

## [SE6-GB-2] Japan's Nuclear Crisis

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### Full Summary

The panel on Japan's nuclear crisis examined implications of the crisis from different aspects. The first speaker, Dr. Suzuki, looked at what happened in the Fukushima accident, and what that meant for the future of Japan's nuclear energy. The second speaker, Sharon Squassoni, laid out the US government's reactions to the crisis, and the next speaker, Nakagome Yoshihiro criticized the Japanese government's mishandling the crisis. The final speaker, Suzuki Tatsujiro, identified the need for mutual understanding of nuclear security in Asia and how that came to light after Fukushima.

#### Dr. Suzuki:

Dr. Suzuki's presentation explained three things: what happened in the Fukushima accident, what can be done to help, and implications for the future of Japan's nuclear energy. According to Dr. Suzuki, the tsunami was one of the biggest and destructive in Japan's history. All power in the area was cut off, including nuclear reactors in the Fukushima Plant. All power recovery efforts failed, mainly because the efforts came only after 14 hours, providing more than enough time for the core reactor to melt and expose itself to the public.

Dr. Suzuki said the crisis is not over yet, as the rescue team is still in the process of cooling down the reactor. One concern he had was that the building in which nuclear plants was located was fragile. With more than 100 tons of contaminated water currently inside, if another tsunami were to hit the plant before the plant recovered, it would cause radioactive materials to spread. The current plan is to contain everything within six to nine months.

The Fukushima accident has brought grave consequences for Japan and the citizens living nearby the plant. Currently the contaminated area remains highly active and dangerous. One of the issues the Japanese government will have to consider for the next few months is the welfare of the evacuated citizens. The government has to provide ways for these citizens to recover, and find places they can return to. Overall, Dr. Suzuki emphasized that the welfare of the citizens was one of the most important priorities for the government to consider.

Dr. Suzuki then goes on to explain why such an accident happened. Drawing from the reports published by the Japanese government and the IAEA, he explores the question in five categories. First, could we have prevented the accident? Second, after accident, was management adequate to contain accident? Third, was safety regulation adequate enough? Fourth, what can we learn from emergency response of the government? Fifth, what can we learn from industrial safety culture?

In total, there were 28 items listed and reported by the government. Dr. Suzuki explained some of the items he considered important. On the preventive measure, he found that both the government and the IAEA underestimated the damages of the tsunami. According to the report, when the accident initially took place, both the Japanese government and the IAEA stated that they were not legally required to manage the crisis. Hence one can ask whether making government response a legal requirement is recommended.

For safety regulation, both the IAEA and the government emphasized the need for independence between the regulators and the industry. On the emergency response, both the IAEA and the government agreed and evaluated the performance to be well done. However, Dr. Suzuki pointed out some unsatisfactory cases, such as not releasing full information that led the public to lose trust on the government. He also pointed out that improvements could be made in the communication and coordination between different actors. Another point for improvement was on the logistics, where the utilities and the government could not cooperate effectively to turn on the emergency power shortly after the accident.

As the final section of his presentation, Dr. Suzuki discussed the future of Japan's nuclear energy policy. The current prime minister has already stated that the existing nuclear energy policy planning to build 14 additional nuclear reactors by 2030 is likely to be scrapped. Shortly after the Fukushima accident, the prime minister introduced four pillars of energy policy: First, implementation of nuclear energy with the highest safety standard.

Second, efficient use of fossil fuel.

Third, expansion of renewable energy.

Fourth, efficiency improvement in household and commercial sector.

It should be noted that the first pillar implies that the nuclear energy option is still not completely off the table. However, any government effort to build an additional nuclear reactor will likely face steep opposition from the public that has lost trust of the government. According to the latest public opinion poll just released yesterday, 47% of the public wants to reduce nuclear power dependence, and more than 50% wants an immediate reduction of nuclear power.

Such public attitude towards nuclear energy will impact nuclear power operation. Currently Japan has 54 reactors, and only 19 are operating at this moment. Dr. Suzuki concludes that if the public continues to mistrust the government, then all reactors would be shut down within a couple months, creating a serious energy problem.

### Sharon Squassoni:

Sharon Squassoni discussed US reaction to the Fukushima incident and the implications the accident has on US nuclear policy. She began by sharing her remarks based on close observation of media coverage and industry reaction from the crisis. She first pointed out the tremendous media coverage Fukushima crisis received as the first nuclear crisis in the 21st century. The Fukushima incident reminded her of 9/11; horrified fascination whether correct or not. Such crisis generates unrealistic expectations about what is known and what can be done. The media tend to magnify the gaps between reality and the expectations.

Luckily, the crisis in Libya diverted media attention from Fukushima. Squassoni used the term “luckily” because not all media coverage was helpful. She went on to discuss several reactions from the US political arena. First, President Obama reiterated his support for nuclear power. Second, the regulatory commission came out and reiterated that US reactors are safe. This mattered, because 23 US-operated GE boiling water reactors are similar in design to the reactors in Fukushima.

Squassoni went on to discuss the different reactions received from different political branches. President Obama said, “our reactors are safe, but when we see an accident, we have responsibility to learn.” Congress appeared most interested, introducing safety related bills within a few weeks. One of the bills introduced was the Nuclear Power Licensing Act, which enforced high safety standards for renewing license. Congress also held a number of different testimonies related to a variety of nuclear issues, such as on the spent fuel pool, ocean contamination, and MOX fuel. Congressman Edward Markey went on to state that all spent fuel should be moved to dry cask as soon as possible. Overall, there was great anticipation by Congress to act.

