

THE BROOKINGS INSTITUTION

BROOKINGS CAFETERIA PODCAST

LESSONS FROM THE FUKUSHIMA NUCLEAR MELTDOWN, 10 YEARS ON

WASHINGTON, D.C.

Friday, March 5, 2021

PARTICIPANTS:

Introduction:

FRED DEWS
Managing Editor, Podcasts and Digital Projects
The Brookings Institution

Host:

BILL FINAN
Director, Brookings Institution Press

Guests:

YOICHI FUNABASHI
Chairman, Asia Pacific Initiative

SARAH BINDER
Senior Fellow, Governance Studies
The Brookings Institution

* * * * *

PROCEEDINGS

DEWS: Welcome to the Brookings Cafeteria, the podcast about ideas and the experts who have them. I'm Fred Dews

March 2021 marks ten years since an earthquake off Japan's Pacific Coast and the tsunami it caused led to reactors at the Fukushima Daiichi nuclear power plant to melt down, releasing radiation and forcing the government to evacuate over 100,000 residents in surrounding areas. As the author of a new book from the Brookings Institution Press writes, failures at all levels of Japan's government and private sector worsened the human and economic impact of the disaster and ensured that its consequences would endure for years to come.

On this episode of the Brookings Cafeteria, Brookings Press Director Bill Finan interviews Yoichi Funabashi, author of "Meltdown: Inside the Fukushima Nuclear Crisis." Funabashi, an award-winning Japanese journalist, columnist, and author, and now chairman of Asia Pacific Initiative, interviewed more than 300 government officials, power plant operators, and military personnel to provide a meticulous recounting and analysis of the struggle at all levels to contain the disaster.

Also on this episode, Senior Fellow Sarah Binder explains what's been happening in Congress in the eight weeks since the insurrection at the U.S. Capitol. She examines how Congress is working so fast, what unified party control means for Democrats, and asks, will it last?

You can follow the Brookings Podcast Network on twitter @policypodcasts to get information about and links to all our shows including Dollar and Sense: The Brookings Trade Podcast, The Current, and our events podcast.

First up, here's Sarah Binder with a look at what's happening in Congress.

BINDER: I'm Sarah Binder, a senior fellow in Governance Studies at the Brookings Institution. It's been almost two months since the violent insurrection at the U.S. Capitol when Congress met to count Electoral College votes. Given Congress's reputation for inaction, these past eight weeks have been remarkable: the House impeached then-President Trump; the Senate then tried and acquitted him; Congress began an investigation of the Capitol insurrection and the state of Capitol security; and Democrats in Congress are now working to pass President's top priority—nearly 2 trillion dollars to repair the economy, vaccinate the public, and return Americans to work and to school.

In the House, all but two Democrats—and no Republicans—voted to pass the COVID relief bill. Now it's the Senate's turn, where Democrats might complete their work by week's end. This raises two questions: How is Congress working so fast? And, will it last? Two forces are driving Congress's speed.

First, unified party control matters. We often think about party control of Congress as a matter of whose policy priorities will be enacted into law. But what party control mostly delivers is the power to set the agenda. This year, for this Democratic majority, the agenda is largely being set by events outside of their control. The capitol insurrection has forced lawmakers from both parties to think about Capitol security, which raises questions about accountability, coordination, transparency. And, unified party control means Democrats can aggressively push Congress to consider reform. That's not often the case when the parties divide power and pressure to respond to outside events can dissipate quickly.

Second, Democrats have learned a lot from their last rodeo in 2009 and '10. Most importantly, Democrats recognize that unified party control rarely lasts very long. Time is of the essence. That's especially true for presidents, whose stock of political capital declines every day. Use it, or lose it.

Why's that important? Because Democrats have been unwilling to take several months to negotiate a relief bill with Republicans and then face the possibility that a Republican filibuster still kills the bill. That possibility is especially strong today compared to 2009 when Democrats were last in control. Back then, Democrats had a filibuster-proof majority of 60 votes for some months; today they have the slimmest of majorities. Back then, partisanship was intense, but today, it's even higher.

