



## RISK & RESILIENCE

# Are you redundant or resilient?

OCTOBER 2025 • BY MATT SHIRLEY • 6 MIN READ



Image: iStock.

In high-reliability industries like pilotage, redundancy isn't waste. It's resilience - the difference between a bad day and a catastrophic one.

## The wheelhouse is quiet

A 14,000 TEU container ship slows as it enters the Yarra River, approaching Webb Dock. Melbourne's West Gate Bridge can be seen in the distance, just over two miles further upriver.

A voice crackles over the VHF:

*SHA Melbourne, this is VTS. Your air draft exceeds limits of 50.7 metres. You do not, I repeat, do not, have permission to pass the bridge.*

Before the message has even been acknowledged, the ship's marine pilot calls to the master to stop engines. Within a second of answering the VTS call, a series of tug orders have been issued, informing the tugs of the situation and the need to slow the ship.

All eyes on the wheelhouse watch as the 150,000-tonne displacement vessel begins to lose speed; each decimal-point change a step closer to the moment they can confidently order an astern movement. But when that order comes, it fails. And now it really is action stations.

The pilot has seconds to act. They breathe, reset, and run through a mental dashboard drilled over three days of contingency simulations: rudder angle, engine status, tug locations and power, thruster settings. The orders flow clearly. The bridge team engages. The ship slows, and the threat is brought under control as the vessel's speed falls to zero.

The bridge is quiet again, this time with relief. After a few moments, the pilot says:

*Ok Captain, it's time to start moving astern, so we can swing and tow your ship back to an anchorage.*

## **Simulating stress to build resilience**

That fictional passage could have come straight from recent work with Port Phillip Sea Pilots at the Australian Maritime College in September. Over three days, their pilots didn't just rehearse standard manoeuvres. They asked us to throw in some unexpected curve balls over and above their usual runs.

The tempo built and shifted with every run. Not everything went right. Lessons were captured, and improvements were worked on. Stress levels ran high - but so did professionalism.

What stood out wasn't perfection. It was a willingness to be tested, to reflect, and to ask the hard question: "Why do we do it that way?"

## **Redundancy redefined**

In most workplaces, "redundancy" isn't a welcome word. It means things like job losses, restructuring, and efficiency drives. But in high-reliability industries like shipping and aviation, redundancy means something very different.

It might be a radar parallel index set up by the Officer Of the Watch, even if the pilot trusts their Portable Pilot Unit. Standardised tug orders that leave no room for ambiguity. Or an extra tug kept fast until a ship has cleared a high-risk area.

These things aren't waste. They're resilience. They're the back-ups, the overlaps, the extra capacity that stop a bad day from becoming a catastrophic one.

## From compliance to resilience

It's often said that compliance will keep you safe on a good day. But resilience is what keeps you safe on the bad day - the day when the main engine doesn't answer, the rudder fails, or the unexpected "what if" comes true.

And that was one of the lessons from Port Phillip Sea Pilots' simulations: their openness to being challenged, to trialling and testing not just hardware and procedures but also culture and communication. That's what turns redundancy into real resilience.

Efficiency without resilience is brittle. True strength comes from designing enough redundancy in people, in processes, and in culture to weather the storm.

Because in pilotage, as in life, it isn't about avoiding every storm. No one can do that, and no procedure will ever be perfect. It's about being ready when the storm arrives.

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