Volume 11 | Issue 34 | Number 1 | Article ID 3986 | Aug 18, 2013

Abe's Nuclear Energy Policy and Japan's Future 安倍首相の原子力政策と日本の未来

Jeff Kingston

"The utility's glaring ineptitude with crisis - management was noted right from the start of the Fukushima disaster. How and why could TEPCO have kept repeating the same blunders over and over?" (Asahi 7/31/2013)

On August 7, 2013 PM Abe Shinzo finally announced that the government had lost faith in Tepco's ability to manage the ongoing crisis at Fukushima following months of media reports documenting dangerous radioactive water leaks. NHK News (8/6/13) commented, "Once again Tepco is one step behind." And the following night it described Tepco's efforts as "groping in the dark". This explains why 94% of Japanese believe that the Fukushima accident has not been brought under control and why 31% want to abandon nuclear energy as soon as possible with an additional 54% supporting a gradual phase out. (Asahi 7/18/2013)

Abe was belatedly forced to state, "Rather than relying on Tokyo Electric, the government will take measures." Two and a half years after the three meltdowns at Fukushima, Tepco has not come to grips with the problem of how to manage accumulations of contaminated water being used to cool the crippled reactors and the spread of that contamination to groundwater that flows through the plant site to the sea. It also seems to have made little progress in decommissioning the plant, a process that will take an estimated forty years and cost $11 billion, although the final price tag is expected to balloon. The ongoing leaks of massive amounts of radioactive water into the ocean demonstrate that the Fukushima crisis is far from over and that entrusting the clean-up to the plant operator was a colossal mistake because it left critical decisions up to the industry insiders who compromised nuclear safety before 3.11and subsequently mismanaged the crisis. Why, despite a cascade of media exposés about the water problem, did the government wait so long to intervene? And, why did intervention suddenly become so urgent?



PM Abe talking to Tepco employees

Why Intervention?

In short, damage control. Abe had to intervene and have the government take over because growing alarm about the ongoing nuclear crisis imperils his plans to quickly restart idled nuclear reactors and also casts a pall over Tokyo's bid to host the 2020 Olympics on which a decision is due in early September. The government needed to shift the narrative from

https://doi.org/10.1017/S1557466013034554 Published online by Cambridge University Press

Tepco's incompetence to the government offering reassurances that it will now bring the situation under control; it has lots to prove.

The nuclear energy issue hangs over Abenomics, the eponymous program aimed at reviving the Japanese economy involving massive monetary easing, fiscal stimulus and an as yet amorphous growth strategy. Team Abe perceives presently idled nuclear energy capacity as a 'cheap" alternative to imported fossils fuels and crucial to reviving the economy. The nuclear village of pro-nuclear advocates in industry, the bureaucracy and politics sees the reactors as "stranded" investment that needs to be rescued from anti-nuclear public opinion. Moreover, Abe also sees great potential in overseas nuclear power markets and needs reactor restarts to back his sales pitch.

Abe is a longstanding advocate of nuclear power and since assuming the premiership in December 2012 has made no bones about getting as many reactors online as fast as possible, although carefully stating that this is contingent on confirming operational safety. He purged his energy advisory team of anti-nuclear critics and brought back key pro-nuclear architects of Japan's ambitious national energy strategy in 2010 that called for a significant expansion of Japan's nuclear energy to 50% of electricity generating capacity by 2030. (Asahi 12/29/2012) In vocally and repeatedly backing reactor restarts, Abe is exerting political pressure on the new nuclear watchdog agency, the Nuclear Regulation Authority (NRA), to facilitate his agenda. During the 2013 Upper House election campaign policy debate, the LDP was the only party to oppose phasing out nuclear energy and sees its solitary position as a badge of responsibility; but on this issue principles owe much to financial interests.