What's more, the Biden relief plan is broadly popular with the public. No surprise then that Democrats have largely put aside their own differences to move swiftly, taking advantage of a set of budget rules known as "reconciliation" that empowers a simple majority to pass the bill.

So, will this steady pace last? It'll be much trickier moving forward. Three reasons.

First, the rules of the game are not on the Democrats' side. We see this already in the likely fate of Biden's promise to raise the minimum wage to \$15 an hour. Given the strict rules of reconciliation, Democrats have already lost a key battle with the Senate parliamentarian, who judged that the minimum wage proposal violated strict rules of reconciliation. The House-passed bill includes the provisions, but the Senate bill—and the final bill that emerges—will not.

What's more, Democrats' challenges with the rules in passing the COVID bill are not over. Republican senators might still challenge other parts of the mammoth bill, and could force Democrats to pare back some of their ambitions.

Second, this is not a monolithic Democratic party. We don't know yet precisely what version of the bill can command the votes of all 50 Democrats. What's more, we could easily see cracks in Democrats' unity after enactment of the COVID bill. With such slim majorities, that would be debilitating to the Democrats' agenda.

Third, Democrats will very soon face a choice when they turn to Biden's campaign pledge on infrastructure, a set of proposals that addresses not just building roads and bridges, but also expanding green energy and reducing racial inequity in how we build back from the crisis. This is the choice Democrats will face: Should they pursue infrastructure through reconciliation to cut out the Republicans again? Or should they give bipartisanship a go? Progressive Democrats might be wary of watering down their priorities, and thus push for using reconciliation again. But Democratic moderates in both chambers might very well insist on giving bipartisanship a chance.

DEWS: You can listen to more from both Sarah Binder and Molly Reynolds on issues in Congress on our Soundcloud channel.

And now, here's Brookings Institution Press Director Bill Finan with Yoichi Funabashi, author of *Meltdown*.

FINAN: Fred, thank you and thank you for joining us from Tokyo for what I know is a very early morning podcast interview for you.

FUNABASHI: Thank you very much. Thank you very much for having me.

FINAN: In a few weeks that it will be a decade since the Fukushima disaster. But as you write in your new book, *Meltdown*, Fukushima is still not behind us. What do you mean by that?

FUNABASHI: It has been 10 years since that tsunami and nuclear meltdown happened. But actually, the government nuclear contingency declaration has not been yet lifted. We are still in a contingency.

Also, at that time, during that particular crisis, people living near the plants were ordered to evacuate within 24 hours, four times. The total number was, at the peak, 160,000. Out of the 160,000, forty thousand still are not able to return to their home. And at the ground the debris is highly radiated. There's still a high radiation level. And also, even though there

were no direct deaths caused by or due to that radiation release and exposure to that radiation in Fukushima, but the deaths, the indirect ones, caused by the evacuation and the stress and the others, actually there are about 3,700 deaths. And so we have we have had a lot of casualties, too.

Before the accident, Japan had 54 four nuclear plants operating. But after that, there was none. Now, there are about only nine nuclear reactors being permitted to operate—restart, I should say, out of 27 applications. So, we are still faced with the enormity of the challenge.

On top of that, the economic loss, were estimated to be 22 trillion yen, about 200 billion dollars. And according to one private think tank estimate, the Japanese government and the company have to keep paying about 82 or 3 trillion yen. That's 740 billion dollars over the next 40 years, 40 or so.

FINAN: Enormous human costs, enormous economic costs. There's been a wholesale rethinking of nuclear power in Japan. Before I talk a little bit more about what you've written, I wanted to just ask you to describe what exactly happened on March 11th. What was the cause of this near meltdown?

FUNABASHI: Japan was hit by a tsunami, the earthquake, and then being ensued by a tsunami. Once in a thousand years scale. And the vast land inundated with sea waters. And one of the casualties was the Fukushima nuclear plant, which is located near the Pacific Ocean.