Sharon shares her experience of participating in a session with 20 congressmen in Vienna. Essentially what she gathered from the experience was the frustration Congress had with the international community. They asked why the IAEA is not doing more, such as in safety inspections. However, she did not hear much discussion about how the United States would react in similar crisis to the Fukushima. Shortly after the Fukushima accident, the Nuclear Regulatory Commission (NRC) announced a task force that would conduct 90 days of review. This is the initial review, and after that span, the NRC would decide for a long-term solution.

The review looked at several things: it asked whether U.S. citizens are prepared for a blackout, and then discussed emergency preparedness by looking at several accident possibilities. While the review process probably had some shortcomings, Squassoni pointed out that for the first time in many years, NRC's independence was criticized.

She concluded her presentation by looking at the commercial industry. She made a point that the US nuclear industry has been struggling, and the cause was not from Fukushima, but from the lack of financial assistance. Squassoni advocated for favorable measures such as imposing a carbon tax that would alleviate the industry's financial burden.

Dr. Ota Masakatsu:

Dr. Ota essentially makes two points: first a brief account of Japan's nuclear history and how that affected Japan's nuclear policy. Second, Japanese government's mishandling of the containment process in Fukushima has led to mistrust of the government from Japanese citizens. He provides brief history of Japan's nuclear policy; that Japan is the only state to survive nuclear attack, and the only state to be attacked by nuclear bomb. Hence there was modification and reconstruction of its society and their perspective on nuclear policy. Japan will not develop nuclear weapon, and will not allow others to bring nuclear weapons into Japan's soil. In a nutshell, international peace use of nuclear is Japan's national and international nuclear policy.

Then Dr. Ota shares opinion poll surveyed on March 27, 16 days after the accident. According to this poll, 39.5% wants reduction of nuclear power plant, 7.2% wants elimination of nuclear power plant, 40% wants to maintain status quo, and 6.5% wants to increase nuclear power plants. Merging these data, he explains approximately 46.7% want reduction of nuclear power plant, while 46.5% want to support nuclear power.

But more recent polls suggest different show of opinion. In the last poll taken two months ago, the poll between reducing nuclear versus maintaining nuclear was about the same at 46.7% and 46.5%. However, recent poll taken May 15 and 16 suggest that 47.5% want reduction of nuclear power plant, 6% wants elimination of nuclear power plant, and only 38.5% want status quo. In total, 53.5% wants reduction of nuclear power plants, and only 38.5% supports it.

Dr. Ota probes into why the support has dropped within a few months. He identifies mishandling of the Fukushima crisis by the Japanese government as the source. He points out that the prime minister, the commander in chief, only visited the accident site the day after the accident. Another influential group that should have visited the site at the earliest was an

influential advisory group made of 45 specialists within the Nuclear Safety Commission. However, Dr. Ota points out that like the prime minister, the group was not present at the onset of the accident to evaluate the situation and assess damage. Finally, Dr. Ota also criticizes the media and the government for not checking safety of nuclear power in the past when ample opportunities existed.

### Prof. Nakagome Yoshihiro:

Dr. Nakagome's presentation focused on the nuclear security sense in Japan and the necessity for mutual security understanding in Asia.

Dr. Nakagome opened his statement by pointing out that the Fukushima accident has provided nuclear terrorists with valuable information. But in Japan, news media and nuclear scholars were deliberating and framing the issue only from safety perspective, citing breach of safety management.

In Dr. Nakagome's opinion, Fukushima accident cannot be considered from a security viewpoint because there was no difference in concepts between safety and security in Japan. He explains that Japanese safety concept ultimately includes security concept. For instance, after use of dangerous radioactive materials, Japan stores it in a box and sends them off through the same box. In usual case, radioactive materials considered dangerous are stored in safety, and greater measures are taken during transportation.

In Dr. Nakagome's view, Japanese common sense is not the common sense of the world. He calls Japanese common sense ideal. 10 years ago, he asked difference between nuclear security and safety to Western friends, and he learned that they have obvious difference.

In IAEA, the difference between nuclear security, safety, and safeguards are three synergies of S. However, we should not forget safety and security issues have quite different meaning. For example, armed windows are important for security, but in case of safety disaster, prevents us to run away.

Three S combination concepts should be considered when Japan develops nuclear in the world. Actual nuclear security implies guarded security. Perhaps because Japan lacks confidence in arms guarded security, it may emphasize less in practical and conceptual terms.

Recently, he found from Chinese friends, that there is no difference between general security and safety, and not much difference between nuclear security and safety. He also found that Japanese concepts of safety and security are quite different from Chinese concepts. In China,

safety is incorporated into security, and this is quite opposite and different in Japan. He acknowledges that he does not know the general difference and meaning of security and safety in Korea.

He makes a final point that as Asia grows in nuclear program, there is a greater necessity to develop mutual understanding on nuclear security by sorting out the cultural differences. In this pursuit, he identifies education a key vehicle for such end.

In conclusion, the panelists discussed multiples of implications—from the impact on US nuclear policy to the lessons learned for Japanese government and Japan’s nuclear future.

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