Japan is deeply enmeshed in the global nuclear industrial complex and as such is banking on exports of nuclear power plants. Toshiba owns 87% of Westinghouse while Hitachi and Mitsubishi have tie-ups with GE and Areva meaning that Japanese firms are major players in nuclear energy. Abe has become an active pitchman for Japanese nuclear technology, but if Japan begins phasing out its nuclear reactors, potential clients might look elsewhere. Abe's growth strategy calls for tripling infrastructure-oriented exports to $300 bn by 2020, and nuclear technology exports are key to achieving this target. Earlier this year Japan (with French companies) secured a long-term $22 billion contract with Turkey (a quake prone country). It has also signed a nuclear technology agreement with the United Arab Emirates and is eyeing sales to Brazil and Saudi Arabia. Negotiations are also ongoing with India to enable Japan to sell its technology there and Abe lobbied hard on behalf of Japan's nuclear exporters at a June 2013 central European summit of the Visegrad countries (the Czech Republic, Hungary, Poland and Slovakia) He also signed an agreement with France in June 2013 to deepen cooperation on nuclear exports. (The Diplomat 7/3/2013)



PM Abe Clinches $22 bn Nuclear Deal with Turkish PM Erdogan

But the Japanese public remains skeptical. A poll conducted by Jiji Press in June 2013 shows that 58.3% of Japanese do not support the export of Japan's nuclear technologies and

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expertise while 24% are in favor. Even within the LDP, opponents (43.2) exceed supporters (40.4) of nuclear exports. (Japan Times 6/13/2013) The export sales drive is being ramped up even as 150,000 people remain displaced from their houses due to the Fukushima accident. Abe faces further opposition to his nuclear energy plans on the domestic front as his wife also opposes nuclear exports. She said, "It will be better to use part of the money spent on nuclear plants for the development of new energy and promote the sale of Japanese-born clean energy overseas." (Asahi June 11, 2013)



Akie Abe Supports Anti-Nuclear Movement

Washington is also pressuring Japan to restart reactors. As we discuss below, Japan has significant stockpiles of plutonium that could be used to make nuclear weapons. If Japan is not using the reprocessed spent fuel in reactors, and doesn't plan to do so, this agreement raises uncomfortable questions that undermine Washington's stance on non-proliferation. The UK and France also want Japan to take back the fuel that they reprocessed and have been storing for it; in June 2013 MOX (mixed oxide fuel that includes plutonium) shipments to Japan from France resumed, for the first time since 3.11.

Inconveniently for the nuclear village, Japan has not suffered blackouts in the absence of its reactors and during the sweltering summers of 2012 and 2013 there have been no restrictions or mandated cuts in electricity usage. What is clear is that Japan's fleet of nuclear reactors is not needed to meet energy demand. But, business lobby groups complain that this has necessitated price hikes, inflicted operating losses on the utilities and threatens the power companies ability to service their massive nuclear plant related debts.

Since all but two of Japan's 50 viable reactors have been shutdown for safety inspections since May 2012, Japan's trade account has plunged into the red. Indeed, the high cost of generating energy due to expensive fuel imports has led to combined annual losses by power companies of $16 bn in FY 2012-13 due to expensive fuel imports. In 2012 LNG imports increased 14.9% and petroleum imports rose 5.3%; overall energy constitutes one third of Japan's total imports in 2012. But in the last year alone, Japan has nearly doubled spending on solar power projects to $20 bn and ramped up renewable energy capacity equivalent to six nuclear reactors, pointing the way to a sustainable and cheaper alternative to nuclear energy. (Bloomberg 5/31/2013)

September 2013 marks another turning point because Japan's two operating reactors will be shut down for regular safety inspections and restarting them, as with the other 48 idled reactors, depends on passing inspections based on safety guidelines introduced in July 2013 we discuss below. But, ongoing snafus with the decommissioning at Fukushima represent a significant hurdle for reactor restarts.