And so, you know, first, that TEPCO, the Tokyo Electric Power Plant, found it's AC—alternating current—being disabled. And then, the EDGs, the diesel generator, was supposed to help provide that electricity to keep cooling the nuclear rods. But EDGs also started to be deactivated. So there was no electricity provided to cool the nuclear pressure vessel. And that actually has caused the three nuclear reactors starting to melt down. And on

top of the nuclear fuel pool designed to cool the nuclear rods—the huge pool—if that also started to melt down then Japan certainly would have seen a Japan[ese] Chernobyl.

FINAN: So I want to stop you there, because I want to tell listeners that your book is a tour de force of what happened at Fukushima. There's a focus on individuals inside the plant and out. Literally an hour by hour accounting from the moment the plant was hit by the tsunami, of the initial hours, the struggle of the workers to understand what had happened. The blackout, as you mentioned, where there was no electricity. The first attempts to put in place the emergency measures, reading manuals by battery light, just the human drama. It's an immense canvas that you've written and sketched out of what happened. And I want to ask, how were you able to capture this level of detail, the thinking of the people in the plant? I know you interviewed quite a few; it's an amazing recapture. You feel like you're right there.

FUNABASHI: I was very fortunate to have chances to talk with the people on the ground, including operators at the plant, Fukushima Daiichi, and also Daini as well. And I also interviewed many government officials, particularly the first responders, firefighters, police, and Japanese military, what we call Self Defense Forces. And also, I interviewed many Americans who actually came to Japan to rescue the people there. The United States was not under any treaty obligation to come to Japan, to help Japan, because it was not a military conflict. But nonetheless, there were more than 20,000 Americans—Marines, sailors, officers—coming to rescue Japan. So I interviewed many of them.

Basically, people were just thrown into the crisis without any preparation, particularly among TEPCO workers and local government officials. So they really had to struggle to fight against adversity without being fully prepared for that. And so the biggest puzzle to me was that, why Japan? Which is a well advanced country, simply failed in preparing, being prepared for this. And I was struck to learn that that ideology and belief system was the core

problem. That is that making changes, making better preparations, more serious preparations for the severe accident—extended loss of power provided for that plant—would be an admission that the existing precautions and regulations were insufficient, and that operators—that is, TEPCO—did not possess absolute safety. So, this myth of absolute safety actually was that root cause. That they were actually they found themselves caught up in their own trap, in my view.

And one of the reasons why they developed this kind of belief system was that because of people's strong resistance and opposition to nuclear energy. And that was connected to the traumatic experience with Hiroshima and Nagasaki. So, in order to overcome the people's profound fear, the "nuclear village," what we call the promoters of nuclear energy—government agencies, companies, politicians, and officials and academics—they were determined to demonstrate that Japan's nuclear regulation is the most strictest in the world and people do not need to worry about that.

This is a really paradoxical problem.

FINAN: So, there was this facade of safety in a sense over the years that proved to be exactly that, a facade. Besides this in-depth look at what was happening inside the plant and right outside the plant itself, too, you also take us to the government's initial response to the government's response in general. The day of the disaster, Prime Minister Kan was accused of having accepted illegal donations. It was on the front page of the papers. Not an especially auspicious day to be politically weak in that sense. How would you characterize the government's initial response and in the weeks that followed?

FUNABASHI: Yeah, Bill, as you said, Kan was really on the defensive and perhaps that that may have been one of the motivations and temptations on his part to really demonstrate his leadership in managing the crisis. He was an engineer by training and he

majored in engineering in Tokyo Engineering University, one of the most prestigious engineering academic institutions in Japan.

And then he actually really started to micromanage. He even flew to Fukushima Daiichi in the early morning on the 12th of March, the next day of the tsunami. And then he demanded a meeting with the superintendent, Yoshida Masao, who was extremely tied up to managing the situation. And then he was really in charge of micromanaging how to really fight against the technical challenges. And the people surrounding him, I mean the prime minister's office, were all the panicked, you know, what we call a panic. So, it just looks like children playing soccer, all clustering around the ball. And so there was no real commanding height. And that's one of the tragedies in my view—the lack of strong, political leadership in a crisis and lack of crisis management and lack of good governance in the crisis.

