## The automatic shutoff valve for tsunami

- In the case of a small tank, the valve closest to the tank is often a manually operated valve.
- If the piping that supplies dangerous substances to the tank is broken, the internal dangerous substances will flow out (a case of outflow was seen in the 2011 off the Pacific coast of Tohoku Earthquake).
- Until now, we had proposed to install an explosion-proof remote shutoff valve(electric or air drive) near the nozzle of the tank. But it's very expensive.
- Immediate evacuation is more important than pressing the "close" button on the valve.
- Now we are developing an automatic shutoff valve for tsunami.
- It is a valve that can detect "water" at the time of a tsunami and close it.



- We focus on the concept of inflatable lifejackets.
- The valve designed can be automatically "closed" by detecting the "water" of the tsunami, like how an inflatable lifejackets does when dropped into water.
- By inflating the bag in the pipe, it is possible to shut off the fluid.



- Alternatively, sensors and triggers may be applied to conventional shut-off valves.
- We started developing an automatic shutoff valve for tsunami in 2020. We are aiming for release in 2023.





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