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2011: 13 REACTORS CLOSED; 6 CONNECTED TO THE GRID

It's rather obvious 2011 was not a good year for nuclear power. The number of operating reactors fell from 441 at the beginning of 2011 to 435 in early 2012 (with a total net installed capacity of 368.249 GW), representing a decrease in installed nuclear capacity of around 10 GW or 3%. Construction starts fell from 15 in 2010 to just two in 2011.

(740.6211) WISE Amsterdam – If it isn't a good year for nuclear power it isn't a good year for the nuclear industry either. For example, as published in the last 2011 issue, French nuclear giant Areva is in big financial trouble and in September Siemens decided to quit the nuclear business. The number of companies pulling out continues to grow. U.S.-based engineering firm The Shaw Group announced it would sell its 20% stake in the nuclear company Westinghouse back to partner Toshiba, and in late September, UK company Scottish and Southern Energy (SSE) also said it will pull out of a joint venture with France's GDF Suez and Spain's Iberdrola to build a new nuclear power plant in northwest England.

The uranium mining industry has a tough time too; uranium prices were already sreadily sliding down before Fukushima. In 2011, uranium prices continued to plummet, with no rise in sight for the coming year. Uranium companies' share prices plummeted over the year: Energy Resources of Australia (ERA) shares fell by 82.1%, Cameco by 50%, Uranium One by 45%, Paladin 70%.

In 2011, six new reactors (3977 MW) were connected to the grid, but over double that were closed (13, with a total capacity of 11,358 MW), most as a direct response to the Fukushima accident in March. Construction started on just two new reactors in 2011.

As in the past few years, the new reactors coming online were primarily in Asia: Kaiga 4 (India) Chasnupp 2 (Pakistan), Ling Ao 4 and Qinshan 2-4 (China), Kalinin 4 (Russia) and Bushehr 1 (Iran).

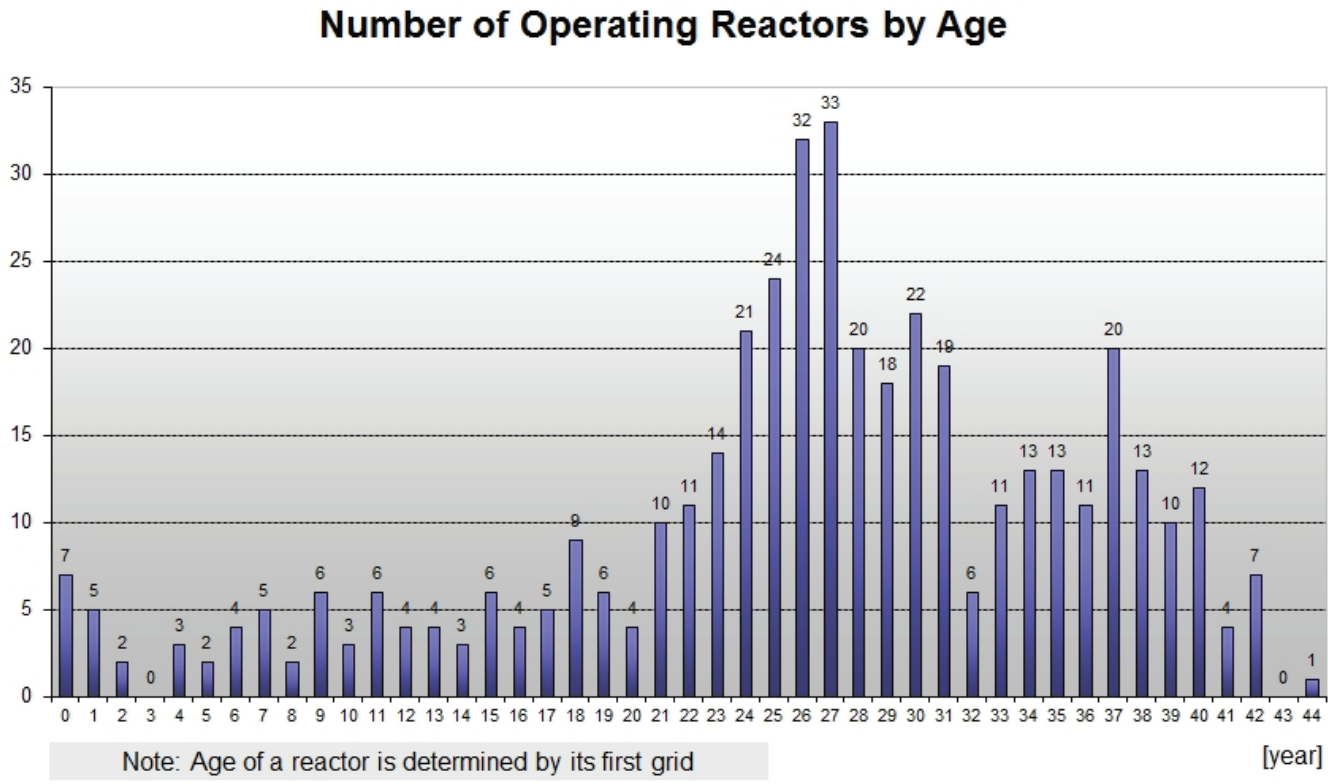
In the summer of 2011, Chasnupp 3, a 315 MW pressurized water reactor in Pakistan and Rajasthan 7 in a 630 MW heavy water reactor in India both started construction. The fall from construction starts in double figures over the last three years is largely a result of Fukushima. (Ten, 11 and 15 reactors began construction in 2008, 2009 and 2010, respectively, compared with just two in 2011.

The UK magnox reactor Oldbury A2 was permanently shut down on 30 June, after over four decades of operation. Oldbury 1 remains in operation but is now scheduled for closure in February 2012, 45 years after its first criticality.

Eight reactors were shuttered in Germany as a result of the political fallout from Fukushima: Biblis A&B, Neckar 1, Brunsbuettel 1, Isar 1, Kruemmel, Phillipsburg 1 and Unterweser. Units 1-4 at Fukushima were also officially closed on May 20, 2011.

Despite the decrease in new construction and the thirteen reactors closed in 2011 the International Atomic Energy Agency (IAEA) predicts the number of operating reactors to increase by 90 (low case) and 350 (high case) by 2030. According to the IAEA most of this growth is expected to occur in countries that already have operating nuclear power plants, especially in India and China.

MONITORED THIS ISSUE:



Nuclear power provided about 13.5 percent of world electricity in 2009. According to the IAEA, electricity demand is increasing twice as quickly as energy use and is likely to rise 76 percent by 2030.

In marked contrast to 2009-2010 with 18 reactors starting construction, no new nuclear construction began in China in 2011. Construction had been scheduled to begin on at least three new Chinese units during the year but the government suspended approvals for new nuclear projects in the wake of Fukushima and this remains the case, however construction continues on over 20 reactors including Westinghouse AP1000 and Areva EPR designs. Countries including Poland, Belarus and Saudi Arabia are gearing up for nuclear new built and work progresses in the UAE where the first APR1400 is due to start construction later this year.

Sources: Power, 1 November 2011 / Nuclear Engineering International, 3 January 2012 / IAEA PRIS website, January 2012 / World Nuclear News, 3 January 2012 / www.antinuclear.net, 3 January 2012
Contact: WISE Amsterdam

DOOMSDAY CLOCK MOVES ONE MINUTE CLOSER TO MIDNIGHT

Faced with inadequate progress on nuclear weapons reduction and proliferation, and continuing inaction on climate change, or find safe and sustainable sources of energy - as exemplified by the Fukushima nuclear disaster, the Bulletin of the Atomic Scientists (BAS) announced on January 10 that it has moved the hands of its famous "Doomsday Clock" to five minutes to midnight. The rare bright points the scientists noted were the Arab spring and movement in Russia for greater democracy.

(740.6212) WISE Amsterdam - The clock, maintained by the Bulletin of Atomic Scientists, has been gauging our proximity to global disaster since 1947, using the potent image of a clock counting down the minutes to destruction.

The scientists also noted how Republicans seeking the nomination for presidential candidate, were trying to outdo each other in denying climate science. Their greatest disappointment, however, was the failure of international leaders to rid the world of nuclear weapons, exemplified by what they called "ambiguity about Iran's nuclear power program." Even when Russia and America ratified a new nuclear treaty in 2010, there were still nearly 20,000 nuclear weapons in the world. They warned that the Fukushima meltdown once more exposed the dangers of nuclear power - not just because of technology but because of management failures. After Fukushima, governments also need to think far more carefully about siting nuclear power plants. The stricken

plant was too close to the coast and in a seismically active region. "A major question needs to be addressed: "How can complex systems like nuclear power stations be made less susceptible to accidents and errors in judgment," the scientists said in their statement.

