

During the Fukushima nuclear crisis, government officials and industry representatives said that the tsunami that struck the reactors was “beyond our imagination,” thus excusing the failure to consider such a risk in the planning process. As it turns out, there had been warnings about this possibility, but the risks were ignored.

The reactor was situated on a small cliff, which was thought to provide sufficient protection from modest tsunamis. But there is a historical record of a large tsunami in July 869, and geological evidence indicating a thousand-year return cycle. Until 2006, the government did not even discuss tsunamis in its safety guidelines and state that the “robust sealed containment structure around the reactor itself would prevent any damage to the nuclear part of the reactor would prevent any damage to the nuclear part from a tsunami . . . No radiological hazard would be likely.”

This was not the first Japanese nuclear accident “beyond our imagination.” On July 16, 2007 an earthquake damaged the Kashiwazaki-Kariwa Nuclear Power Plant. The designers used the historical record and added a margin of safety – but still reached only 40% of the actual quake strength. Apparently, what they thought were three small faults were actually part of one large fault. The accident involved also unforeseen. One company official said, “It was beyond our imagination that a space could be made in the hole on the outer wall for the electric cables.”

We have seen similar issues in the United States. After 9/11, officials claimed that it was impossible to foresee the use of an airliner against a commercial building by terrorists – yet it turned out that such efforts had been foreseen and indeed that terrorists had attempted to use a smaller plane as a weapon. Before the BP Oil Spill, officials and industry actors also argued that the risk of a major blowout was too small to be a concern with respect to deep water drilling.

In each of these cases, a risk was brushed aside but later materialized with disastrous results. One lesson is that agencies need to learn to question their own assumption, as difficult as that may be. The other is that we should never believe claims that all risks have been calculated and that a serious accident is inconceivable.