The 'Bright Future' of Japan's Nuclear Industry日本原子力産業の「明るい将来」

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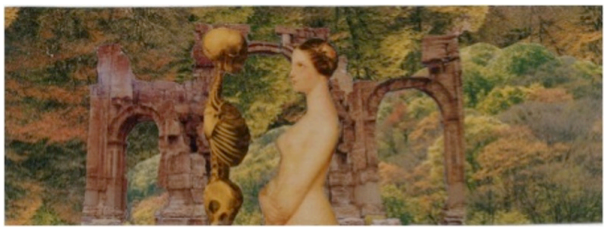
While the media are rushing to announce the "full stop" of Japan's nuclear power production 2039, little attention has been paid to two much less publicized moves. The first is the restarting of Japan's nuclear export industry, especially its targeting of former colonial areas in South East Asia. The second is even more discreet. It is the revision of the Atomic Energy Basic Law loosening constraints on weapons development and breaking the long-standing pledge that nuclear technology be used exclusively for peaceful ends. The amendment may be related to the apparently contradictory announcement that the Japanese government will stop nuclear production but continue to reprocess spent fuel. We propose to analyse both of these recent developments.

In the face of global decline of nuclear power and the crisis of the nuclear power industry, Arnaud Montebourg, the French minister of Industrial Recovery (and nuclear recovery) recently explained to the media (/admin/site_manage/details/nete:2012:08:27:le-nucleaire-filiere-davenir-et-autres-sujets-qui-fachent-ecolos-et) that "the nuclear industryhas a bright future". On September 17th (http://www.lemonde.fr/planete/article/2012/09/17/pas-d-abandon-du-nucleaire-et-du-gaz-de-schiste-selon-arnaud-montebourg_1761438_3244.html), Montebourg declared that "the nuclear industry is not abandoned." Rather, "on the contrary, we are building the European Pressurized Reactor in Flamanville, and will export this technology to foreign countries."

For his part Denis Baupin, vice-president of the Green Party (EELV) in the Deputy Chamber denounced "a profession of faith out of step with reality" since "everywhere in the world, on the contrary, nuclear activities are in decline." It is a decline confirmed by the "German decision to quit, as in Belgium, in Italy, and the de facto withdrawal in Japan, as well as the calling into question of the Chinese nuclear program and that of the United States."

There are signs that the assessment of the nuclear situation in Japan, after the Fukushima disaster, might prove the French ecologist's analysis to be premature.



(Tempting) the impossible, 2011 collage of Nadine Ribault.

A very radioactive diplomacy

On July 8th, anticipating Montebourg's nuclearist statements, French Foreign Minister, Laurent Fabius, who was at the origin of the creation of the AREVA company – supplier of the MOX used in the Fukushima Daiichi No. 3 reactor – and administrator with Anne Lauvergeon – former president of the same company – of the Institut François Mitterrand, met his Japanese counterpart Gemba Koichiro. They announced a five-year bilateral project (http://www.lesechos.fr/economie-politique/monde/actu/0202162974635-a-tokyo-laurent-

fabius-plaide-pour-relancer-la-cooperation-dans-le-nucleaire-342370.php) between France and Japan which could be signed next year. Among the main fields of cooperation mentioned by the French minister are "the environment and energy, particularly nuclear."

Fabius and Gemba had already met before on May 20, 2012, during the NATO summit in Chicago (http://www.fr.emb-japan.go.jp/actualite/2012/rencontre_ministres_affaires_etrangeres.html), where they exchanged views about the "high technological level" of Japan and France, signalling the possibility that the two countries would develop cooperation in the energy field, particularly in nuclear energy.

While negotiations between Mitsubishi and AREVA, initiated by Anne Lauvergeon in 2009 and resulting in Mitsubishi's acquisition of 3% of AREVA's capital, have been "frozen (http://www.yomiuri.co.jp/dy/business/T110816005741.htm)" since August 2011, it may be anticipated that this relationship will also deepen.