On climate change, the scientists warned the global community may be reaching a point of no-return unless there is a push to begin building alternatives to carbon-heavy technologies within the next five years. The Fukushima disaster, the painfully slow pace of the UN's international climate negotiations, and the growing hostility to science punctured the optimism of earlier pronouncements from the Bulletin scientists.

In 2010, the scientists set the clock back from five minutes to six minutes to midnight, amid hopes that the international community was prepared to act on nuclear weapons and climate change. "We all had a sense when we moved the clock in 2010 that we might have a breakthrough," said Kennette Benedict, executive director of the bulletin. "Today there was a real sense that we really need new thinking and we don't have new thinking."

Sources: Bulletin of The Atomic Scientists, press release, 10 January 2012 / Guardian (UK), 10 January 2012
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US: INDIAN POINT ORDERED BY NRC TO ANALYSE ACCIDENT MIGITATION MEASURES

The United States' Nuclear Regulatory Commission has rejected a bid by Entergy, owner and operator of the Indian Point nuclear power plant on the Hudson River 35 miles from midtown Manhattan, to reverse an order to complete legally-required analyses of the facility's severe accident mitigation measures before it can be relicensed.

(740.6213) WISE Amsterdam - In the context of Indian Point's relicensing, the New York Attorney General's office argued that the NRC has the obligation to require Entergy to complete analyses of cost-beneficial measures, or to require that the measures be adopted - consistent with NRC's own regulations, as well as those of the National Environmental Policy Act and the Administrative Procedure Act. On July 15 2011, the Atomic Safety and Licensing Board issued a decision, agreeing with the attorney general that Indian Point cannot be relicensed without completing the legally-required analyses of its severe accident mitigation measures. Now, in a December 2011 ruling, the NRC rejected the bid by Entergy to reverse the order to complete legally-required analyses of the facility's severe accident mitigation measures before it can be relicensed.

"It is a significant victory that the Nuclear Regulatory Commission firmly rejected an effort by Indian Point's owner to reverse a landmark federal ruling, won by my office, that the facility cannot be relicensed until legally-required analyses of its ability to control severe accidents are completed," attorney general Schneiderman's said on December 22, announcing the ruling.

The Indian Point nuclear plants are located in Buchanan, New York, approximately 35 miles north of midtown Manhattan. It is situated in the most densely populated region of any U.S. nuclear plant. The site has two nuclear reactors that supply power to Con Edison, which serves New York City and Westchester County. The reactors generate enough electricity to supply some two million homes. A third reactor at the site was retired in 1974.

Entergy is seeking to relicense Indian Point for another 20 years.

Current evacuation and mitigation plans cover only the area within a 10-mile radius of a nuclear reactor, which, in many cases, may not be adequate. In Japan, high contamination levels were recorded far beyond 10 miles from the Fukushima Daiichi plant and the NRC recommended that U.S. citizens evacuate a 50-mile radius of the damaged facility.

The 2010 U.S. population within 50 miles of Indian Point was 17.2 million, an increase of just over five percent since 2000. As part of the relicensing proceeding, nuclear power plants are required to identify the environmental impacts that could be caused by a severe accident and provide analyses of measures that facilities could take to protect the public if one were to occur.

The measures include improvements in equipment, training or procedures. In its environmental review, Entergy identified 20 such measures at Indian Point Units 2 and 3, including flood protection and auxiliary power improvements.

However, the NRC did not require Entergy to complete analyses of those measures, or to require that the measures be adopted, thereby violating NRC's own regulations, as well as those of two laws. Despite an obligation to conduct a full review, both Entergy and the NRC sought to limit the severe accident analyses to a narrow set of components.

Now, Schneiderman says, the Nuclear Regulatory Commission must require Indian Point's owner, Entergy, to either adopt cost-effective upgrades that would improve responses and control the impact of a severe accident, or provide a compelling reason why it will not do so.

In February 2011, Schneiderman sued the NRC for authorizing the storage of radioactive waste at nuclear power facilities for at least 60 years after they close, without first conducting the necessary environmental, public health and safety studies.

Source: Sierra Club, Sierra Atlantic, Fall 2011 / Environmental News Service, 4 January 2012
Contact: NIRS

URANIUM MINING ISSUES: 2011 REVIEW

For the fourteenth consecutive year, the Nuclear Monitor is proud to publish the annual Uranium Mining Issues Review. The reviews are compiled by Peter Diehl from the WISE Uranium Project. First published in the last issue of 1998 it gives an in-depth overview of developments regarding all aspects of uranium mining: mines, exploration, environmental issues, indigenous people, production and so on.

(740.6214) WISE Uranium Project -
At the beginning of the year 2011, the weekly uranium spot price, as published by Ux Consulting (UxC), continued the increase it had begun in mid-2010, starting from US$ 62.50 per lb U3O8 at year end 2010, until reaching a high of US$ 73.00 on January 31. As of March 7, it had declined again to US$ 66.50. After the Fukushima disaster in Japan (March 11), the price declined further, reaching a low of US$ 49.00 on August 29. It then remained in the US$ 51-55 range, with US$ $51.75 at year-end.

The monthly industry average price for long-term contracts, as published by Cameco, first jumped from US$ 66.00 in December 2010 to 71.50 in January 2011, but then continuously declined to US$ 62.50 per lb U3O8 (in November, as the December-value was not yet available at the time of writing).

Impacts of the Fukushima accident in Japan and the subsequent nuclear phase-out announcements of several countries:
- Cameco expects a 8% reduction in global uranium consumption in 2011 as a result of the Fukushima accident,
- Ux Consulting (UxC) cut the 2020 nuclear expectations by 10% after the Fukushima accident,
- in October, Kazakhstan ended its rise in uranium production to stabilize prices,
- the low uranium price contributed to the suspension of several uranium mine development projects, many of which are based on a uranium price of US$ 60 per lb U3O8, or higher (see below)

URANIUM EXPLORATION PROJECTS

Moratoria/Bans (establishing/extending/keeping):
- In Canada, the province of British Columbia paid a company CDN$ 30 million for the surrender of its Blizzard deposit claim, pre-existing to the province's anti-uranium policy.
- The U.S. Department of Interior plans to ban mining claims near the Grand Canyon (Arizona) for 20 years. The ban hasn't been finalized yet, but a temporary ban has been extended twice, already. Nevertheless, the Arizona Department of Environmental Quality issued permits for three uranium mines in the proposed withdrawal area. Arizona businesses launched a campaign –supporting- the Grand Canyon mining moratorium.
- UNESCO included the site of the Koongarra uranium deposit in Australia into the Kakadu National Park's World Heritage listing, as requested by the Traditional Owner to protect the site from uranium mining. Areva's attempts to prevent this had remained fruitless.
- South Australia proclaimed a mining ban for the Arkaroola Wilderness Sanctuary, causing the Traditional Owners to split over the issue. Exploration company Marathon Resources commenced court action over the ban that affects its exploration license.

Moratoria/Bans (lifting/weakening):
- Labrador's Inuit government voted to lift the moratorium on uranium mining it had imposed in 2008.
- In New Mexico, a court overturned the designation of Traditional Cultural Property status to Mount Taylor. The mountain, which as many as 30 Indian tribes consider sacred, is threatened by exploration and proposals for uranium mining.
- A company that wants to mine the Coles Hill deposit in Virginia pushes for lifting the state's uranium mining moratorium, whereupon several organizations formed to keep it.
- Greenland authorized the exploration of radioactive minerals at the Kvanefjeld rare earth/uranium deposit, thus further relaxing its zero-tolerance uranium policy.
- New South Wales announced in December to review its ban on uranium mining, after it still had assured in August to have no plans to overturn the ban. The change of opinion is caused by the Federal Government's policy change to allow uranium exports to India (see below).

Exploration issues:
- In February, a drilling company employee died in an accident at the Cree East project uranium exploration site in Saskatchewan, Canada.
- A Federal review panel recommended approval of the Matoush underground uranium exploration project in Québec despite missing social license and a long list of inadequacies.
Canada's federal regulator CNSC subsequently approved the Environmental Assessment Comprehensive Study Report on the project. This is one of the few cases, where an Environmental Impact Assessment process was initiated already for exploration rather than mining.
- Uranium exploration in Uruguay was put on hold, after uranium was declared a class one mineral, which becomes state property once it is mined.
- Areva announced 12,000 tons of potential uranium resources in central Jordan, while Rio Tinto withdrew from uranium prospecting in southern Jordan.
- Israel is set to license uranium exploration in the Negev.
- Nepal announced to start uranium exploration near the Tibet border.
- The Czech Environment Minister upheld the decision to deny a request to open the Osecná-Kotel area in Northern Bohemia for uranium prospection and exploration. The Ministry of Economics, on the contrary, urges the revival of uranium mining in the Czech Republic.
- Mongolia issued 107 uranium exploration licenses.
- South Australia reinstated Marathon Resources' exploration license in the Arkaroola Wilderness Sanctuary after a three year suspension for improper waste disposal.