Leaks in All the Wrong Places

The government acknowledges that radioactive water has been leaking continuously since the 3.11 accident (in the aftermath of this cataclysm Tepco released tens of thousands of tons of heavily contaminated, untreated water into the ocean from the Fukushima site), although the level of contamination and cumulative volume of leaks cannot be confirmed. (Reuters 8/7/2013; DeWit 2013b) In January 2013 the media reported that fish

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caught off the coast of Fukushima had extremely high levels of radiation and since then there have been numerous reports about Tepco's bungled water management and failure to anticipate problems such as large volumes of groundwater flowing through the plant site that becomes contaminated as it mixes with water used for cooling. (NYT 4/29/2013) In June, the NRA voiced suspicions about plant leakages causing high radioactive readings in the adjacent ocean, but didn't act. (Asahi 6/26/2013) Subsequently, in July, the NRA stated that Tepco had no option other than releasing the tainted water into the ocean although calling on it to use purification systems to filter out radioactive substances. (Asahi 7/25/2013) Local fishery associations oppose the releases and remain skeptical about assurances that the processed wastewater is safe. They also worry about how these revelations about contaminated groundwater pouring into the ocean will sabotage their efforts to regain consumer trust.



Fukushima's fishermen wonder if they will ever be able to resume their livelihood





Fukushima Daichi site now covered with tanks for storing radioactive water

Tepco has adopted various strategies to store the flood of highly contaminated water and none have worked, and has only belatedly acknowledged that it is overwhelmed by the problem. (Asahi 8/3/2013; 7/23/2013) Contamination remains high because cracks in the reactor buildings and basements remain unrepaired. These areas are dangerous to access because radiation levels remain very high.

The fundamental problem is that large volumes of groundwater flow from inland mountainous areas, passing through the seaside Fukushima facility and thus become contaminated by water being used to cool the reactors and radioactive water that has accumulated in underground trenches before entering the ocean. In late 2011 Tepco and the government

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devised a decommissioning plan that identified the groundwater flow problem, but proceeded on optimistic assumptions that somehow the water would be stored, cleaned and disposed of. Yet again, Tepco relied on wishful thinking and yet again this has proven unwarranted.

Initially, Tepco allowed the water to accumulate in existing underground tunnels, but these concrete structures had cracks and leaked. So Tepco constructed above ground storage tanks, but ran out of capacity. It then hastily dug plastic tarp and clay lined pits to store waste-water, but inexplicably used a fraction of the clay recommended, helping to explain why leaks developed. Then, chemical "walls" of hardened soil were built as a means of stopping groundwater flowing into the sea, but these proved inadequate as the water overflowed the top of these subterranean dykes. The latest proposal is to sink pipes into the ground and freeze the entire area, a method that has been used on a limited basis during subway construction, but will prove expensive to maintain and is untested on such a large scale. (Japan Times 8/9/2013) Meanwhile Tepco has begun to pump toxic groundwater from one of the locations where it is accumulating, but it will take months to initiate pumping at two other critical areas, and eventually isolate them all with walls of liquid glass injected into the soil; the best-case scenario is to solve the problem in two years. Tepco's track record doesn't inspire confidence.

Clearly the Fukushima situation is unprecedented, but Tepco's poor planning and faulty improvisations indicate that it is in well over its head. The NRA and government allowed this disaster to go on way too long and Tepco's dramatic admissions of uncontrolled, massive leaks of radioactive water into the ocean, made just after the July 21st upper house elections, smack of politics and trying to limit the fallout for the ruling LDP. Abe's announcement that the government will help was made only after it became obvious that relying on Tepco was endangering the nuclear village's agenda of returning to business as usual.

Plans are afoot to divide Tepco between its power generating business and its nuclear liabilities. As with bank rescue plans, Tepco would be stripped of its "toxic assets" and left to focus on providing electricity for its thirty million customers. Some taxpayer-funded entity will be left to deal with and pay for the decommissioning and other liabilities. This socialization of liabilities began in July 2012 when the government injected $13 bn and "nationalized" Tepco. This was an odd form of nationalization which left management intact and allowed Tepco to retain autonomy, leaving the government and taxpayers to foot the bills without getting a say in how the entity is run. (Kingston 2012b) We now know this was a serious mistake.

Nuclear Safety?