On the Japanese side, Edano Yukio, Minister of Economy, Trade and Industry, declared on August 16th in Hanoi (http://ajw.asahi.com/article/economy/business/AJ201208150083), after signing an agreement between Japan and Vietnam:

"Drawing on lessons from the Fukushima nuclear accident, we want to help (Vietnam) build nuclear power plants with the highest level of safety". "Bearing in mind lessons from the accident at the Fukushima No. 1 plant, we'd like to promote this collaborative effort by sharing our experiences with your country," continued Edano (http://www.yomiuri.co.jp/dy/business/T120815003434.htm). [See also Kimura Sato, Japanese Nuclear Power Generation Comes to a Vietnamese Village http://japanfocus.org/-Kimura-Satoru/3824 With this alchemy, Japan's nuclear disaster is turned into an asset to assure the Vietnamese purchaser of Japan's technical expertise.

Prime Minister Nguyen Tan Dung (right)and Japanese Minister of Economy, Trade and Industry Edano Yukio in Hanoi.

Japan's share in the growing Vietnamese nuclear market is projected to grow: 10 reactors are planned before 2030, and the International Atomic Energy Association (IAEA) estimates that the number of 1GW reactors worldwide will grow from 130 to 170 by 2030.

The former president of the Japan Agency for International Cooperation (JAICA), Ogata Sadako http://ajw.asahi.com/article/economy/business/AJ201208150083, alone in policy circles and the major media, strongly reacted by posing the crucial question about Japanese nuclear plant exports: "Should (Japan's government) send them overseas when it cannot manage them itself?"

Nuclear power in exchange for nurses

According to the Yomiuri (http://www.yomiuri.co.jp/dy/business/T120815003434.htm) newspaper, "the government, which has been helping Vietnam and 10 other emerging nations to nurture human resources by

accepting their trainees, is expected to continue its efforts on both "tangible" and "intangible" aspects to win more orders to build nuclear plants." In short, within the framework of bilateral "free-exchange agreements" with the Philippines and Indonesia, and now with Vietnam, all three being former Japanese colonies during the Asia-Pacific War, Japan invites those countries to provide labor for Japan's nursing and elderly care service sectors, in tacit exchange for Japanese access to their nuclear and other markets..

In the Philippines, Japanese plant builders are pushing to rehabilitate the old Bataan nuclear plant built in the '70s by Westinghouse in a highly seismic zone near Mount Pinatubo. On March 3, 2011, Japan signed an agreement with Indonesia for a feasibility study for the construction of two reactors on the Bangka Belitung islands, on the East coast of Sumatra. Bangka Belitung is in the "moderate" risk zone for earthquakes, a level equivalent to the level comparable to the Fukushima region.

In an agreement with Vietnam signed in April, 2011, one objective is the construction of the first part of the Ninh Thuan site, located in a costal region particularly susceptible to floods, typhoons and tsunami with a previously recorded high of 18 meters.

Seeking to reassure the public, on April 9, 2011, the then Minister of Foreign Affairs Matsumoto Takeaki, while presiding over a meeting of ASEAN countries and Japan in Jakarta, insisted that the Japan International Nuclear Energy Development (JINED) consortium, which includes nine electricity providers, three nuclear plant constructors and the State, would supply its partners the most secure nuclear plants.

TEPCO, the virtually bankrupt owner of the disabled Fukushima plants, owns 20% of JINED, making it the biggest shareholder. The president of the consortium, Takekuro Ichiro, is vice-president of TEPCO, where he has worked since 1969.

Bataan Nuclear Power Plant

The experience of the disaster becomes an advertising claim

On-going negotiations with India, South Africa, Brazil and Mexico since 2011 aside, the following plans for Japanese nuclear plant construction abroad can be noted:

- in Lithuania in June Hitachi signed an agreement to build a plant in cooperation with General Electric of the US;
- in Turkey Toshiba is negotiating to build a plant in competition with Korean firms; Toshiba previously delivered four reactors to China via its American subsidiary Westinghouse, in which it owns a 67% share;
- in the US a Toshiba subsidiary received the green light last February to deliver a plant, which will be the first new nuclear plant in this country in 34 years. In November 2011, the American Nuclear Regulatory Commission approved construction and operation of the reactors built by Westinghouse, a Toshiba subsidiary;
- in Jordan, Mitsubishi Heavy Industries is anticipating an order to build a plant; the firm was selected with AREVA, in a consortium called ATMEA, to build the first 100 megawatt plant equipped with the

new generation reactor ATMEA 1 (http://www.mhie.com/fr/press/%7E706769643d313539.aspx), "a technology with the highest level of security among the third generation reactors" according to Philippe Namy, president of ATMEA;