Environmental opposition against uranium exploration:
Uranium exploration projects drew opposition at a number of locations:
- at various sites in the Canadian province of Québec, where in November a petition for a uranium moratorium was presented to the National Assembly of Québec,
- in the Puno region of Peru,
- in the Jämtland province of Sweden,
- in the Sudety mountains in Southwestern Poland,
- in Western Australia, where a 1250 km uranium protest march was held.

Positive preliminary economic assessments:
Positive preliminary economic assessments, preliminary feasibility studies, or scoping studies were announced for the following uranium mine projects:
- Horseshoe, Raven, and Roughrider (Saskatchewan)
- Eco Ridge (Ontario)
- Lance in-situ leach projects (Wyoming)
- in situ leach mining of Strathmore's Churchrock deposit (New Mexico)
- Phase 1 development of Nyota prospect (Tanzania)
- Omahola (Namibia)
- De Bron-Merriespruit South (South Africa)
- Blackbush in situ leach mine (South Australia)

A Pre-feasibility study for the Bigrlyi uranium deposit in Australia's Northern Territory, however, showed that the mining project is economically marginal.

URANIUM MINE DEVELOPMENT PROJECTS

License applications for new uranium mines were actually filed for the following projects:
- Ross uranium in situ leach mine project in Wyoming,
- reopening of Laramide's La Sal uranium mine in Utah,
- Atomredmetzoloto's Mkuju River project in Tanzania,
- Mulga Rock project in Western Australia

Uranium mining/milling licenses were issued for:
- the Eco Ridge rare earths and uranium mine project near Elliot Lake (Ontario), fifteen years after the shutdown of the last uranium mine in the area; the company plans to use underground (!) and surface heap leaching,
- the Nichols Ranch and Lost Creek uranium in-situ leach projects in Wyoming,
- the controversial Piñon Ridge uranium mill in Colorado,
- the license for the Crownpoint in situ leach mine in New Mexico (heavily opposed by the Navajo) was reactivated after 11 years on hold,
- the controversial Goliad uranium in situ leach project in Texas,
- the huge Husab (ex Rössing South) open pit uranium mine project in Namibia

Several uranium mine development projects were temporarily suspended due to the unfavourable market situation (...and other issues):
- Moore Ranch in situ leach mine in Wyoming - just six months after receiving the license,
- the controversial Centennial mine project in Colorado,
- Areva's Bakouma project in the Central African Republic, where six uranium activists were arrested for one week in September,
- Areva's Trekkopje open pit and heap leach project in Namibia,
- Areva's Ryst Kuil project in South Africa,
- Salamanca I in Spain ,
- BHP's Yeelirrie project in West Australia

Projects currently under development, or being prepared for development, with licensing processes at various stages:

In Canada:
- Areva's long-planned Kiggavik uranium mine project near Baker Lake in Nunavut, where the Draft EIS was made available for comment at the end of the year; the project became possible after local Inuit abandoned their opposition in 2007,
- Cameco's high-grade Cigar Lake uranium mine in Saskatchewan, where Cameco signed a milling arrangement with Areva to have all ore from the mine processed at Areva's existing McClean Lake mill,
- the recently discovered high-grade Roughrider deposit in Saskatchewan, the majority owner of which is now being acquired by Rio Tinto after winning a bidding war with Cameco

In the USA:
- Aurora open pit uranium mine and mill in Oregon, a state that has not seen uranium mining for decades,
- heap leach facility at Strathmore's Gas Hills project in Wyoming,
- Sheep Mountain uranium mine and sulfuric acid heap leach project in Wyoming,
- Green River uranium mill project in Utah, where the state rejected the request of Mancos Resources Inc. for water for the mine,
- reopening of La Sal #2 mine in Utah for ore "sampling",
- Green River #9 underground uranium mine in Utah,
- Pawnee in situ leach uranium mine project in Texas,
- the controversial Coles Hill uranium mine project in Virginia, that became the subject of several independent studies analyzing its social, economical, and environmental impacts; a National Academy of Sciences report, in particular, found "steep hurdles" for the project; in August, a consultant for Virginia Uranium disputed a study on the hazards from the planned uranium mill tailings dam during a natural disaster - three hours after the area was shaken by a rare 5.8-magnitude earthquake...

In Central/South America:
- restart of uranium mining in Reynosa, Mexico,
- Caetité mine in Bahia, Brazil,
- Santa Quitéria mine in Ceará, Brazil, where uranium production is to start in 2014/2015

In Africa:
- Namibia completed a Strategic Environmental Assessment for the central Namib Uranium Rush, while that rush is already in full swing,
- the Valencia uranium mine project in Namibia, where Forsys lost an appeal over a groundwater abstraction permit,
- the INCA and Tubas Red Sand areas of the Omahola uranium mine project in Namibia,
- the Etango uranium mine project in Namibia, where the public consultation period for the Environmental and Social Impact Statement on the expanded mine ended in March, while the document still wasn't available at the end of the year (!),
- Firawa uranium project in Guinea,
- Kanyika niobium-uranium project in Malawi
- Mooifontein open pit uranium mine and heap leach project in South Africa,
- the controversial Mkuju River project in Tanzania, where Russia's Atomredmetzoloto plans to mine uranium in the UN World Heritage-listed Selous Game Reserve,
- the Manyoni project in Tanzania, where the costs of proposed uranium mining in the Bahi Swamp area are highly likely to exceed benefits, according to an NGO report,

In Europe:
- a proposal for restart of in situ leach uranium mining at Stráz pod Ralskem in North Bohemia (Czech Republic) was slammed by NGOs in view of exorbitant reclamation cost still to be covered at the site,
- Novokonstantinovskoye uranium mine in Ukraine

In Asia:
- Jordan announced that is to produce uranium in the central region in a joint venture with Areva "within two years",
- a Uzbek-Chinese joint venture plans to start uranium mining in the Navoi region of Uzbekistan,
- the Kharasan in situ leach uranium mine in Kazakhstan is at commissio-

ning stage, still awaiting an operating license,
- herders on horseback protested in Ulaanbaatar in April against mining activities in Mongolia; in December it was announced that two uranium processing facilities are to be built in the Dornod province,
- a CGNPG uranium subsidiary develops new mines in China,
- CNNC signed an agreement with the Xinjiang Autonomous Region on mining of the Yili uranium deposit,
- the controversial Gogi uranium mine project in Karnataka (India) received state approval, while environmental clearances from the State and Central agencies are still pending,
- the Thummalapalle uranium mine and mill in Andhra Pradesh (India) was causing depletion and contamination of groundwater even before commissioning, and villagers demanded full compensation for displaced families,
- environmentalists warned from possible impacts of uranium mining in the Lambapur area in Andhra Pradesh (India) on Hyderabad's drinking water resource,
- The state-run Oil and Natural Gas Corporation (ONGC) has started mining for uranium in the Cauvery area in the south Indian state of Tamil Nadu in partnership with Uranium Corp. of India,
- Meghalaya (India) may shift the proposed Kynshi hydro power project in the West Khasi Hills for known uranium deposits

In Australia:
- Traditional Owners want the Jabiluka deposit in the Northern Territory (Australia) to remain undeveloped and the site to be incorporated into the Kakadu National Park,
- Cameco's Kintyre uranium project (West Australia), where construction is to start after 2015,
- the Wiluna uranium mine project (Western Australia), where the EIS was released for public review,
- Mullaquana uranium in situ leach project field leach trial in South Australia,
- the Honeymoon in situ leach uranium mine in South Australia, where commissioning started in November

Supplies projects for the uranium industry
Namibia's extraordinary uranium rush requires manifold efforts to assure the necessary supplies for the uranium mines:

- Namibia plans to build a second desalination plant in the uranium region,
- Namibia is to install Diesel generators near the uranium mines, but is also considering the construction of an 800 MW coal power plant near Arandis,
- Three chemical production plants for uranium industry chemicals planned at the Namibian coast will have serious environmental impacts and extinct certain species; conservationists demanded the selection of a less environmentally sensitive site for the plants

Alternate uranium recovery projects
By-product recovery of uranium from mining primarily for other ores:
- Talvivaara's Sotkamo uranium by-product recovery project in Finland obtained government permission,
- Norilsk Nickel's Harjavalta uranium byproduct recovery project in Finland is progressing,
- the uranium processing plant at the Ezulwini gold/uranium mine in South Africa restarted after repairs,
- Harmony Gold Mining Co. considers uranium production at its Tshepong, Phakisa and Masimong mines in South Africa