In 2013 there was a significant regulatory revamp that targets lax safety standards and poor industry oversight as a result of widespread public skepticism about operating nuclear plants in Japan. Madarame Haruki, former head of the now disbanded Nuclear Safety Commission, stunned the nation in February 2012 when he testified in the Diet that government regulatory authorities colluding with the utilities had resisted upgrading safety guidelines to meet stricter international standards, claiming they were unnecessary based on overly optimistic risk assessment. (Kingston 2012a)

In September 2012, Japan's two discredited nuclear regulatory institutions, the Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission (NSC) were disbanded and replaced by the Nuclear Regulation Authority (NRA) with a staff of 480 under the Environment Ministry. But the NRA is more a reorganization than a significant

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reform as 460 of its staff were transferred from NISA and the NSC.[1] NISA was complicit in the utilities' systematically downplaying safety and not adopting stricter international safety guidelines and widespread cover-ups of falsified repair and maintenance records. NISA (and the NSC) was also ineffective during the 3.11 crisis and failed to provide timely and accurate advice to PM Kan Naoto as the crisis spiraled out of control. Precisely because NISA lost its credibility due to a series of revelations about its timid and flawed regulatory record, post-Fukushima it was imperative to establish a credible nuclear watchdog to lessen public distrust and improve operational safety through more robust monitoring. The NRA, however, has a deep hole to climb out of, especially given that it employs many of the same regulators who had been regulating in favor of the regulated and were responsible for lax monitoring and overlooking safety lapses. Can the NRA overcome a culture of regulatory capture, nurture a culture of safety and crack the whip on the powerful utilities?

The new nuclear regulatory safety czar is Tanaka Shunichi, former vice chairman of the Japan Atomic Energy Commission, a key organization that strongly influences government nuclear policy. He also served as president of the Atomic Energy Society, an academic society that advocates nuclear energy. In Diet confirmation hearings in July 2012, Tanaka acknowledged explicitly that he is a member of Japan's so-called "nuclear village" (a range of pro-nuclear advocates in the bureaucracy, Diet, business community, utilities, vendors and lenders), an admission that attracted public criticism, but did not impede his appointment. Tanaka stated he favors decommissioning older reactors (>40 years of operation), testified that he would close the Oi reactors if they are found to be located on active fault lines and said the NRA would get more involved in fault line assessments and not rely on the utilities to probe the matter. (Kyodo 8/2/2012) He has also stated that the NRA's top priority is the safety of reactors, not the operator's bottom line. (Asahi 6/21/2013) But reports that eight of Japan's regional power companies recorded a collective loss of $15.8 billion in FY 2012-13, mostly due to imported carbon fuel costs to offset idled nuclear energy capacity, is a powerful reason why PM Abe has called for restarting reactors that are judged safe. (Asahi July 9, 2013) But, nuclear safety in whose eyes and based on what criteria?

Tanaka is credited with compiling stringent new safety guidelines that came into effect in July 2013, but whether they prove effective in upgrading safety at Japan's nuclear power plants depends on compliance by the power companies and robust NRA oversight. One problem is that new safety upgrades ranging from remote command centers, backup power supplies, higher seawalls and venting filters designed to lessen release of radioactive substances in the event of an emergency focus on hardware. The investigations into the Fukushima accident point out that worker error was extensive and compromised emergency systems; a fundamental problem, since acknowledged by Tepco, is that worker training was grossly inadequate. There have been further revelations about critical staff miscalculations that remind us that "fail safe' systems are an unreliable fantasy. (6/5/2013 Asahi) Deficient training of workers in the use of emergency systems is emblematic of shortcomings in the nuclear industry's safety culture, a problem that the new safety guidelines do not really address. Given the red ink accumulating on the books of the utilities post-3.11, there are concerns that the deeply ingrained habits of cutting corners to cut costs will continue to compromise safety. The NRA's new guidelines and mandated safety upgrades do not mean it can verify that the utilities are enhancing their safety culture and limited human and budgetary resources means that the system continues to depend far too much on voluntary compliance. It is also problematic

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that the utilities are being given a grace period to meet the new standards and are being allowed to apply for reactor restarts based on promises of realizing full compliance; five years in the case of venting filters. Fukushima demonstrates the folly of such wishing risk away and hoping that worst case scenarios don't happen at an awkward time.

