



Q&A Laurent Stricker

Nuclear safety chief calls for reform

Laurent Stricker, chairman of the World Association of Nuclear Operators (WANO), says that the disaster at Japan's Fukushima Daiichi nuclear plant should mark a turning point for an industry that many experts believe has become complacent about the safety of its reactors. Created in 1989, WANO is an international forum, headquartered in London, that brings together all nuclear power plant operators, along with governments and nuclear experts, to improve operational safety across the industry. Stricker is a nuclear engineer and former power plant director, and is also the senior adviser on nuclear affairs to the French utility company EDF.

Should Fukushima prompt WANO to change its remit?

Until now, WANO has addressed lessons learned from reactor operations, but not reactor design issues. I think in the future it should, in particular so that when operators modify their designs they draw more on analyses of past accidents.

It is not easy to designate one reactor design as safer than another. Rather, one must look at the particular case of each reactor's implementation, and its location. A reactor exposed to the threat of a tsunami doesn't face the same risks as a reactor of the same design elsewhere.

Population proximity is also very important. Japan, like many other countries, has several enormous nuclear sites near dense populations, so those demand even higher safety margins. After Fukushima, I believe that safety reviews should also consider the risk of accidents at several reactors at the same site at the same time. Often the current plans are only done for an accident in one reactor at a site.

We also need to be prepared for events exceeding what a reactor was designed to withstand, and to learn how best to cope with accidents such as a loss of electricity supply and cooling capacity, as happened at Fukushima Daiichi. That means having the right emergency procedures and equipment, and regular emergency drills, often involving the local population. Some countries do this very well; others do it much less, or not at all.

In October, WANO will bring together in China the chief executives of all the nuclear operators to discuss lessons learned from Fukushima, and any changes needed to WANO's mandate. WANO needs to be in a position to verify that every nuclear operating company has plans to cope with unforeseen accidents.

Has the industry been overconfident that a serious nuclear accident is now impossible?

Absolutely. I worry about overconfidence. People think we have good designs, we have good operators, we have good procedures and good safety authorities, so they think everything is fine.

Does the International Nuclear Events Scale distort the true safety record of the industry, with 'near misses' being registered as low-level incidents rather than potential disasters?

I think you are right. And it's true that the scale of severity is used in very different ways from one country to another. You also have differences in transparency from one country, and from one operator, to the next. At WANO, for example, we ask member companies to report incidents to us so that we can analyse them and share lessons from them. But between 5% and 7% of the power plants don't report any events in a given year. As an operator, I'm convinced that anyone running a nuclear power plant is bound to have something to report over the course of a year.

Could greater international oversight improve safety?

My point of view is that there are not enough plans in place to immediately help an operator in another country to cope with an accident.

Also, for countries that are relatively new to operating nuclear power plants, peer review before plant start-up is essential because serious accidents have often occurred in new reactors shortly after start-up. WANO sends teams of 20–25 engineers from other nuclear plants to review the functioning of the new plant for about three weeks and to provide a confidential report. The International Atomic Energy Agency has a similar programme that does five or six similar reviews per year; WANO has greater resources and conducts about 40 of these reviews a year. At our meeting in China, I will propose increasing their frequency.

I have also proposed that if operators fail to make progress on issues flagged by these reports as 'areas for improvement', then WANO should be authorized to dispense with its obligations of confidentiality.

If there is another major accident, is nuclear energy finished?

I fear so. As we have seen at Fukushima, an accident in one country has consequences for all nuclear operators elsewhere. ■

INTERVIEW BY DECLAN BUTLER

(Edited and translated from French.)

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CORRECTIONS

The news story 'China faces up to 'terrible' state of its ecosystems' (*Nature* **471**, 19; 2011) stated that more than 25% of China's grasslands have been lost in the past decade. The percentage should have been 2.5%

The Editorial 'Universal truths' (*Nature* **472**, 136; 2011) should have referred to Joseph Greenberg, not Joshua Greenberg.