The recovery of residual uranium from wastes and tailings:
This process that in principle would be environmentally advantageous for reducing the toxic load of the wastes and at the same time decreasing the need for fresh mining, in reality turns out to work not so smoothly:
- Cameco canceled the project for recycling of wastes from the Blind River and Port Hope nuclear fuel facilities in Ontario at its Key Lake mill in Saskatchewan,
- First Uranium's Mine Waste Solutions tailings reprocessing project in South Africa was commissioned, but so far it only recovers gold, as commissioning of the uranium recovery plant has been postponed; in September, the Minister of Mineral Resources withdrew the mining right for the tailings reprocessing project for environmental concerns raised by the Federation for a Sustainable Environment, but First Uranium continued operation undeterred,
- in November, an uraniferous slurry spillage occured at Mintails' West Rand tailings reprocessing project in South Africa,
- in the Czech Republic, residents opposed the processing of a further waste rock pile of the former Príbram uranium mines in Western Bohemia for uranium recovery, as they are fed up with the dust and noise generated by the process for decades

ISSUES AT OPERATING URANIUM MINES AND MILLS

Planned expansion of existing uranium mines and mills, with licensing processes at various stages:
- Key Lake expansion project in Saskatchewan (Canada),
- processing of ore from the McArthur River at the McClean Lake mill in Saskatchewan,
- Rabbit Lake Tailings North Pit Expansion Project in Saskatchewan,
- the North Trend Expansion Area of Cameco's Crow Butte uranium in situ leach mine in Nebraska (USA), that received a state permit for construction and operation,
- Cameco's Smith Ranch/Highland in situ leach mine in Wyoming, where the Highland processing plant is to be reopened for resin stripping,
- expansion of operations at the La Sal Mines Complex in Utah,
- doubling the production of the Caetité uranium mine in Bahia (Brazil),
- Stages 3 and 4 of the expansion of Paladin's Langer Heinrich uranium mine in Namibia,
- expansion of the Rössing uranium mine in Namibia, where the Draft Social and Environmental Impact Assessment was available for comment for just two weeks,
- increase of Ukraine's uranium production above 1000 t in 2011,
- expansion of Areva/Kazatomprom joint venture in situ leach uranium mines in Kazakhstan,
- production increase planned at Inkay in situ leach uranium mine in Kazakhstan,
- altogether, Kazakhstan is ready to increase the annual uranium production from 19,900 tons up to 25,000 - 30,000 tons; for 2012, 21,346 tons are planned,
- expansion of the Turamdih uranium mill in Jharkhand (India), where the second public hearing in March was stalled after protests by villagers,
- expansion of the Ranger uranium mine in the Northern Territory (Australia), where the Ranger 3 Deeps exploration decline obtained government approval,
- the gigantic Olympic Dam copper/uranium mine expansion project in South Australia, that obtained government approval in spite of protest from Conservation and Aboriginal groups,
- the Beverley North project in South Australia that obtained approval for a field leach trial

Natural forces affecting operating mines and mills:
- processing at the Ranger uranium mill in Australia was suspended for

5 months due to high water levels in the tailings impoundment after heavy rainfall,
- volcanic-like activity was observed in the Arlit uranium mining district in Niger (a bad omen for Areva?),
- the yellowcake drying and packaging plant at Paladin's Kayelekera mine in Malawi had to be relocated due to a "land slippage"

Environmental issues at operating mines and mills:
- Cameco's Rabbit Lake mine in Saskatchewan still is Canada's uranium mine with by far the highest load of uranium discharged to the environment, in spite of improvements,
- Uranium One Inc. (majority-owned by Atomredmetzoloto), new owner of the Willow Creek (formerly Christensen Ranch/Irigaray) uranium in situ leach mine in Wyoming, spared no efforts to match up to the poor reputation of former mine owner Areva: the mine restarted without EPA approval, the company contested the applicability of EPA's evaporation pond regulations, the company was fined US$ 25,000 for the missed sampling of 24 monitor wells, the state issued a Notice of Violation for the spill of sodium chloride brine solution, and the U.S. Nuclear Regulatory Commission (NRC) began a special investigation after an aerial release of yellow cake powder,
- Cameco's Highland/Smith Ranch uranium in situ leach mine in Wyoming - the largest mine of its kind in the U.S. - also showed a poor environmental performance: the state regulator requested an investigation of possible impacts of a long-term excursion observed, numerous deficiencies were identified during an inspection of abandoned drill holes, many compliance concerns and numerous violations were identified during site inspections, and Cameco now seeks relaxed standards for groundwater restoration at Highland Mine Unit B, after the NRC identified irregularities,
- Cotter Corp.'s Cañon City uranium mill in Colorado, although idle, produced bad news, as well: trichloroethylene was found in nearby wells, the company - a subsidiary of high-tech company General Atomics - proved to be incapable of providing safe access to monitoring locations on the tailings impoundment, and the company was cited for a spill of uranium-contaminated solution,
- Cotter Corp. moreover was ordered to build a bypass pipeline at its defunct Schwartzwalder Mine in Colorado, to stop uranium contamination of water,
- at ERA's Ranger uranium mine in Australia, the notorious water management problems that contributed to the 5-months outage of the uranium mill provoked attacks from environmentalists; the Traditional Aboriginal land owners even pressured ERA to shut the mine down, until the company in November announced the decision to improve the waste water management at the site

Yellow Cake transport incidents:
- on the way from Canada to China, yellowcake containers onboard a ship were damaged in severe weather; the incident caused cleanup costs and losses of CDN$ 19 million, leading to the ship owner going bankrupt,
- in Jharkhand (India), a truck with uranium from the Jadugoda mine was damaged in a collision,
- in the Kakadu National Park in Australia, a yellowcake truck coming from the Ranger mine got stuck in water-laden ground

Miners' health issues at operating mines and mills:
- Reliance Resources, LLC, the operator of the Pandora mine operator in the La Sal complex (Utah) was fined $92,600 for the fatal accident that happened in 2010; Reliance and Denison Mines Corp (another mine operator in the La Sal complex), however, continued to be cited for more health and safety violations by the dozen,
- in December, Areva announced it would monitor the health of thousands of workers (and residents) exposed to its uranium mine sites in Niger, bowing to pressure from advocacy groups,
- in the Ezulwini gold/uranium mine in South Africa, four miners died in separate accidents during the course of the year, three of which in fall-of-ground accidents; in December, half of the workforce at the mine was fired in response to the impact of these fatal accidents "on employee morale and productivity" (!),
- at Paladin's Kayelekera uranium mine in Malawi, a truck driver died in an accident in June,
- the workers at the Ranger mine (accounting for half of Australia's uranium workers) are not covered by Australia's new Radiation Dose Register due to inadequate legislation in the Northern Territory, a Senate hearing reveiled

Residents' health issues at operating mines and mills:
- Residents of areas near nuclear facilities in Ukraine are to receive risk compensation,
- the U.S. Environmental Protection Agency (EPA) presented dose and risk estimates for residents from radon emissions of existing and hypothetical uranium mills and of in situ leach uranium mines, with the highest doses by far found for a hypothetical uranium mill site in Virginia

Supplies issues at operating mines and mills:
- Paladin's Kayelekera mine in Malawi suffered temporary shutdowns due to delivery disruptions in diesel fuel and sulphuric acid,
- the water supply for Namibia's uranium mines was reduced by 25% in March, in view of a water shortage in the central coastal area,
- only lucky coincidence prevented the crash of a runaway railcar with a freight train carrying sulfuric acid for the Rössing uranium mine in Namibia,
- the Turamdih uranium mill in Jharkhand (India) was halted for water shortage in March

Other issues at operating mines and mills:
- in December, Cotter Corp. announced that it plans to seek license termination for its idle Cañon City uranium mill in Colorado, rather than to rebuild it,
- in September, the Caetité uranium mill in Brazil was allowed to resume operation, which had been stopped after a spill in May 2010,
- in Malawi, a student was found dead in September, after a critical publication alleged payments of the Kayelekera uranium mine to the Malawi president,
- the Dominion gold/uranium mine in South Africa was restarted by its new owner; uranium production was to begin "shortly",
- at the Turamdih uranium mine in Jharkhand (India), landlosers stopped company officials from accessing the site in April

