Jellyfish stick it to power plants:

Sea creatures clog up water intakes for cooling systems

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WASHINGTON — The jellyfish are coming and energy plants may be powerless to stop them.

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About two or three times a year, jellyfish blooms cause serious problems for power, desalination and other plants around the world.

Blooms of the translucent sea creatures clog power plants worldwide, threatening to shutter operations. Last week, a coalfired power plant in Rutenberg, Israel, worked hard to unclog its filters from a nearby swarm that could have shut down its cooling system, Israel's Haaretz newspaper reported.

"Our coal-fired power stations are located by the sea because it takes a lot of water to cool them down," Israel Electric Corp (IEC) spokeswoman Iris Ben-Shahal said. "At that entry point of the water into the cooling systems, we have filters to keep foreign bodies out. The jellyfish, and other things like sea plants, stick to the filters and clog them."

While IEC stayed open despite the swarm — workers got them unclogged in time — other power plants haven't been so fortunate. In 2013, a giant swarm of moon jellyfish shuttered the world's largest boiling-water reactor, in Sweden. The same thing happened in 2005.

About two or three times a year, jellyfish blooms cause serious problems for power plants, desalination plants and others, said Lucas Brotz of the University of British Columbia's Institute for the Oceans and Fisheries. "In some cases, it has caused nuclear power plants to have near meltdowns," Brotz said. "I wouldn't say jellyfish are doing this intentionally."

Massive blooms of jellyfish inadvertently get stuck in the plants, which suck in ocean water. Some of the blooms "can almost look like they're more jelly than water," Brotz said.

Brotz co-authored a 2012 paper published by Hydrobiologia: The International Journal of Aquatic Science, that analyzed 45 of the world's large marine ecosystems with an abundance of jellyfish. The researchers estimated 62 per cent of them had increasing trends since the 1950s.

The study authors note many populations fluctuate along with the ocean's climate. "Jellyfish have bloomed for hundreds of millions of years and are a natural presence in healthy ecosystem," they wrote.

But Brotz explained how humans can be exacerbating the rise in blooms, such as with overfishing that removes jellyfish competitors and predators.

Jellyfish also survive better than most marine life in dead zones, oxygen-depleted spots in the ocean that can come about because of pollution. And coastal development gives some jellyfish species more shaded habitat in the polyp stage, which they love.