There are additional safety concerns. The NRA has sensibly extended the evacuation zone to a radius of 30 km around nuclear plants, but the utilities and towns involved are woefully unprepared for an emergency. It is a reminder that safety guidelines are only as good as compliance and preparation; there are no quick fixes.

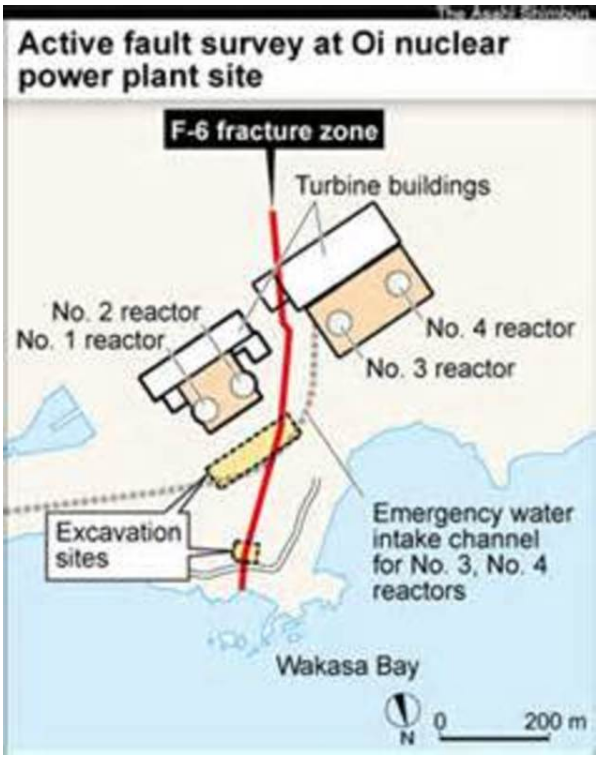
The NRA appointed a team of experts to investigate the safety of the Oi reactors (the only two operating in Japan that were restarted in July 2012 at the behest of PM Noda) beginning in November 2012, including a seismologist who warned of the dangers of an active fault line at the site. Watanabe Mitsuhisa, a geologist, argues that, "The nuclear regulator and power companies have long tried to underestimate (the danger) of active faults, worrying it would affect power supply capacity." He argues that nuclear regulators and power companies have a long history of willfully underestimating the danger posed by active faults near a number of reactors. (Japan Times 11/16/2012) He criticizes nuclear village friendly seismic experts for providing favorable site assessments that typically downplay the risk of massive quakes and tsunami. For example, the world's largest nuclear plant sited at Kashiwazaki-Kariwa in Niigata Prefecture operated by Tepco was jolted by a 6.6 magnitude earthquake in 2007 following repeated utility and regulator assurances that the facility was not located near an active fault-line.

Watanabe now sits on the NRA expert panel investigating seismic faults at six reactors and lends credibility to the NRA precisely because he is not seen to be part of the "go along, get along" mentality that has compromised safety in Japan's cozy nuclear village. However, the investigating panel lacks authority and budget to conduct on-site surveys wherever it believes it is necessary to do so.

The Oi investigation is instructive. In June the NRA allowed the Oi reactors to remain online until their scheduled safety check in September 2013; at that time Japan will yet again have all of its reactors offline. This provisional inspection did not require the Oi reactors to meet the new safety guidelines and only verified that there were no urgent problems. The NRA postponed deciding whether an active seismic fault runs beneath the plant site even though on-site studies indicate the presence of an active fault under a key facility. More worrying is that Kansai Electric, the plant operator, did not fully cooperate with the NRA and dragged its feet on complying with the NRA's request for a seismic simulation. The NRA chided the utility for "trying to find the lowest bar to clear the new safety standards" and warned other utilities that such an approach might delay assessments crucial to determining reactor restarts. (Asahi 6/21/2013)

The NRA has elsewhere determined that an active fault line runs directly beneath the No. 2 reactor building at the Tsuruga Plant and recommends against restarting it. This decision has been challenged by Japan Atomic Power Company and it remains unclear what will happen. But meanwhile the nuclear village is ratcheting up the pressure on the NRA to reconsider its decision; the Asahi calls on the NRA to stand its ground, but the political headwinds are very strong. (Asahi 7/26/2013)