ABANDONED MINES ISSUES

- while preparations for, or actual cleanup of a few smaller abandoned mines in the U.S. continued at the well-known incredibly slow pace, the U.S. Environmental Protection Agency (EPA) at long last announced a plan to clean up the Northeast Church Rock Mine in New Mexico - which is the largest abandoned uranium mine on the Navajo Nation,
- in January, the acidic mine water flowing out of South Africa's abandoned gold/uranium mines reached the Cradle

of Humankind World Heritage Site, putting fossils at risk; seismic events almost doubled since toxic acid mine drainage water started filling the abandoned mines,
- in February, South Africa's Nuclear Regulator finally announced the planned relocation of an informal settlement from a radioactive mine waste dump in Krugersdorp, but in November the majority of these residents were still waiting for relocation; a new report found that the dangerous levels of radioactivity in Gauteng's mine dumps will take decades and billions of rands to clear

DECOMMISSIONING ISSUES

- a further extension of the completion date was requested for the clean-up of the former Earth Sciences uranium recovery plant in Calgary (Alberta, Canada),

- the U.S. federal government and the operators of the Midnite uranium mine in Washington finally reached a deal on the US$ 193 million cleanup of the site
- thirty years after the shutdown of the mine,
- ExxonMobil requested grossly relaxed groundwater standards for its Highland uranium mill tailings site in Wyoming,
- Kennecott requested, and U.S. NRC staff endorsed, the fourth 5-year postponement of initiation of decommissioning of the Sweetwater uranium mill in Wyoming,
- the uranium concentration in surface water at Areva's Shirley Basin tailings site in Wyoming was found to exceed the drinking water standard,
- with stimulus funding expired, the Moab tailings relocation effort in Utah now continues at a slower pace,
- Homestake requested permission for continued crop irrigation at its Grants tailings site in New Mexico - with water heavily exceeding drinking water standards for selenium and uranium; U.S. EPA and U.S. NRC are at odds over the reclamation of the site, in particular on the applicable radon emission standards,
- uranium concentrations in groundwater at the former Bluewater mill site in New Mexico were found to exceed the standard,
- the uranium groundwater standard was exceeded further at the Grand Junction uranium mill tailings disposal site in Colorado,
- the legitimacy of the "nuisance" claim stakes found on the Maybell uranium mill tailings site in Colorado is still unclear, compromising the credibility of the U.S. long-term uranium mill tailings management program,
- in August, firefighters battled a brush fire at a former uranium in situ leach mine in Texas,

- a justice ordered the cleanup of the former Poços de Caldas uranium mine in Brazil - 15 years after it was closed,

- 200 homes had to be demolished for excess radiation at Areva's former uranium mine site in Mounana (Gabon) - 12 years after the mine closed,
- in December, Areva announced that it will compensate the families of two former employees who died of lung cancer after having worked in its Mounana mine for years; this is the first time the mining group commits to such compensation after concluding an agreement with Sherpa association in 2009,

- in June, Areva was ordered to remove illegally disposed decommissioning wastes in the former Limousin uranium mining area in France,

- in February, Wismut's water treatment plant capacity in the former Ronneburg uranium mining area in Germany turned out to be insufficient to handle the effluent volume increase after heavy rains; after a capacity increase in July, untreated mine water still had to be released occasionally,
- the federal cleanup project of Wismut's uranium mining legacy in Germany is expected to cost more and last longer (until 2020),
- additional funding was assured for the reclamation of those Wismut legacy sites that are not part of the federal cleanup project,
- the cleanup of Wismut's 1954 Lengenfeld uranium mill tailings spill was finally completed - after 57 years,

- in the Czech Republic, the reclamation of the former MAPE Mydlovary uranium mill and one of seven associated tailings ponds in South Bohemia was completed,

- in Kyrgyzstan, there still are no replacement homes available for people living on old uranium mine waste dumps in the Mailuu-Suu and Min-Kush areas,
- the World Bank provides additional financing for the tailings relocation being performed at Mailuu Suu,
- Kazakhstan plans to recover rare earth elements from the abandoned Aktau uranium mill tailings dump

HEALTH IMPACTS: SCIENCE ISSUES

- a Cameco study claims that the solubility type classification of yellow cake from in situ leaching is 100% "fast", leading to lower inhalation doses for uranium mill workers,
- a study found that the carcinogenicity of uranium might depend on its physical and chemical nature and its isotopic composition,
- the U.S. Centers for Disease Control and Prevention (CDC) plan a "Prospective Birth Cohort Study Involving Environmental Uranium Exposure in the Navajo Nation",
- ICRP released Publication 115 revising the radon risk coefficient from 0.000283 to 0.0005 per Working Level Month (WLM), the new value now coming close to the one published in BEIR VI 13 years earlier

LEGAL AND REGULATORY ISSUES

- the World Health Organization (WHO) raised its drinking water guideline for uranium from 15 to 30 micrograms per liter, based on new epidemiological studies on populations exposed to high uranium concentrations,
- the U.S. Nuclear Regulatory Commission (NRC) issued a rule on decommissioning planning, and a final rule to ease restrictions on commencement of construction before a license is issued,
- an U.S. NRC audit identified "opportunities" for more effective oversight of uranium recovery decommissioning,
- the Utah regulator halted the practice of misclassifying blended uranium waste as "Natural Uranium",
- the new Brazilian Mining Code is to speed up uranium mining projects,
- Peru is drafting an environmental guide for uranium exploration,
- Mali aims to lure investors with a mining code review,
- the Central African Republic, Niger, and Kyrgyzstan were accepted as countries compliant to the Extractive Industries Transparency Initiative (EITI), a global standard for companies to publish what they pay and for governments to disclose what they receive,
- Namibia and South Africa are not adequately regulating uranium mining, and the Central African Republic apparently is not prepared to regulate it, a WISE/SOMO report found,
- Namibia's government reserved exclusive exploration and mining rights for uranium,
- Namibia finally published Radiation Protection and Waste Disposal Regu-

lations - 35 years after uranium mining started in the country,
- the European Commission considers long-term stewardship of uranium mine and mill tailings an open issue (!),
- Finland (which has no uranium mines) will assist Zambia in the review of its uranium mining regulations

URANIUM TRADE AND FOREIGN INVESTMENT ISSUES

Uranium trade
- China more than tripled its uranium imports in 2010

Proliferation issues and uranium trafficking
- four drums of uranium concentrate were stolen from Areva's Trekkopje pilot scale uranium mine in Namibia,
- Yellow Cake uranium was found stored near Sabha in Libya,
- Russia and Australia adopted a safeguarding mechanism for civilian use of Australian uranium exports to Russia,
- India is working out mechanisms with South Africa to access its uranium,
- Australia's ruling Labor party ended the ban on uranium exports to India, a non-signatory to the Non-Proliferation Treaty (NPT)

Foreign exploration and mining investment and cooperation

Russia:
- Russia's Gazprom was granted a uranium exploration license in Niger,
- Russia is cooperating with Ethiopia in the assessment of potential uranium reserves in Ethiopia,
- Russia, Iran, Libya, and others competed for uranium rights in Sierra Leone, according to documents released in Wikileaks,
- Russia's Rosatom announced that is ready to mine uranium in the Czech Republic

France:
- France signed a deal with Chile for uranium development

India:
- India and Kazakhstan signed a nuclear agreement, including joint uranium mining,
- India showed interest in stakes in Areva's African uranium mines

China:
- China Guangdong Nuclear's uranium subsidy made a "possible offer" for Kalahari Minerals, co-owner of the Husab (formerly Rössing South) mine project in Namibia,
- a Chinese takeover bid was made for uranium explorer Bannerman Resources, majority owner of the Etango deposit in Namibia,
- an Uzbek-Chinese joint venture plans to start uranium mining in the Navoi region of Uzbekistan

Japan:
- Japan and Vietnam signed a nuclear cooperation agreement, including uranium exploration and mining

Canada:
- Cameco is to finance the construction of the uranium byproduct plant at Talvivaara's Sotkamo nickel/zinc mine in Finland and to buy the uranium produced

This and that:

- In the United Kingdom, music once composed for the campaign against uranium mining on the Orkney Islands was played at the Royal Wedding in Westminster Abbey on April 29. Prince William and Kate Middleton chose to include "Farewell to Stromness" by Sir Peter Maxwell Davies in their service because it featured in Charles and Camilla's 2005 blessing. Sir Peter, who lives on the Orkney island of Sanday, wrote Farewell to Stromness in 1980 as a piano composition for "The Yellow Cake Revue" - a protest against plans to mine uranium ore in Orkney.

- In Germany, a group collected donations to substitute Areva as a sponsor for a local cultural event. Under the slogan "Poesie ohne Uranstaub" (Poetry without uranium dust), a citizens' group collected Euro 15,000 to replace the amount Areva is expected to donate for the 2012 installment of the annual "Poetenfest" (Poetry Festival) in Erlangen, Germany.

