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UNESCO INCLUDES KOONGARRA INTO KAKADUS WORLD HERITAGE LISTING

On June 27, the UNESCO World Heritage Committee voted to modify the boundaries of the Australian Kakadu National Park World Heritage Area to include the previously excluded Koongarra area. Koongarra includes a major uranium deposit that was discovered in 1970, but which has never been mined. There are some legal steps the Australian Government will need to finalise before Koongarra is officially included as part of Kakadu National Park

(729.6145) WISE Amsterdam - Kakadu Traditional Owners witnessed and welcomed the decision by the UNESCO World Heritage Committee to include Koongarra within the Kakadu World Heritage Area. Representatives of the Mirarr attended the 35th session of the World Heritage Committee in Paris, France, to support moves by the Senior Traditional Owner of the neighbouring Djok clan, Jeffrey Lee, to permanently protect the Koongarra region from the threat of uranium mining.

On June 20, the Australian Federal Government said the French nuclear energy company Areva, tried to block the push for the world heritage listing of Koongarra area: Areva formally requested the nomination of Koongarra be removed from the agenda of the meeting.

When Kakadu was declared a national park in 1979, a small section of land was left off the map. This 1200 hectare region, known as Koongarra, is entirely within the Djok Traditional estate. It includes a major uranium deposit that was discovered in 1970, and for which Areva holds exploration licences, but which has never been mined.

High level Australian and international assessment teams have opposed any mining plans and recommended increased protection for the unique region.

Senior Traditional Owner of the Djok clan, Jeffrey Lee, has consistently opposed uranium mining on his country and has travelled to Paris to personally support and witness the boundary change as a step towards the inclusion of his land into Kakadu.

In 2010 both major Australian political parties committed to making Koongarra part of the surrounding national park.

The decision to add the environmentally and culturally significant Koongarra region in Kakadu to the World Heritage register is a powerful and positive step towards the permanent protection of one of Australia's most special places. The Koongarra area in Kakadu includes the much-visited Nourlangie Rock (Burrunggui/Anbangbang) and is important in the Rainbow Serpent and Lightning Man storylines.

Sources: ABC Darwin, 20 June 2011; Gundjeihmi Aboriginal Corporation Media statement, 27 June 2011; ACF press statement

MONITORED THIS ISSUE:

NEW NSG GUIDELINES LIMIT INDIA'S ACCESS TO SENSITIVE NUCLEAR TECHNOLOGY

The Nuclear Suppliers Group (NSG) has decided to tighten the norms of enrichment and reprocessing equipment and technology exports. The revised rules, under discussion for years, have been adopted at a June 23-24 Nuclear Suppliers Group meeting in the Dutch town of Noordwijk. In fact, this means a partial reversal of the exemption for India to have access to nuclear equipment and technology, although some analysts are unsure about the wording in the final statement.

(729.6146) Laka Foundation - The U.S. Bush administration helped India (which never signed the Non-Proliferation Treaty) to become eligible for imports of nuclear technology, including sensitive enrichment and reprocessing (ENR) equipment and technology, in September 2008. This was adopted by NSG and an exemption from the existing NSG rules that banned nuclear trade with countries that are not signatories of the NPT. The landmark civilian nuclear cooperation agreement ended India's atomic isolation following its 1974 nuclear test and could mean billions of dollars in business for US corporations, as well as for reactor-supplying firms from France and Russia. But now enrichment and reprocessing equipment and technology, however, are no longer part of the deal. But still there seems to be a snag somewhere in the NSG decision.

The NSG was just set up after India's first nuclear weapons explosion in 1974 “to ensure that nuclear trade for peaceful purposes does not contribute to the proliferation of nuclear weapons or other nuclear explosive devices”. But in September 2008 it did the very opposite by agreeing to the exceptional waiver for India as part of New Delhi's controversial Indo-U.S. nuclear cooperation deal. However, in the build-up of this agreement there was a great deal of resistance to the waiver within the NSG. India’s non-NPT status stuck in many throats during the negotiations leading up to the 2008 waiver by the NSG allowing India to engage in nuclear commerce. NSG failed to produce a consensus, necessary for any decision to go through. Six “like-minded” countries - Austria, Ireland, the Netherlands, New Zealand, Norway and Switzerland - which argued that India must accept three conditions in order to resume nuclear trade, led the resistance. These included a periodic review of compliance with India's nonproliferation pledges, exclusion from trade of sensitive technologies such as uranium enrichment and spent fuel reprocessing, and cessation of nuclear commerce in case India tests. In the event, India only accepted the first condition and doggedly refused to go beyond reiterating its unilateral moratorium on testing. But the NSG agreed.