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Fukushima Daichi site now covered with tanks for storing radioactive water

The jury is still out on whether the NRA will nurture a culture of safety in an industry where deceit and cover-up have been standard operating procedures, but the bar is set low for it to improve on the performance of NISA. Given that seven of Japan's ten utilities have actually admitted to falsifying repair and maintenance records on NISA's watch, the NRA's major challenge is ending the laissez-faire approach to safety compliance that has irresponsibly escalated risk. (Kingston 2012b)

Based on the new safety guidelines enacted in July 2013, four utilities have applied to restart ten reactors. All are pressurized-water type reactors, unlike the Fukushima boiling-water type. They have a five-year grace period to install the filtered venting system while the latter type must have the filtered venting system installed at the time of the restart application. The decision about approving restarts of these reactors located in Hokkaido, Fukui, Ehime, Saga and Kagoshima prefectures may be finalized by year's end. Tepco's bid to restart its massive plant in Niigata Prefecture, however, looks far less likely because the governor is opposed and the clean-up and decommissioning at Fukushima has been a public relations nightmare for the utility and a black-eye for nuclear power in general. The Asahi fumed, "we have zero faith in the utility's reliability as an operator of any nuclear power plant." (Asahi 7/31/2013)



Tepco president Hirose Naomi (rt) turned down by Governor of Niigata

Plutonium Club

LDP Secretary General Ishiba Shigeru argues that one reason to restart nuclear reactors is to keep Japan's nuclear weapons option open. Explaining to the media why he opposes scrapping Japan's fleet of 50 reactors, Ishiba says, "Having nuclear plants shows to other nations that Japan can make nuclear weapons." (AP 7/31/2012) He added, that Japan has no plans to make nuclear weapons but believes that it is crucial for Japan to maintain that option. Given its advanced level of technology and prototype inter-continental ballistic missile,

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Gavan McCormack points out that, “No country could match Japan as a potential member of the nuclear weapon club.” (McCormack 2007) He adds, “Protected and privileged within the American embrace, it has evolved into a nuclear-cycle country and plutonium super-power.”



Ishiba Shigeru, LDP Secretary General, wants to keep the nuclear bomb option open

Japan’s ambivalent stance on nuclear weapons means it joins the US in denouncing North Korea and Iran while accepting proliferation in India and Israel. This “client state” approach to nuclear weapons, always following Washington’s lead, drew strong criticism from the Mayor of Nagasaki this year at the ceremony marking the 68th anniversary of the bombing of his city on August 9, 1945.With PM Abe in attendance, Mayor Taue Tomihisa termed Japan’s refusal to sign a UN pledge to never use nuclear weapons in April 2013 a betrayal. Earlier that week Abe defended his decision while simultaneously referring to Japan’s lofty responsibility to realize a nuclear free world. He justified the apparent contradiction by referring to the nuclear threat posed by North Korea, but the Mayor castigated this logic, saying that it is a de facto acceptance of the use of nuclear weapons, an anathema to many citizens in the only country to have been a victim of atomic bombings. (Independent 8/9/2013)

Kageyama Yuri reports that Japan has, “45 tons of separated plutonium, enough for several Nagasaki-type bombs. Its overall plutonium stockpile of more than 150 tons is one of the world's largest, although much smaller than those of the U.S., Russia or Great Britain. Tokyo Gov. Ishihara Shintaro, an outspoken conservative, has repeatedly said Japan should flaunt the bomb option to gain diplomatic clout. Prime Minister Abe has expressed similar sentiments, although in more subdued terms.” (AP 7/31/2012)

It is this stockpile of plutonium that explains why Washington has pressured Tokyo to stay the course on nuclear energy. (Trento 2012) Last September the Tokyo Shimbun, echoed by other Japanese media, reported that the US government demanded that no cabinet decision endorsing a phasing out zero option be made. (Tokyo Shimbun 9/22/2012) At a METI sponsored conference last autumn, an American speaker stressed that any such decision would have a very adverse impact on US relations. It would mean that Japan has no reactors to use the plutonium fuel and thus the US might have to retract permission to reprocess spent nuclear fuel sourced in the US. There are regional implications as well; South Korea lobbied vigorously this year for permission to enrich uranium and reprocess nuclear fuel in order to lower costs and better position its industry for reactor exports. Washington postponed deciding on Seoul’s request.