So, all those problems were there, a lot of things happening all at once on the ground, but there was no good communication between the Fukushima Daiichi onsite people and TEPCO's headquarters in Tokyo, and a lack of communication, lack of trust between TEPCO's headquarters and the Japanese government. And the Japanese government was in disarray, it was very much stovepiped. And the nuclear regulatory institutions were very much siloed. There are three government agencies in charge of nuclear regulation, so they did not coordinate very well.

FINAN: In the end, the prime minister resigned in September of 2011 as a result of his mismanagement.

FUNABASHI: I think that was of his one of the reasons why he was forced out after almost just a year or so. He lost, actually, many seats in the upper house election in the summer of that year. So, I think that was a fatal blow to him.

FINAN: You mentioned the aid that the United States provided a moment ago. What role did the United States play in all of this? And my understanding also, which you bring out in the book, too, is that it caused a crisis in U.S.-Japanese relations.

FUNABASHI: The United States, certainly, if Fukushima would have gone really to a Chernobyl type of disaster, there was no question that the United States would be exposed—particularly that the U.S. West Coast would have been exposed to nuclear radiation. So, the United States had good reasons to be deeply concerned about that, how it would play out.

But besides that, the U.S. also was very much concerned about Japan's will and capability to cope with that crisis because Obama administration had suspected the capability and effectiveness of the Japanese government operation about that situation. So, they actually dispatched dozens of well qualified nuclear engineers and regulators. And one of them was Dr. Charles Casto, who was in charge of the U.S. rescue operation and cooperation with Japan on a technical level and regulatory level. And that really was very much helpful. Also, the U.S. military mobilized, as I said, more than 20,000 officers, sailors, soldiers, particularly Marines, to help Japan cope with that, not only in Fukushima, but the tsunami disaster area. And also the U.S. helped Japan monitor the situation by harnessing the U.S. technology—Global Hawk, for instance, it's a reconnaissance airplane, unmanned. So they flew the Global Hawk to keep monitoring the nuclear meltdown situation.

And so, it's really on the technical level and as well as the operational level, and then finally political and symbolic level that the U.S. demonstrated its resolve to help Japan at the most critical juncture.

FINAN: I want to ask, why did you write this book? Even though it's a very large canvas, this book, it also feels very personal throughout.

FUNABASHI: I have thought that somehow, even though Japan has recovered, rehabilitated, from the World War II Pacific War in the postwar era, I always have felt that

even though it has been a very much a laudable effort on the part of the Japanese people and the U.S.-Japan alliance has also enormously helped us recover and re-enter into the international society. But we have missed something in the post-Cold War era. That still has been that we actually have yet to develop a national security state. We have still very much a lack of preparedness for contingency for the crisis because we have carried over deep fear about one government agency, particularly the military, having overwhelming power and authority. And that's a lesson we learned from the mistakes of Japan's democracy in pre-war days, which allowed the military to take over the government since 1930s.

So, there was no commanding height in the Japanese government in facing that crisis. And Fukushima was really a rude awakening to all of us Japanese, that it's time to change that. We really have to be prepared for that contingency. That's one of my primary interests, delving into the myriad of that aspects of crisis on the ground and how unprepared we are for that adversity.

So "Meltdown" actually should be regarded as a more symbolic one. It's not just about that meltdown of reactors, but meltdown of the postwar Japan's institutions and political culture. That's the main theme that I have tried to explore.

FINAN: Do you feel that 10 years after the event that the lesson that the insight you were trying to provide with this book has been learned by the larger Japanese society, Japanese government, Japanese politics?

FUNABASHI: That's a great question and that's the question that I have been pondering while I have been writing this book—how far we have learned and in what way we have learned how to learn. Yes and no. I think that in 2012, the Japanese parliament enacted a new law to establish new nuclear regulatory bodies, new nuclear regulation commission, and a nuclear regulation authority as its secretariat. And they were, no question, much more

independent from the politicians and the government agencies which promote the nuclear industry.

