

## INTRODUCTION

# THE FUKUSHIMA DAI-ICHI NUCLEAR DISASTER AND THE FUTURE OF NUCLEAR ENERGY PROGRAMS IN JAPAN AND EAST ASIA

Hiroshi Fukurai<sup>†</sup>

### I. INTRODUCTION

On March 11, 2011, a massive 9.0 magnitude quake and powerful tsunami slammed the northeastern region of Japan. Huge seismic activities knocked out the power at the Fukushima Dai-ichi Nuclear Power Plant, and ensuing tidal waves disabled the backup generators for cooling systems to the active reactors. This triggered a series of hydrogen explosions and released dangerously high levels of radioactive particles into the atmosphere. The Japanese government declared a nuclear emergency, due to the worst nuclear crisis in Japanese history, and decided to evacuate 140,000 residents within twenty kilometers of the plant to various relocation centers.<sup>1</sup>

In April 2011, the government raised the accident assessment to Level 7, the worst rating on an international disaster scale, acknowledging that the devastating human and environmental consequences might be dire and long lasting. The government also allowed the Tokyo Electric Power Company (TEPCO), an operator of the damaged nuclear plant, to dump more than 10,000 tons of radiation-contained effluent from the nuclear plant into the Pacific Ocean,<sup>2</sup> which angered many neighboring countries.<sup>3</sup> South Korea,

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<sup>†</sup> Professor at the University of California, Santa Cruz. The authors would like to thank Professor Jonathan Kang of the University of Washington School of Law for his encouragement and support of the publication of the conference papers. Appreciation is also extended to Professor Setsuo Miyazawa of Aoyama Gakuin University Graduate School of Law, Professor Kay-Wah Chan of Macquarie University Law School for organizing the conference, Professor Chulwoo Lee of Yonsei University College of Law for his valuable assistance, and Dean Kellye Testy of the University of Washington School of Law for her participation in and support of the conference.

<sup>1</sup> Fredrik Dahl, *Japan Nuclear Power Plants: 140,000 Evacuated from Fukushima Areas*, HUFFINGTON POST, Mar. 12, 2011, [http://www.huffingtonpost.com/2011/03/12/japan-nuclear-power-plant-140000-evacuated\\_n\\_834974.html](http://www.huffingtonpost.com/2011/03/12/japan-nuclear-power-plant-140000-evacuated_n_834974.html).

<sup>2</sup> Peter Grier, *Why is Japan Dumping Radioactive Water into the Ocean?*, CHRISTIAN SCIENCE MONITOR, Apr. 4, 2011, <http://www.csmonitor.com/USA/2011/0404/Why-is-Japan-dumping-radioactive-water-into-the-ocean>.

<sup>3</sup> Eben Harrell, *Fukushima Dumping: A Violation of International Law?*, TIME SCIENCE, Apr. 6, 2011, <http://ecocentric.blogs.time.com/2011/04/06/fukushima-dumping-a-violation-of-international-law/>.

in particular, protested and accused Japan of violating of the Convention on the Prevention of Marine Pollution by Dumping of Waters and Other Matters.<sup>4</sup>

The damaged nuclear plant continues to release radioactive particles that have been detected in tap water as far away as Tokyo, as well as in agricultural products such as vegetables, tea, milk, and beef. Despite the ongoing disaster, Prime Minister Yoshihiko Noda suddenly announced in December, 2011 that TEPCO had finally regained control of the reactors, declaring an end to the world's worst nuclear disaster since Chernobyl.<sup>5</sup>

For many people in Fukushima, the affected areas in northern Japan, and in neighboring countries, the crisis is far from over. Lawsuits have been continuously filed against TEPCO to recoup the cost of removing radioactive materials from contaminated areas and to deal with the potential health hazards from radiation exposure. It will take many decades to build the sarcophagus over the Fukushima reactors, stop radiation leaks, and decontaminate the surrounding areas. As of December, 2011, more than 160,000 Fukushima residents still remain displaced from their homes.<sup>6</sup>