- in Vietnam, where several firms won agreement in principle to build a number of plants. Vietnam with a population of 88 million plans to have four reactors in operation before 2021. Japan and Russia are sharing this first stage of the market.

As the Asahi (http://ajw.asahi.com/article/economy/business/AJ201208150083) newspaper observes, "the Japanese government has turned management of the Fukushima disaster into a sales pitch." Indeed, the agreement with Vietnam declares, "It is a duty (for Japan) to share worldwide the experiences and lessons of the nuclear accident at the Fukushima plant."

Despite criticisms of the compensation plan following the Fukushima disaster (slow and complex procedures, late and insufficient payments to victims), and despite the widely recognized weaknesses of the 1961 law on damage compensation in case of nuclear accidents acknowledged by minister Edano last July, Japan is offering Vietnam a damage compensation plan in the event that a nuclear accident occurs in that country.

Japanese Expertise

Besides constructing nuclear power plants, Japan is offering to provide information and know-how on defining nuclear damage to be covered under the envisaged system, to define the maximum compensation payment amounts, and to train personnel to administer the compensation system. Private insurers such as Tokyo Marine Holding Inc. will also be asked to create new insurance instruments adapted to provide compensation in the event of nuclear catastrophe.

According to the Yomiuri newspaper, long a promoter of the nuclear industry, "Japan is being put to the test over whether it can utilize the lessons of the nuclear crisis and its advanced technology."

In the wake of Fukushima, with numerous unresolved problems, the plans of Japan's nuclear complex of government and industry seem boundless, and the industry projects a bright future in export markets.

Whether the State was or was not able to "manage the damage" effectively no longer appears to matter. It derives credibility from the very fact of having experienced and responded to the catastrophe. Thus the State can export to other countries a nuclear package with convincing virtues: construction of plants with after sale service including "damage management" and "experience of catastrophe".

What is expected today from Japan is that it will share the fruits and learn from "experience" – since now it is the disaster which makes the man and not the man who makes the disaster. Such "experience" is projected as the breeding ground for the future and the Japanese people are expected to see in it the best of reasons to apply the same methods that made of Japan the great economic power she became after the war. A bright "future" indeed, and one with particularly promising horizons abroad.

A hasty but decisive vote

According to the Yomiuri newspaper of September 14th, the government is considering plans to continue its nuclear fuel reprocessing program, plutonium extraction and MOX producing activities, despite the patent contradiction between such plans and the announcement that it will stop nuclear power before 2039. However, the question that was not asked by the Yomiuri, but that is critical to ask is whether Japan envisages using its reprocessing

facilities for non-civil purposes. (See Andrew DeWit, **Japan's Energy Policy at a Crossroads: A Renewable Energy Future?** http://www.japanfocus.org/-Andrew-DeWit/3831)

In Japan, article 2 of the Atomic Energy Basic Law of 1955, the year of the foundation of the long-ruling Liberal Democratic Party, stipulates that " research into and use of atomic power are restricted to peaceful purposes, championing democratic, independent and public disclosure principles."

However, a hardly debated amendment adopted by the Diet on June 20, 2012 with the support of the LDP, DPJ and New Komeito, specifies that "the nuclear energy policy of Japan has to contribute to national security." Is the development of a nuclear arsenal the true ultimate objective of such an amendment? To that question posed by a DPJ Diet member, an LDP deputy and member of the committee of 17 experts which prepared the legislation, replied: "The purpose is to centralize the safety of nuclear power safeguards by the International Atomic Energy Agency to prevent the military use of nuclear materials, and nuclear security to prevent terrorism into one commission."