At the Noordwijk meeting the exemption has been partly reversed under the new NSG rules. There aren't any restrictions to trade in reactors or nuclear fuel, but it limits India's access to sensitive enrichment and reprocessing (ENR) equipment and technology which are vulnerable for proliferation. But India's Finance Minister Pranab Mukherjee has rejected as untrue, reports that the clean waiver India got from the NSG for ENR equipment and technology has ended because of an NSG ban for non-NPT countries. Speaking to NDTV, an Indian TV channel, Mukherjee said America must honor its commitments to India. He said the US is committed to the civilian nuclear cooperation deal with India and the clean waiver given by the NSG. He said he reminded the US administration that the clean waiver to India still stands according to the deal signed by both countries.

Reprocessing equipment and technology comes into play in the treatment of spent fuel from a nuclear reactor, which can be reprocessed and used in a fast-breeder reactor. In 1985, India became the sixth nation to possess fast-breeder technology. The former chairman of India's Atomic Energy Commission Anil Kakodkar commented on the NSG decision: “In the bilateral 2008 Indo-US civilian nuclear deal, there was some forward looking language. The understanding was that even if it is not possible now, it would be made possible in the future. The new NSG guidelines are completely contrary to that spirit.” […] “It's a big departure, or betrayal of the exemption NSG had granted India.” According to Kakodkar the ENR technology is key to the enhancement of the power capacity using fast breeder reactors. India is among a handful of nations to have its own ENR technology, but the plan was to use international ENR technology in the nuclear program that was born out of the international cooperation, he said. “India's very large domestic program or the nuclear fuel cycle will not be affected in any way as far as I understand,” he added.

India's main opposition party BJP asked Prime Minister Manmohan Singh to give clarifications on the recent decision made by NSG. Spokesman Rajiv Pratap Rudy told media the reports emanating from The Netherlands had confirmed the worst fears expressed by BJP in parliament when it ratified the Indo-US Nuclear Treaty signed between Dr Singh and U.S. President George Bush. "The exemption India got is being sought to be nullified and we got nothing in return for the deal it signed with U.S. and India would be treated on par with countries like Pakistan, North Korea and Israel who too have not signed the NPT", he said. “Our apprehensions have become true with the NSG resolving to strengthen its guidelines on transfer of sensitive ENR technologies after considering all aspects of the implementation of the 2008 Statement on Civil Nuclear Cooperation with India.”

NSG members such as the US, Russia, Germany and the Netherlands support India to join the NSG., although it did not sign the NPT. Just before the NSG Noordwijk meeting the Obama administration lauded the NSG move to restrict trade enrichment and reprocessing systems even as it reaffirmed its support of civilian atomic trade with India. Former Indian envoy M.K. Bhadrakumar said, “There is a clear double standard here on the part of the U.S..” Also France and Russia, who each have signed nuclear agreements with India and have also repeatedly voiced their openness to selling enrichment and reprocessing

technology to India, have accepted the new NSG rules.

Ambiguous NSG declaration
There is some wording in the Public Statement of the Noordwijk meeting that shows the ambiguous NSG position and makes it difficult to analyze the exact outcome.
- the NSG therefore agreed to strengthen its guidelines on the transfer of sensitive enrichment and reprocessing technologies […] and
- continued to consider all aspects of the implementation of the 2008 Statement on Civil Nuclear Cooperation with India and discussed the NSG relationship with India.

How do these accounts relate to each other? Proliferation expert Mark Hibbs of the Carnegie Endowment for International Peace firmly believes that the outcome is a strengthening of the guidelines. “The new (NSG) guidelines include language saying transfers of enrichment and reprocessing technologies should be limited to NPT states and India doesn't qualify.” [..] “India has been trying to get that particular item out of the new guidelines and they failed,” Hibbs said. “It limits their access to sensitive technology.”

