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Fukushima disaster holds lessons for future

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WASHINGTON (Kyodo) The Japanese people have demonstrated an extraordinary capacity to respond to both natural and human-made disasters with remarkable resilience. Our sympathies and thoughts are with them as they face the aftermath of this disaster.

It is far too early to know the full costs of the current nuclear crisis for Japan and the rest of the world. Even so, we can begin to consider lessons for the future. Recent events underscore several concerns that nuclear skeptics have raised for decades. Many of these problems are the product of human and mechanical frailty.

Simply put, humans make mistakes. We will never design a perfectly safe nuclear power plant. We will always have incomplete information about the nature and level of threats to these power plants. Assuming otherwise demonstrates hubris, and increases the risk of being unprepared for catastrophic events.

A related issue is that events do not always conform to forecasts. The Fukushima No. 1 nuclear power plant had multiple levels of provision for backup power. But the emergency plan assumed that the infrastructure in the surrounding community would be undamaged, which was not the case.

This disaster also demonstrates that short- and long-term nuclear waste disposal is a critical issue. One particularly vulnerable part of the Fukushima No. 1 power plant appears to have been the spent fuel ponds. We do not yet know whether the storage tanks remain intact. We do know that the backup systems were inadequate here as well.

In addition, climate change research suggests that the world is likely to experience more — and more severe — weather-related events in the future.

This means that existing estimates of nuclear power plant vulnerability to such events are likely to be understated.

This tragedy serves as a warning to other countries that have been pursuing the so-called "Nuclear Renaissance." China's government has already shown its sensitivity to this issue by halting construction of new nuclear power plants.

Unfortunately, the U.S. Nuclear Regulatory Commission (NRC) has taken a contrary approach. It just authorized a 20-year extension of the operating license for the Vermont Yankee nuclear power plant, which has already been in operation for nearly 40 years. The NRC did so even though the Vermont Yankee design is similar to that of the Fukushima reactors.

Instead of proceeding with business as usual, governments should impose a moratorium on nuclear power plant licenses and license extensions. This moratorium should remain in place until independent, impartial analysis demonstrates that each plant can survive far more complex and serious threats than those against which the plants were originally designed.

The bottom line is that we have to consider the full costs of decisions about future energy sources, rather than only counting the short-term costs. Taking

long-term costs and risks into account dramatically increases the attractiveness of both conservation measures and more aggressive work on alternative energy sources.

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