- In Canada, on the contrary, the Elliot Lake (Ontario) city council voted to return to its roots for a major municipal celebration: the council voted to change the name of the "Jewel in the Wilderness Festival" back to the "Uranium Festival". The Uranium Festival was created in the 1970s by former mayor of Elliot Lake Roger Taylor. Elliot Lake was a major uranium mining area between 1955 and 1996. Uranium mining will now return to the area with the development of the Eco Ridge rare earth/uranium mine (see above).

Archive of Uranium Mining reviews
Earlier annual mining reviews can be found in Nuclear Monitor issues 722 (2010), 702 (2009), 682 (2008), 665 (2007), 650 (2006), 640 (2005), 623 (2004), 600 (2003), 579 (2002), 560 (2001), 540 (2000), 522 (1999) and 504 (1998) or at: http://www.wise-uranium.org/uissr11.html

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JAPAN AFTER FUKUSHIMA: ONLY 10% OF NUCLEAR CAPACITY IN OPERATION

In Japan, starting January 13, only five of the countries 54 reactors are in operation: only 10% of total installed capacity. On December 16, the Japanese authorities stated that the reactors at Fukushima Daiichi is in a state of "cold shutdown". The industry definition of “cold shutdown” means that the temperature inside a nuclear reactor has stabilized below 95 degrees Celsius from the hellish temperatures of the nuclear fission process

(740.6215) WISE Amsterdam - In the case of Fukushima Daiichi, declaring a cold shutdown suggests the crisis is over. But that is not the whole truth. In fact, the Japanese authorities have cheated by redefining “cold shutdown” to suit the situation at Fukushima. Only operating nuclear reactors can be put into a state of “cold shutdown”. Reactors that have suffered meltdowns – like those at Fukushima – cannot be. The 260 tons of nuclear fuel inside the Fukushima reactors melted and burned through the steel floors of the containment vessels and into the thick concrete under pads. The melted fuel is far from under control. This means the temperature inside the reactor can’t be regulated by conventional means.

Nuclear generation capacity
Platts reported that Japan's combined nuclear generation capacity is to fall to 5.058 GW over five nuclear reactors from January 13, as Shikoku Electric is scheduled to shut the 566 MW No 2 reactor at its Ikata nuclear power plant in western Japan that day. The 5.058 GW represents 10.3% of the country's total installed nuclear capacity of 48.96 GW over 54 reactors, according to Platts calculations. Nuclear capacity represents 21% of Japan's total installed power generation capacity of 228.479 GW.

Japan is currently in the middle of its winter power demand season, which typically runs over December-March. Weather and nuclear utilization rates have a direct impact on crude, fuel oil and LNG consumption for thermal power generation in Japan.

None of the shut nuclear plants are expected to be allowed to restart soon in view of the stress test conditions imposed by the government in July last year. In that case, Japan could see all its nuclear power output shut by May 2012 because regulations require nuclear power plants to carry out scheduled maintenance at least once every 13 months.

Decommissioning will take 40 years
In December Japan's government announced that decommissioning Fukushima Daiichi will take three or four decades - that is just for the plant alone and not the surrounding areas, composed mostly of farmland. According to the cleanup plan announced on December 21, crews will begin removing spent fuel from the plant before 2014. The timeline for removing melted fuel debris from the reactors is a decade, with a full decommissioning taking as long as 40 years. While four decades seems like a long time, some think that estimate is unrealistically short, given the scale of the nuclear disaster at the plant. An official advisory panel has estimated it may cost about US$15billion (11.8 billion euro) to decommission the plant, though some experts put it at nearly three times that amount.

Fukushima compilation
A 28-page compilation of articles published in the Nuclear Monitor in the past 9 months about Fukushima and its consequences was published by WISE Amsterdam for the Yokohama conference "For a nuclear power free world", January 14-15. Available as pdf-document on request from wiseamster@antenna.nl

'40-year limit' for reactors
Japan’s nuclear reactors will be limited to a 40-year life, allowing extensions only under stringent conditions, under new plans to be submitted to parliament. It is part of a revision in a law on nuclear plant operations following Japan’s devastating March 11 earthquake and tsunami that triggered meltdowns at the Fukushima. The planned legislation, which the government aims to submit in a session of parliament starting in January, would mark the first time that Japan would legally limit how long nuclear reactors would remain in operation. The draft plan also makes its mandatory for utilities to prepare for severe nuclear accidents. Under current rules, the government has left it up to plant operators to draw up contingency plans. With strong public opposition to building new reactors, Japan is bound to reduce its reliance on nuclear energy which before the disaster met about a third of its electricity needs. How long the existing reactors will remain in operation will affect utilities' long-term business plans and determine how rapid Japan's shift away from nuclear power will be.

Environment and Nuclear Crisis Minister Goshi Hosono said exceptions from the 40-year limit would be rare. "It will be quite hard to operate nuclear reactors beyond 40 years and we will implement stringent measures on nuclear reactor operations as safety is the first priority." Under the current system, nuclear plant operators can file for an extension of operations after 30 years and they usually get granted a 10-year extension, if they provide required maintenance. It can be further extended and Japan's oldest existing nuclear reactor is Tsuruga No.1 reactor, operated by Japan Atomic Power, which went into service in March 1970.

Japanese media reported that the law may include loopholes to allow some old nuclear reactors to keep running if their safety is confirmed with tests. The proposal could be similar to the law in the U.S., which grants 40-year licenses and allows for 20-year extensions. Such renewals have been granted to 66 of 104 U.S. nuclear reactors. That process has been so routine that many in the industry are already planning for additional license extensions that could push the plants to operate for 80 years or even 100.

The Asahi newspaper reported Japan is likely to face a power shortage if it carries out the 40-year rule, which barring loopholes would force 18 more reactors to shut down by 2020, and another 18 by 2030. But promising that nuclear plants may be gone in about four

decades may help the government gain public support for getting more reactors running again.

Industry donations
Haruki Madarame, the head of the Japan Nuclear Safety Commission and Seiji Shiroya, a member of the government panel, received donations totaling 7.1 million yen (US$92,000 or 72,000 euro) from the nuclear power industry before becoming members of the watchdog. The two announced that on a pressconference in Tokyo on January 2, 2012. Madarame, a former University of Tokyo professor who became the commission chief in April 2010, said he received 4 million yen over four years through 2009 from Mitsubishi Heavy Industries Ltd., a major manufacturer of nuclear power reactors. Shiroya, another member of the panel who joined the commission at the same time as Madarame, said he received 3.1 million yen from a regional branch of Japan Atomic Industrial Forum Inc.(JAIF) over three years to 2009 while serving as a Kyoto University professor. JAIF consists of power companies and other companies in the nuclear industry.

Madarame said the donations have not influenced the panel's decision-making processs. The five-member state commission is tasked with double-checking regulatory measures implemented mainly by the industry and science ministries to ensure nuclear safety. The donations provided by private entities were “intended to promote research at universities”, and the money was spent to conduct research and to cover overseas business trip costs, according to the two experts.

Shrinking population.
Several cities in the Chiba prefecture relatively close to the Fukushima Daaichi nuclear power plant are suffering a population decline as a result of the nuclear disaster, local governments have revealed in January. According to monthly population surveys conducted by municipal governments, cities have been experiencing a continuous population decline since August last year, with the single exception of September.
As of Jan. 1 this year, there were a total of 405,099 registered residents in Kashiwa, a decline of some 279 people from the previous month and also the largest fall since the slide was first observed six months ago. Kashiwa has been one of the areas in the prefecture where relatively higher radiation levels were detected in the aftermath of the nuclear disaster.

According to Kashiwa Mayor Hiroyasu Akiyama, one of the major reasons for the population decline is the municipal government's failure to address people's anxieties and frustrations over radiation. Following the meltdowns in Fukushima, the city repeatedly released statements that "The radiation is at a non-problematic level."

"Our judgment that radiation levels were 'non problematic,' and the way we addressed the issue immediately after the outbreak of the nuclear disaster caused anxiety among many young households who have children. Because of this, people from other cities stopped moving into Kashiwa," he said.

Sources: AlJazeera.net, 21 December 2011 / Mainichi Daily News (Japan), 3 & 11 January 2012 / Engineering and Technology, 6 January 2012/ Tokyo Times, 11 January 2012 / Platts, 11 january 2012
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INTERNAL NRC FEUD BECOMES PUBLIC SPECTACLE

A long-simmering internal feud at the top levels of the U.S. Nuclear Regulatory Commission erupted into full public view and spilled into the halls of Congress in December. On the surface, the dispute appeared to be about personality issues; but at its core the stakes are high: the argument is really over the fundamental role of the Commission -whether it should be a facilitator for the nuclear industry or a serious regulator.