The Wall Street Journal reports that, “Tatsujiro

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Suzuki, vice chairman of the Japan Atomic Energy Commission, met in April in Washington with Obama administration officials, and paraphrased what he said was their message: 'Allowing Japan to acquire large amounts of plutonium without clear prospects for a plutonium-use plan is a bad example for the rest of the world.' The State Department said the U.S. wasn't advising Japan on whether to rely on nuclear energy in the future." (WSJ 5/1/2013)

Energy Reforms and Nuclear Power

Abe is hardly a green warrior, but ongoing developments are hamstringing his ability to push his nuclear agenda. Andrew DeWit (2013a), in reference to the three arrows of Abenomics, argues, " the most significant obstacle to a green agenda is the shooter himself. Abe is far more keen …to hawk nuclear reactors in his frantic overseas salesman efforts and is generally uninterested in talking about Japan's burgeoning green growth. So scarcely a word passed Abe's lips about the multiple pages of green content of the third arrow as well as the extensive deployment of core enabling technologies (such as smart grids) supported by the first two arrows. Abe simply lacks a green vocabulary, even though he is surrounded by green-growth advocacy in his own party." But even if he is at a loss for words, could new green facts on the ground influence energy policy against nuclear power?

Agreeing with DeWit, Daniel Aldrich, et al. point out, "power sector reforms, renewable energy development, and uncertainty over plutonium use may dampen the LDP's ability to push an overly pronuclear energy policy. (Aldrich, Platte and Sklarew 2013)

They note that pending deregulation measures involving three-stage regulatory reforms in the energy sector may eventually separate generation, transmission and distribution and thereby promote competition and lower prices. These proposed reforms represent, "a threat to nuclear power development, since competition among service providers could encourage shifts toward supply sources with cheaper startup costs." It is precisely because nuclear power is not cheap and not as safe and reliable as advocates assert, that it represents a misallocation of resources.[2] Even the once pro-nuclear Economist has looked into the numbers and declared that it is not commercially viable. (Economist, Special Report on Nuclear Energy, March 10, 2012)

Aldrich et al. cite quickly increasing renewable energy capacity and the desire to promote disaster resilience as undermining the case for reactor restarts. Instead of concentrating energy generating capacity in large complexes that render users vulnerable to cascading crisis, renewable energy promotes local energy supply stability. They conclude that, "The government will face continued pressure from large industrial users to restart nuclear reactors, but anti-nuclear voices in the public and media will continue calls to reduce reliance on nuclear power and end the MOX and reprocessing programs." (Aldrich, Platte and Sklarew 2013)

Perhaps Japan's surprisingly robust acceleration of renewable energy capacity may hinder the nuclear village's agenda of reactor restarts, but the commander in the control room is pro-nuclear Abe and he is fully committed to revving up the nuclear industry for what he sees as many compelling reasons elucidated above. And, his party ran on an explicitly pro-nuclear platform. Indeed, even the anti-nuclear Asahi conceded that, "election victory will likely further accelerate moves toward restarting Japan's idle nuclear reactors while dashing hopes for the movement to make the country nuclear-free." (Asahi 7/22/2013) Tepco's problems in managing contaminated water have bolstered the anti-nuclear movement, and raised fresh questions about the safe operation of nuclear plants in Japan. But Abe's intervention shows a determination

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to accelerate reactor restarts and he will probably prevail.