## II. THE FUKUSHIMA NUCLEAR DISASTER PANEL

In order to examine the geo-political impact of the Fukushima nuclear disaster and the future of nuclear programs in Japan and East Asia, a panel session called, "The Fukushima Nuclear Disaster: Energy Sovereignty and the Future of Atomic Energy Ambitions in East Asia" was held at the Second East Asian Law and Society Conference at Yonsei University College of Law in Seoul on October 1, 2011. The five papers presented at the panel addressed a wide range of socio-legal ramifications of the Fukushima nuclear disaster. Their underlying theme was that the nuclear disaster in Fukushima helped expose a deep collusion between the Japanese government and corporate interests. The nuclear program was originally developed in Japan in order to fulfill the government's ultimate desire to develop its own nuclear weapons, while Toshiba, Mitsubishi, Hitachi, and other large industrial conglomerates reaped huge benefits from developing nuclear technologies and exporting nuclear plants to developing countries.

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<sup>4</sup> *Id.*

<sup>5</sup> *Nuclear Energy: 2011 Japan Nuclear Crisis: Overview*, NEW YORK TIMES, Dec. 27, 2011, available at <http://topics.nytimes.com/top/news/business/energy-environment/atomic-energy/index.html>.

<sup>6</sup> Digo Grandoni, *Nine Months Later Fukushima Is Finally 'Stabilized,' Technically Speaking*, ATLANTIC WIRE, Dec. 16, 2011, available at <http://www.theatlanticwire.com/global/2011/12/nine-months-later-fukushima-finally-stabilized-technically-speaking/46301/>.

For Volume 21.3 of the *Pacific Rim Law & Policy Journal*, the editorial board is honored to publish two of the articles presented at the conference. These articles were specifically chosen because of their legal focus on nuclear policies and the future of nuclear programs in East Asia.

The first article, by Professor Eri Osaka of Tokyo University of Japan, analyzes the Japanese government's potential liability as well as the corporate liability of TEPCO for the Fukushima nuclear disaster and its consequences.<sup>7</sup> The article also examines the corporate liability of General Electric ("GE") under the United States' Alien Tort Claims Act. In 1976, three GE nuclear scientists blew whistles on the structural flaws of the blueprint used to construct all six nuclear reactors at the Fukushima nuclear plant and were later forced to resign.<sup>8</sup> Professor Osaka suggests that, while no lawsuit has yet been brought against GE, it may be too early for GE to rest easy. Although the Alien Tort Claims Act may not apply in this case because of the difficulty of substantiating the human rights violations involved, GE may come to take financial responsibility, as was the case in the British Petroleum ("BP") oil spill disaster in the Gulf of Mexico.

The second article, by Professor Patricia Blazey of Macquarie University in Australia, examines the development of China's nuclear technologies and the geopolitical effects of the recent construction of nuclear electric plants on China's eastern coast.<sup>9</sup> While original proprietary nuclear technologies came from the U.S., France, Canada, and Russia, Westinghouse (owned by Japan's Toshiba Company) now supplies the most recent nuclear technology used in China. As a total of twenty-six new nuclear plants are now being constructed on the east coast of China, the location of construction sites carries numerous safety concerns and poses potential danger for disaster due to seismic activities known in the region. Any disaster could easily release high levels of radioactive particles to Taiwan, Okinawa, the Japanese islands, or any other adjacent country or region. Since China has yet to establish an Atomic Energy Act with a set of safety initiatives and guarantees, there are also administrative problems from both natural disaster and operative negligence points of view.

The remaining three articles presented at the conference panel focused on other extra-legal issues related to the Fukushima nuclear disaster. The

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<sup>7</sup> Eri Osaka, *Corporate Liability, Government Liability, and the Fukushima Nuclear Disaster*, 21 PAC. RIM L. & POL'Y J. 433 (2012).

<sup>8</sup> Geoffrey Lean, *A nuclear future – proceed with caution*, DAILY TELEGRAPH, Mar. 19, 2011, <http://www.telegraph.co.uk/earth/earthcomment/geoffrey-lean/8392025/A-nuclear-future-proceed-with-caution.html>.