Such an explanation does not satisfy Konuma (http://ajw.asahi.com/article/behind_news/politics/AJ201208170063) Michiji (see here (http://ajw.asahi.com/article/behind_news/politics/AJ201208170063)), professor of physics at Keio University, who considers the introduction of the notion of national security as being in contradiction with the clause proclaiming the peaceful use provision of atomic power. Rather, he suggests, the clause "fills a hole in Japan's constitution, which permits self-defense with weapons that remain unspecified" so that, from now on, nuclear weapons can be used to defend national security.

Coinciding with the recent announcement of the government to stop nuclear power production by 2039, Prime Minister Noda sent two special advisers to Washington to "explain the new policy". A recent poll (http://mainichi.jp/english/english/newsselect/news/20120915p2a00m0na017000c.html) by the Mainichi newspaper finds that 56% of respondents hold the view that Article 9 of the Constitution, which renounces war as a means to settle international disputes and bans Japan from possessing any war potential, needs to be revised. Three years earlier, 48% expressed that view. Such a development in the context of high tensions between Japan and her Chinese and Korean neighbours does not bode well for the peaceful resolution of disputes in the region.

From reprocessing to "nuclear sovereignty"

According to a bureaucrat (http://mainichi.jp/english/english/perspectives/news/20120626p2a00m0na004000c.html) interviewed by the Mainichi, the aim of the amendment could be to guarantee the legitimacy of the nuclear waste storage, reprocessing, plutonium extraction and MOX-producing activities of the Rokkasho site located in Northern Japan. This reprocessing chain (http://archives.lesechos.fr/archives/2012/LesEchos/21190-039-ECH.htm) jointly built in 1993 with the French company AREVA, has never functioned and its storage capacity of used fuel is now almost saturated: 2834 tons (http://enformable.com/2012/03/post-fukushima-japan-resumes-work-on-nuclear-fuel-facility-in-aomori-prefeture/) of used fuel are now stored in the pools of the plant, fully 90% of its storage capacity.

Aerial view of Rokkasho

If the government carries out its plan to end nuclear power, the use of Rokkasho for military reprocessing purposes would guarantee its continuity and would avoid having to make the existence of this 20 trillion yen jewel meaningless as well as avoiding the supplementary dismantling cost of the site estimated at 80 trillion yen. This is especially the case in a context of a sharp fall in the demand for plutonium used in fast breeder reactors (Japan's Monju fast breeder reactor suffered a series of accidents and never produced a single watt of electricity in 20 years) as well as of demand for MOX in conventional reactors.

Japan holds now 157 tons of plutonium (http://fissilematerials.org/), of which 100 tons are on the plant sites. The other 60 tons have been transported to reprocessing plants and 45 tons have been separated (of these, 35 tons are stored in France and in the UK), enough to make 5000 nuclear heads.

"**The right to reprocess is a question of life and death**"

Can we consider the vote to amend the Atomic Energy Basic Law a step toward normalization of Japan's military nuclearization, which was, de facto, already under way?

The issue is not the technical ability of Japan to build a nuclear weapon in a short period of time, but rather the legal right and the intention to pursue such possibility. In other words, taking the opportunity of restructurating its Nuclear Regulatory Commission in the wake of the Fukushima nuclear disaster, Japan may be paving the way to unveil a legal framework to fulfill nuclear weapons ambitions. The next step could be an amendment of Article 9. Such a move would be consistent with the expanded military role the US appears to envision Japan playing in Asia at a time of rising Chinese military power. It would also surely provoke South Korea to seek to move to fulfill its own nuclear weapons ambitions.

The full use of the reprocessing capacity of the Rokkasho plant would allow Japan to produce a quantity of 8 tons of separated plutonium, sufficient for making 1000 atomic bombs. By bringing "national security"considerations within the scope of its nuclear energy policy, the June 20, 2012 amendment to the Atomic Energy Basic Law opens the door to such an outcome.

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They are authors of: Les sanctuaires de l'abîme – Chronique du désastre de Fukushima (http://www.amazon.fr/dp/2910386406?tag=theasipacjo0b-20) published by les Editions de l'Encyclopédie des Nuisances, Paris, 2012.

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