

Nuclear Preparedness Must Include Humans and Other Living Things

Background:

June 29 2012

As reported in the industry newsletter below, French regulators have come to the conclusion that "despite the precautions taken, accidents can never be excluded."

However the logic of this conclusion has not penetrated any further than the engineering mentality allows, for the only actions required by the French regulators is to take more precautions.

If accidents can never be excluded, despite all precautions, then adding even more precautions does not eliminate the possibility of catastrophic releases of radioactive materials into the surrounding environment.

So prevention is only one half of the equation; the other half is coping with the consequences when things get truly out of hand.

It is certainly wise to have more and better backup systems and engineering response teams to cope with the extremely difficult engineering problems that will surely arise: maintaining power, providing cooling, preventing or limiting explosions, fires and fuel melting -- but what about the hundreds of millions of humans and the vast food chains and ecosystems that will be threatened with long-lasting radioactive poisoning?

What is needed is a large and powerful team of experts and decision-makers outside the nuclear establishment whose sole responsibility is to provide maximum protection to living things beyond the perimeters of the afflicted nuclear facilities.

This team would be dominated not by nuclear physicists and engineers but by specialists in the biomedical and environmental sciences, including agriculture, marine biology, and food sciences.

These people would have the determining voice in all matters relating to the population and the environment -- such as evacuation strategies; food monitoring; crop and livestock protection and monitoring; measures to minimize the spread of contamination through shoes, hair and clothing; strategies for protecting wildlife; offsite disposition of contaminated water from the stricken facilities....

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Just as war is too important a matter to leave to the generals, the Fukushima accident has made it clear that nuclear power is far too important to leave to the nuclear physicists and engineers. Society must take steps now to diversify its sources of information and expertise on matters related to nuclear energy. Otherwise we will see the same pattern of secrecy, duplicity, denial, and coverup --that has characterized TEPCO's behaviour vis-a-vis its Fukushima Dai-ichi nuclear reactors -- repeated in any future nuclear disaster.

Gordon Edwards.

Orders given for 'hard core' nuclear safety in France

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<http://tinyurl.com/765snwp>

French authorities have laid out the improvements they want to see from the country's nuclear operators to ensure safety in case of extreme natural disasters like those that led to the accident at Fukushima Daiichi.

The extensive measures described by the Nuclear Safety Authority (Autorité de sûreté nucléaire, ASN) today affect the operations of three organizations: EDF, which operates 58 large reactors at 19 nuclear power plants; Areva, which has fuel cycle facilities; and the CEA, which operates fuel and research facilities.

Head of the ASN, André-Claude Lacoste, said that the Fukushima accident showed that "**despite the precautions taken, accidents can never be excluded.**" As well as thoroughly analyzing external risks to nuclear facilities during planning and licensing, the **operators of nuclear facilities must be prepared to mitigate events beyond anything ever considered likely.**

Some 32 decisions were made on this basis by ASN today, translating into 30 new regulatory requirements across the entirety of French nuclear infrastructure. In general, what the ASN wants in nuclear facilities is a 'hard core' of systems at each facility that are incredibly robust and will provide **essential safety services during even the most extreme circumstances.** This should push the safety of all facilities well beyond their original design

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bases, and combined with enhanced management during evolving crises, help **to ensure even severe accidents have limited consequences.**

EDF's hard core needs to include **bunkered power supply systems**, and these have to be in place everywhere by 2018. In the short term, the company has to install **more robust emergency diesel generators** by the end of next year. The company is also to put in place **a 'rapid reaction force' of experts and engineers** that can be deployed on short notice to any of its power plants around the country. They should be capable of 'intervening' during an emergency that involves several reactors at one site. The force should be in place by the end of this year and fully operational by late 2014. The company must also bring in **enhanced training of its key staff to respond to major earthquakes and severe accidents.**

For Areva, one new requirement is to establish **a 'robust' (i.e. earthquake and flood resistant) means of refilling the large used fuel pond at the La Hague fuel cycle centre.** A plan for this has to be submitted to the ASN before the end of this year.

At other fuel cycle plants the concern is over the potential release of industrial gases during an accident. **Areva needs an "effective means of reducing the consequences" of releases of chlorine trifluoride, gaseous hydrogen fluoride or uranium hexafluoride** from the Eurodif, Socatri, TU5, Georges-Besse II and Comhurex operations.

The CEA will have to remove, by the end of 2013, all fissile material from the Masurca research reactor and bolster its earthquake resistance. Other **research reactors in the country - Osiris, Phénix and the under-construction Jules Horowitz - also need improvement for protection against earthquakes for circumstances of loss of power and cooling.**

Researched and written by World Nuclear News