(740.6216) NIRS - Because the nuclear industry and its supporters fear an NRC committed to regulating the industry, they launched an unprecedented effort to topple the NRC’s chairman and grab control of the agency. So far, their campaign, which includes all the elements of a melodramatic soap opera or reality TV show, has failed.

The public drama began in early December, when Rep. Darrell Issa (R-Calif.), chairman of the House Government Oversight Committee, released a letter written in October to President Obama from four of the five NRC Commissioners (William Magwood, Kristine Svinicki, George Apostalakis and William Ostendorff). The letter accused NRC Chairman Greg Jaczko of harassment and intimidation, especially of women staffers of the NRC, and of withholding information from the other Commissioners and changing NRC staff recommendations, and all but pleaded with the President to fire Jaczko.

The presumption appears to be that Obama would then appoint Magwood, who has emerged as the leader of the group, to be the new Chairman. Magwood, a Democrat, was the only one of the current batch of Commissioners whose appointment received substantial opposition from the environmental community. More than 100 national and regional groups signed a letter urging the Senate to reject his nomination.

Before becoming a Commissioner, Magwood had promoted nuclear power at the Department of Energy and had once been a consultant to Tokyo Electric Power (Tepco).

Issa’s committee then held a lengthy livestreamed hearing at which the four Commissioners repeated their charges in public, although they refused to identify a single person who claims Jaczko had harassed or intimidated her or him. For his part, Jaczko denied ever harassing anyone and apologized if he had ever offended anyone in the heat of an argument.

Nonetheless, several Republican Congressmembers urged Jaczko to resign,

which he chose not to do. Jaczko received solid support from several Democratic Members, including ranking member Rep. Henry Waxman (D-Calif.) and Rep. Ed Markey (D-Mass.). And Markey released a major investigative report on December 9, dismissing the charges against Jaczko and arguing that the four complaining Commissioners were engaged in a conspiracy to delay or prevent adoption of the agency's Fukushima Task Force recommendations, which issued a serious of proposed regulatory changes -all strengthening regulations- during the summer.

Later the same week, Senator Barbara Boxer, chair of the Senate's Environment Committee, held her own hearing on the NRC's response to the Fukushima disaster at which the tables were somewhat turned on the four Commissioners. Boxer complained the Commission was not moving fast enough to implement the recommendations and she gave a strong endorsement to Jaczko. Meanwhile, Senate Majority Leader Harry Reid also strongly endorsed Jaczko -no surprise given that Jaczko was a key staff member for Reid in opposition to the proposed Yucca Mountain nuclear waste dump. Jaczko also had worked for Rep. Markey before joining Reid's staff.

By the new year, it appeared that Jaczko had weathered the storm and would not be asked to resign by the President, although he was also hit by the resignation of his chief of staff. Replacing him is Angela Coggins, a longtime Jaczko staffer who also had a short stint working in Rep. Markey's office, who has good connections with the environmental community.

The fundamental issue though, has not been resolved. Jaczko is a Commissioner much in the mold of a handful of earlier NRC Commissioners -Peter Bradford, Victor Gilinsky, James Asselstine- who support the concept of nuclear power but also believe it requires strong oversight and regulation (although Asselstine, at least, has taken a much more pro-industry stance since leaving the Commission). Jaczko's first major task was to implement the Obama Administration's policy of ending the proposed Yucca Mountain, Nevada radioactive waste dump- a policy vigorously opposed by the nuclear industry and many in Congress.

Jaczko has frequently been critical of the industry, and has been pushing hard for the NRC to identify and implement changes needed to address the issues raised by Fukushima. The U.S., after all, has 23 Fukushima GE Mark I clone reactors currently operating -far more than any other country- and while the other four Commissioners might wish the agency would take the ostrich approach and say 'it can't happen here,' Jaczko knows better.

Commissioners even mildly critical of the industry have been the exception at the NRC, not the rule. And the four Commissioners mounting the challenge to Jaczko are much more in the tradition of those who believe the industry when it speaks, believe the industry is already over-regulated, and worry that adding new regulations would help put the brakes on the already-sputtering nuclear "renaissance." The big difference between Jaczko and the earlier critics on the NRC is this: Jaczko is the Chairman, and as such holds significantly more power than they did. Moreover, Jaczko hasn't been afraid to use this power -the real root of the other four's complaints.

The question for the American public is less whether Jaczko himself survives the attempted coup d'etat, although it appears he will, but whether, as Chairman, he can push through new and potentially costly regulations on the nuclear industry or whether the other four Commissioners will succeed in their drive to thwart his efforts to improve the safety of U.S. reactors regardless of the potential consequences. And the jury is still out on that issue.

Rep. Markey's December 9, 2011 report can be found here: http://markey.house.gov/index.php?option=content&task=view&id=4635&Itemid=125

Source and contact: Michael Mariotte at NIRS Washington

IN BRIEF

India: nuclear lobbyist heads national solar company. India's prime minister has appointed Anil Kakodkar, former head of the Atomic Energy Commission to be in charge of the national solar mission. The Solar Energy Corporation of India was recently set up as a not-for-profit company and will work under the administrative control of the New and Renewable Energy Ministry (NREM). The move to appoint Kakodkar will likely create somewhat of a controversy, as India Today points out, calling the decision "a bizarre move that smacks of unfair public policymaking," and a "clear case of conflict of interest." His appointment as head of the solar mission is bound to upset anti-nuclear activists in the country who want the government to actively promote alternatives such as solar and wind while giving up investments in nuclear energy.

Ignoring this contribution of renewable sources of energy, Kakodkar has constantly projected nuclear energy as the "inevitable and indispensable option" that addresses both sustainability as well as climate change issues. But despite huge investments during the past half a century, nuclear power contributes just a fraction of India's energy needs. The total installed capacity of nuclear power in the country is 4,780 MW, while the total installed capacity of renewable sources of energy is 20,162 MW, according to data collected by the Central Electricity Authority.

In his new role, Kakodkar will be responsible for turning around the fortunes of the government's Jawaharlal Nehru National Solar Mission (JNNSM). The Solar Energy Corporation of India has been created to act as its executing arm. Although still in its infancy, its organization has already come under fire from both developers and politicians. In the first days of 2012 the findings of a Parliamentary panel were released, labeling the Ministry's approach to the national solar mission as "disappointing" and "lackadaisical". This research followed on from disappointing end-of-year installation figures, which saw just 400MW of the 1.2GW of installations forecasted by the government achieve grid connection.

India Today, 6 January 2012 / PV Tech, 6 January 2012

Netherlands: Borssele 2 delayed; EDF no longer interested. Delta, the regional utility wanting to build a nuclear reactor at Borssele, delayed its decision about investing 110 million in a new license by at least half a year. Furthermore they announced that Delta will no longer be the leading company in the project. Although it is hard to find out what that exactly means, it is clear that Delta will not have a majority stake in the reactor if the project continues. Many people expect this is the end of the project. However, in a press statement Delta is repeating its commitment towards nuclear energy.
Another surprising outcome was that the French state utility EDF (which signed a Memorandum of Understanding about investigating the possibilities for a new reactor in the Netherlands with Delta in 2010) is not longer involved in the project. Delta CEO Boerma, a passionate but clumsy nuclear advocate, left the company, but that cannot be seen as the end of the nuclear interest in nuclear power, either. It is a sacrifice to reassure the shareholders he offended several times in the last months.
German RWE (via the Dutch subsidiary ERH Essent) is another interested partner for a new reactor at Borssele. ERH is in the process to obtain a licence and has the same decision to make as Delta to invest 110 million euro in obtaining a license. If RWE is still interested at all, it is more likely they will cooperate with a large share in the Delta project.
Public support in Zeeland for a new reactor is plummeting according to several polls early December. This is another nail in the coffin, because Delta is very keen to point out there is almost a unanimously positive feeling in the Zeeland province about the second nuclear power plant.
If Delta can not present solid partners for the project at the next stakeholders meeting planned in June 2012, those stakeholders will decide to pull the plug.
Laka Foundation, 11 January 2012