Getting some restarts approved by early 2014 is a top priority for Team Abe, and if they manage to do so, its hard to imagine that the compelling logic of the green revolution will trump the hard-nosed institutional interests and power of the nuclear village. Abe has signaled that national energy policy is in flux, and kicked the can down the road for a decade on a nuclear power target; this non-decision favors the nuclear village because it provides time for settling back into familiar policy ruts. This is not to disregard the importance of grassroots developments and sensible local promotion of renewable energy, but rather reflects the nature of power politics and the key of central government backing and resources. At the end of August 2012, the revival of nuclear energy may have seemed an unlikely scenario due to public opinion polls and hundreds of thousands of anti-nuclear demonstrators taking to the streets, but since then the DPJ failed to approve a cabinet endorsement for phasing out nuclear energy, caving into pressure from the nuclear village and Washington. (Kingston 2012c) And now the LDP, a pillar of the LDP, is back in the driver's seat, controlling both houses of the Diet. The prospects of nuclear revanchism look remarkably strong in spite of the fact that the nuclear crisis lingers.



Looking Safe?

Conclusion

Why has Fukushima not been a game changing event? The institutions of Japan's nuclear village (principally the utilities, bureaucracy and Diet) enjoy considerable advantages in terms of energy policymaking and have enormous investments at stake. The nuclear village has openly lobbied the government and actively promoted its case in the media while also working the corridors of power and backrooms where energy policy is decided. Here the nuclear village enjoys tremendous advantages that explain why it has prevailed over public opinion concerning national energy policy. Its relatively successful damage control is an object lesson in power politics. To some extent the lessons of Fukushima are not being ignored as the utilities are belatedly enacting safety measures that should already have been in place, and renewable energy capacity is increasing rapidly, but a nuclear-free Japan by 2030 increasingly seems unlikely. If the NRA approves all the applications for reactor restarts filed in July 2013, they could provide 10% of Japan's electricity generating capacity and that could provide momentum for further restarts.

The politics of nuclear power, especially under the LDP, means that the risks are being downplayed while Team Abe touts nuclear energy as the best and most cost-effective option. Indeed, the constant drum-beat about fuel import induced trade deficits and mounting power company losses, makes it seem as if restarting nuclear reactors is the only reasonable choice. And even if the public remains skeptical about nuclear safety, Team Abe's Environment Ministry has "eliminated" nuclear risks by deleting mention of them from its 2013 White Paper. While the 2012 White Paper terms radioactive contamination the "biggest environmental issue", a year later this risk has vanished. (Asahi 6/4/2013) If only it were so easy.

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Furthermore, the power network promoting nuclear energy is not planning to go out of business at home or overseas. Indeed, PM Abe has played a prominent role in promoting reactor exports as his government sees significant market opportunities in exporting nuclear power plants precisely because Japan is at the nexus of the global nuclear industrial complex.

While the large demonstrations and signs of a more robust civil society in 2012 undermined stereotypes of Japanese deference to authority and sparked a degree of euphoria about the prospects of phasing out nuclear energy, it is important to bear in mind the huge obstacles. The key is that the nuclear village retains veto power over national energy policy and citizens will not get to decide the outcome even if an overwhelming majority support phasing out nuclear energy. In addition, Washington is leaning on the Japanese government to not pull the plug on nuclear energy. So DeWit (2013a, 2013b) is right about Japan's burgeoning green revolution creating compelling facts on the ground, but this it is not an either/or choice; ramping up renewable energy doesn't preclude restarting reactors. The utilities want to replace fuel imports with nuclear power to stem losses and recoup their massive investment. However, by ignoring many of the lessons of Fukushima, and fast tracking restarts even as the nuclear crisis lingers, the government and utilities continue to downplay risk, leaving Japan vulnerable to another nuclear accident.

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Recommended citation: Jeff Kingston, "Abe's Nuclear Energy Policy and Japan's Future," The Asia-Pacific Journal, Vol. 11, Issue 34, No. 1, August 19, 2013.

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Notes

[1] NISA had been part of the Ministry of Economy, Trade and Industry, creating an inherent conflict of interest as the nuclear monitoring agency was operating from within the ministry promoting nuclear energy.

[2] The costs of the Fukushima accident are massive, approaching $100 bn, and will rise over the next four decades during decommissioning. The sticker price of nuclear energy does not include such costs and ignores the costs of dealing with spent fuel and nuclear waste.

https://doi.org/10.1017/S1557466013034554 Published online by Cambridge University Press