore and onshore applications. The OFD1550 provides a much-needed portable solution of oil free air which can be transported around the world whilst the DSP Series provides a highly efficient electric driven solution for those semi or permanent requirements.

Climate change continues to reveal unexpected challenges. Floating armies of jellyfish may not

be the first consequence that comes to mind, but they are a striking reminder of the delicate balance between human progress and the natural world. With innovative tools like bubble curtains - and the reliable compressed air systems that power them, we can adapt to these unpredictable consequences with both efficiency and respect for our oceans.

References:

[Jellyfish clogging Japan's thermal power plants in Ise | Asian Power](#)

[Four reactors of power plant invaded by animals | FRANCE 24 English](#)

[Jellyfish Swarm Forces Shutdown at France's Largest Nuclear Power Plant | GRAVITAS](#)

[Jellyfish swarm forces French nuclear plant to shut | BBC](#)