US: Large area around the Grand Canyon protected from mining. On January 9, 2012, after more than 2 years of environmental analysis and receiving many thousands of public comments from the American people, environmental and conservation groups, the outdoor recreation industry, mayors and tribal leaders, U.S. Interior Secretary Ken Salazar withdrew more than 1 million acres (400,000 hectares) of land around the canyon from new mining claims for the next twenty years -the longest period possible under the law.
In the months immediately leading up to this landmark decision, many environmental organizations worked with conservation advocates and outdoors enthusiasts around the country to urge the Administration to halt toxic uranium mining around the Grand Canyon. Interior Secretary Salazar received comments from nearly 300,000 citizens urging him to withdraw one million acres of land from new mining claims.
The decision however would allow a small number of existing uranium and other hard rock mining operations in the region to continue while barring the new claims. In 2009 Mr. Salazar suspended new uranium claims on public lands surrounding the Grand Canyon for two years, overturning a Bush administration policy that encouraged thousands of new claims when the price of uranium soared in 2006 and 2007. Many of the stakeholders are foreign interests, including Rosatom, Russia's state atomic energy corporation.
The landscape is not the only thing at stake. Uranium mining in western states has an abysmal track-record. In Colorado, New Mexico, Arizona and Utah, uranium mining has had undeniable health impacts on miners and nearby residents, including cancer, anemia and birth defects. Even the Grand Canyon itself bears the scars of uranium mining. Radioactive waste has poisoned streams and soil in and around the canyon, while abandoned and active mines are scars on the Arizona landscape. Soil levels around the abandoned Orphan Mine inside Grand Canyon National Park are 450 times more than normal levels, and visitors to the park are warned not to drink from Horn Creek. The closest mine currently in operation, Arizona 1, is less than 2 miles from the canyon's rim. "Mining so close to the Grand Canyon could contaminate the Colorado River, which runs through the canyon, and put the drinking water for 25 million Americans at risk," added Pyne. "Uranium mining has already left a toxic legacy across the West -every uranium mine ever opened has required some degree of toxic waste clean-up- it certainly doesn't belong near the Grand Canyon."
Environment America, 9 January 2012 / New York Times, 6 January 2012

Finland, Olkiluoto 3. August 2014 is the date that Teollisuuden Voima Oyj (TVO) expects to see power flow from its new reactor, Olkiluoto 3, according to a single-line statement issued on 21 December. The announcement brought a little more clarity to the unit's schedule compared with TVO's last announcement, which specified only the year 2014. The Finnish utility said it had been informed by the Areva-Siemens consortium building the unit that August 2014 was scheduled for commercial operation. Construction started in May 2005. A few days after the October announcement that Olkiluoto cannot achieve grid-connection before 2014 the French daily was citing a report stating that the costs for Areva are expected to 6.6 billion euro (then US$ 9.1 billion). The price mentioned (and decided on) in Finnish Parliament was 2.5 billion euro, the initial contract for Olkiluoto 3 was 3 billion euro.
World Nuclear News, 21 December 2011 / Nuclear Monitor 735, 21 October 2012

France: 13 billion euro to upgrade safety of nuclear reactors. In response to the Fukushima nuclear disaster, French nuclear safety regulator ASN has released a 524-page report on the state of nuclear reactors in France. The report says that government-controlled power provider Electricité de France SA (EDF) needs to make significant upgrades "as soon as possible" to its 58 reactors in order to protect them from potential natural disasters. The ASN gave reactor operators until June 30 to deliver proposals meeting the enhanced security standards of sites they run. Costs for the upgrades are estimated at 10 billion euros

(US$13.5 billion); previously planned upgrades to extend the life of the nation's reactors from 40 to 60 years are now expected to cost as much as 50 billion euros. Modifications include building flood-proof diesel pumps to cool reactors, creating bunkered control rooms, and establishing an emergency task force that can respond to nuclear disasters within 24 hours. Andre Claude Lacoste, the Chairman of ASN, said, "We are not asking the operator to make these investments. We are telling them to do so." French Energy Minister Eric Besson plans to meet with EDF and reactor maker Areva, as well as CEA, the government-funded technological research organization, on January 9 to discuss implementation of ASN's recommendations. Seventy-five percent of France's energy comes from nuclear power, more than that of any other country. Experts say that the cost of nuclear power in France will almost certainly rise as a result of the required upgrades. EDF shares are down as much as 43 percent in the last 12 months.
Greenpeace blog, 6 January 2012 / Bloomberg, 4 January 2012

Nuclear's bad image? James Bond's Dr. No is to blame! James Bond movies are to blame for a negative public attitude to nuclear power, according to a leading scientist. Professor David Phillips, president of the Royal Society Of Chemistry, reckons that supervillains such as Dr No, the evil genius with his own nuclear reactor, has helped create a "remorselessly grim" perception of atomic energy. Speaking ahead of Bond's 50th anniversary celebrations, Phillips said he hopes to create a "renaissance" in nuclear power. In the first Bond film of the same name, Dr No is eventually defeated by Sean Connery's 007 who throws him into a cooling pool in the reactor. And Phillips claims that this set a precedent for nuclear power being sees as a "barely controllable force for evil", according to BBC News, since later villains hatched similar nuclear plots.
NME, 12 January 2012

North Korea: halting enrichment for food? On January 11, North Korea suggested it was open to halting its enrichment of uranium in return for concessions that are likely to include food assistance from the United States, the Washington Post reported. A statement said to be from a North Korean Foreign Ministry spokesman urged the Obama administration to "build confidence" by including a greater amount of food in a bilateral agreement reportedly struck late last year shortly before the sudden death of North Korean leader Kim Jong Il. Washington halted food assistance to the North after the regime carried out what was widely seen as a test of its long-range ballistic missile technology in spring 2009.
While rebuking the United States for connecting food assistance to security concerns, the statement was less bombastic than the proclamations that are typically issued by the Stalinist state. The statement marked the first time Pyongyang made a public pronouncement about the rumored talks with Washington on a deal for food assistance in exchange for some nuclear disarmament steps. Washington has demanded that Pyongyang halt uranium enrichment efforts unveiled in 2010 as one condition to the resumption of broader North Korean denuclearization negotiations that also involve China, Japan, Russia and South Korea (the socalled six-party talks).
The Obama administration has been exceedingly wary about agreeing to any concessions with Pyongyang, which has a long track record of agreeing to nuclear disarmament actions in return for foreign assistance only to reverse course once it has attained certain benefits.
Global Security Newswire, 11 January 2012

Support for nuclear is not 100% any more in CR and SR. Both Czech and Slovak Republic until recently announced intentions of keeping nuclear power and even increasing capacity by constructing new nuclear power plants – more the less for export. However, Fukushima and "nearby" Germany´s phase-out caused doubts. Mr. Janiš, the Chairman of the Economic Committee of the Slovak Parliament said today: "I have not seen an objective study on the benefits of constructing a new nuclear power plant in Jaslovské Bohunice," said Mr. Janiš. According to him it would be a wrong decision to make Slovakia into a nuclear superpower, when e.g. Germany and Switzerland are phasing out their plants. Mr. Janiš thinks that biomass and sun are the future. Contrary to him, the minister of economy Mr. Juraj Miškov still believes that the fifth unit in Jaslovské Bohunice has a future; the feasibility study will be ready by mid 2012. He is convinced that due to the phase-out in some countries, the electricity demand will increase and Slovakia might become an even more important electricity exporting country than until now.
This comes only days after the Czech Republic announced to downsize the Temelin tender from 5 to 2 reactors thereby losing the possibility to negotiate a 30% lower price. Also here a major question is: will Austria and Germany be interested in importing nuclear power?
www.energia.sk, 10 January 2012

Russia: 25,000 undersea radioactive waste sites. There are nearly 25,000 hazardous underwater objects containing solid radioactive waste in Russia, an emergencies ministry official said on December 26. The ministry has compiled a register of so-called sea hazards, including underwater objects in the Baltic, Barents, White, Kara, and Black Seas as well as the Sea of Okhotsk and the Sea of Japan. These underwater objects include nuclear submarines that have sunk and ships with ammunition and oil products, chemicals and radioactive waste. Hazardous sites with solid radioactive waste sit on the sea bed mainly at a depth of 500 meters, Oleg Kuznetsov, deputy head of special projects at the ministry's rescue service, said. Especially dangerous are reactor holds of nuclear submarines off the Novaya Zemlya Archipelago and a radio-isotope power units sunk near Sakhalin Island, he added.
RIA Novosti, 26 December 2011

WISE/NIRS NUCLEAR MONITOR

The Nuclear Information & Resource Service was founded in 1978 and is based in Washington, US. The World Information Service on Energy was set up in the same year and houses in Amsterdam, Netherlands. NIRS and WISE Amsterdam joined forces in 2000, creating a worldwide network of information and resource centers for citizens and environmental organizations concerned about nuclear power, radioactive waste, radiation, and sustainable energy issues.

The WISE/NIRS Nuclear Monitor publishes international information in English 20 times a year. A Spanish translation of this newsletter is available on the WISE Amsterdam website (www.antenna.nl/wise/esp). A Russian version is published by WISE Russia and a Ukrainian version is published by WISE Ukraine. The WISE/NIRS Nuclear Monitor can be obtained both on paper and in an email version (pdf format). Old issues are (after two months) available through the WISE Amsterdam homepage: www.antenna.nl/wise.

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