<sup>9</sup> Patricia Blazey, *Will China's 12th Five Year Plan Allow for Sufficient Nuclear Power to Support its Booming Economy in the Next Twenty Years?*, 21 PAC. RIM L. & POL'Y J. 461 (2012).

article by Professor Hiroshi Fukurai, of the University of California at Santa Cruz, exposes and examines the potential American role in the Fukushima nuclear disaster, suggesting that Japan's sudden embrace of a nuclear program was largely a result of the Central Intelligence Agency's ("CIA") massive psychological warfare and propaganda campaigns in Japan in the early 1950s.<sup>10</sup> Using recently declassified CIA documents, the paper substantiates that, within ten years of the explosion of atomic bombs in Hiroshima and Nagasaki, heavy psychological propaganda campaigns helped transform the atomic-wary Japanese public into a mass of pro-nuclear enthusiasts who began to embrace atomic energy and the development of a Japanese nuclear program.

The article by Professor Koichi Hasegawa of Tohoku University, Japan's most prominent scholar on social movements, presents a detailed historical analysis of Japan's anti-nuclear grassroots movements.<sup>11</sup> Given the ineffectiveness of traditional anti-nuclear protest movements in the past, he suggests a number of fundamental changes in both objectives and strategies in order to bring about the radical transformation of massive social and political grassroots movements in Japan. The last article, by Michelle Daigle of the University of Hawaii, presents critical comparisons between the Minamata mercury poisoning disaster and the Fukushima nuclear disaster.<sup>12</sup> Drawing on the enduring struggle of Minamata disease victims and their lawsuits against the Chisso Corporation and the Japanese government, she suggests that both TEPCO and the Japanese government must remain truthful in their presentation of accurate scientific evidence and knowledge related to the disaster and share the likely consequences of radiation exposure with the general public as well as disaster victims. Any attempt to mischaracterize or misrepresent the information may lead to the loss of public confidence and to the continued suffering of disaster victims.

All five articles presented at the Fukushima disaster panel address very important questions concerning the causes and consequences of the nuclear disaster, the future of nuclear policies in Japan and China, governmental and corporate responsibilities related to the disaster, as well as the future of effective anti-nuclear protest movements in Japan.

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<sup>10</sup> Hiroshi Fukurai, *Embrace of the Atomic Energy Program in Japan* (unpublished paper presented at the Fukushima Nuclear Disaster panel, the Second East Asian Law and Society Conference in Seoul, South Korea on Oct. 1, 2011).

<sup>11</sup> Koichi Hasegawa, *Anti-Nuclear Movements in Japan* (unpublished paper presented at the Fukushima Nuclear Disaster panel, the Second East Asian Law and Society Conference in Seoul, South Korea on Oct. 1, 2011).

<sup>12</sup> Michelle Daigle, *Parallel Disasters: Lessons for Fukushima from Minamata's Socio-legal Context* (presented at the Fukushima Nuclear Disaster panel, the Second East Asian Law and Society Conference in Seoul, South Korea on Oct. 1, 2011).

### III. CONCLUSION

With many significant geo-political changes and judicial reforms currently taking place in Asia, key members of both the Law and Society Association and the East Asian Collaborative Research Network decided to organize the Second East Asian Law and Society Conference at Yonsei University in Seoul, South Korea on September 30 and October 1, 2011. More than 150 delegates came together from the U.S., Japan, China, Taiwan, Hong Kong, Malaysia, Australia, Canada, New Zealand, and other countries. Conference papers and presentations revealed the depth of current political concerns, academic energy, and scholarly research, recognizing recent transformative changes and legal developments in Asia. The presentations also provided fertile ground for future socio-legal research and collaboration.

The many exciting sessions at the conference in Seoul offer testimony to the emergence of new scholarship and new research collaboration, creating greater interest in comparative legal research in East Asia. We are now positioned to undertake the exploration of many fascinating research questions. The two articles presented in Volume 21.3 of the *Pacific Rim Law & Policy Journal* provide an excellent illustration of the ways in which cross-national and comparative research can inform the policy process and democratic movement in East Asian countries.