One of the problems in the old regime was that there was no such clear distinction between the independent regulatory body and the nuclear industry promoters, the nuclear safety agency under the METI [Ministry of Economy, Trade, and Industry], the Japanese government agency. So that's a big plus.

But still it has not generated a sufficient level of people's trust in the nuclear regulation. The majority of the Japanese public is still opposed to restarting the nuclear plants even after 10 years. And the government has, I would say, has not succeeded in persuading the public that the nuclear regulation under the new nuclear regulatory body is much more reassuring to the public.

I think that's one area that we really have to think over, why? And again, I think that the problem is this what I would call the tendency to provide immediate comfort—kind of small reassurance while sacrificing greater security. I think that's a problem.

So, the new commission chief declared, on day one, now we will assure you, the Japanese public, that we will come up with the world's strictest nuclear regulation. So trust us. That's his words. I don't think we necessarily have to really pursue the world's strictest nuclear regulation. I think we really have to harmonize that world on nuclear regulatory level and the practice and the precautions. But they may have felt obliged to declare the world's most strictest simply to psychologically assure or reassure the public. And the way they actually pursue the nuclear regulation is kind of imposing homework on the operators. That the nuclear regulation is not just inspection; it's, I think, a mutual obligation to ensure that good quality of regulation, the trusted one. But in Japan, the way they demand the strictest regulation to the operator matters a lot because it's a PR, public relations. It may have started

a new cycle of the nuclear safety myth. Once again, psychological reassurance even is more important than the actual nuclear safety.

FINAN: Lessons to be learned for Western governments. For many, Chernobyl was always that moment of reckoning between how a government acts when a nuclear power plant suffers a disaster. Fukushima is now very recent and we have a Western style government dealing with it. And I think there are quite a few lessons to be learned from what you show us in your new book, *Meltdown*.

FUNABASHI: Bill, related to this, I just read that a *Financial Times* obituary article of the Soviet Union pilot who led that sortie over Chernobyl meltdown. He was in charge of flying helicopters to drop the slurries made up of water, sand, and boron. And he did that, he kept doing that during two weeks, day and night, 5,000 times. And he certainly was heavily exposed to radiation, but he survived. But he just unfortunately passed away due to coronavirus, recently. As I was reading that article, I was really wondering if Fukushima actually would have developed into a Chernobyl type: three reactors completely in meltdown, that was what happened. But besides that, if that nuclear fuel pool started to disrupt and was breached and then the worst case scenario actually would have ensued. Then the Self Defense Forces—could they have done the same 5,000 times, sorties of helicopters? I don't know.

FINAN: Yeah, it's a good question to end here on, just that that issue of the military and the Japanese state and what that response would have been. Yoichi, I want to thank you very much for stopping today to talk to us about your new book.

FUNABASHI: Well Bill, likewise.

DEWS: You can buy *Meltdown: Inside the Fukushima Nuclear Crisis* by Yoichi Funabashi, published by the Brookings Institution Press, wherever you like to buy books, including online through your local independent bookstore.

A team of amazing colleagues helps make the Brookings Cafeteria possible. My thanks to audio engineer Gaston Reboredo; to Bill Finan, director of the Brookings Institution Press, who does the book interviews; to my communications colleagues Marie Wilkin, Adrianna Pita, and Chris McKenna for their collaboration. And finally, to Camilo Ramirez and Andrea Risotto for their guidance and support. Our podcast intern this semester is David Greenburg. The Brookings Cafeteria is brought to you by the Brookings Podcast Network, which also produces Dollar & Sense, The Current, and our events podcasts. Email your questions and comments to me at bcp@brookings.edu. If you have a question for a scholar, include an audio file and I'll play it and the answer on the air. Follow us on Twitter @policypodcasts. You can listen to the Brookings Cafeteria in all the usual places. Visit us online at Brookings.Edu. Until next time,

I'm Fred Dews