The NSG - which consists of 46 nations, including the five recognized nuclear weapons states that are not subjected to the IAEA safeguards regime - tries to ensure that nuclear exports are not diverted for military purposes. This would bar all NPT outsiders - India, Pakistan, Israel and North Korea - from such items, which can have both civilian and military applications. Even though they are NPT signatories, the new guidelines would also apply to Iran and Syria as they are being probed by the IAEA over suspicions that they have channeled nuclear activities towards military ends.

Sources: Nuclear Monitor 677, 25 September 2008; NSG Public Statement, 24 June 2011 on www.nuclearsuppliersgroup.org; The Economic Times, 29 June 2011; Reuters, 28 June 2011; NTI, 28 June 2011
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Oct. 3: NON-VIOLENT BLOCKADE OF HINKLEY POINT NPP

The U.K. government and the nuclear industry want us to believe that nuclear new-build in Britain is a done deal. They want to discourage us from protesting – the message they want us to swallow is clear: opposition is futile, and we will be going ahead anyway!

(729.6147) Stop New Nuclear - However, that couldn't be further from the truth. Yes, the government has introduced a framework which effectively will subsidize new nuclear at our expense – as electricity consumers and taxpayers. Yes, the government has effectively deprived local communities from having a say in the planning process for new nuclear and other major infrastructure projects thus dumping a crucial cornerstone of local democracy.

But nuclear new-build in Britain is already behind schedule and has faced legal and other setbacks. Public concern is mounting following the Fukushima disaster. If we can stop the building at Hinkley, we can stop the whole process. Now is the time to mobilize and take action.

New-nuclear in Britain is far from being a done deal, and we can still stop it! Hinkley Point is the first of eight proposed sites for nuclear new build to go ahead. We stopped them here before, and we can do it again. If they fail at Hinkley, it is unlikely the “nuclear renaissance” will have the momentum to continue.

On 3 October 2011 we, the 'Stop New Nuclear' Network, will – with hundreds of people – non-violently blockade the access to Hinkley Point nuclear power station for one day.

The Stop Nuclear Power Network is a UK-based non-hierarchical grassroots network of groups and individuals taking action against nuclear power and its expansion and supporting sustainable alternatives. We encourage and seek to facilitate nonviolent direct action, as well as more conventional forms of campaigning. The alliance has been founded by the Campaign for Nuclear Disarmament, Stop Nuclear Power Network UK, Kick Nuclear, South West Against Nuclear, Shutdown Sizewell, Sizewell Blockaders, Trident Ploughshares and Stop Hinkley. Groups in different areas of the UK are already mobilizing campaigners to travel to the protest.

While the blockade will be the key focus, there will be plenty of roles and activities for people who do not wish to risk arrest. So everyone who is anti-nuclear can come and join us on the day to express their opposition in many different ways. We will prepare ourselves for this blockade with non-violence training, and we will not be deterred by police trying to prevent our non-violent action.

The blockade on Monday October 3, will be inclusive, allowing people from all walks of life and with a wide range of experience in non-violent action – or no experience at all – to participate. We will organize a safe environment for everyone, built on trust for each other, but also on our determination to stop nuclear new-build.

In the days before the blockade, there will be local actions in Bridgwater. There will be a camp and local accommoda¬tion for people over the weekend and non-violence training will be provided.

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AFRICAN URANIUM MINES THE CENTER OF ATTENTION

Uranium mining operations in Africa are being monitored actively by a wide range of organisations worldwide. After the last international uranium mining conference in Tanzania, November 2010, several reports have been published on the topic by various organisations.

WISE Amsterdam - A February 2011 study on financial benefits from uranium mining to African host states, *Radioactive Revenues* (Nuclear Monitor 727, May 27, 2011) published by the Dutch Centre for Research on Multinational Corporations, SOMO, in collaboration with WISE Amsterdam, is now followed by a more extensive study on mitigation of social and environmental impacts. The new report analyses what mitigation measures are taken by companies and governments in the Central African Republic, South Africa, and Namibia, and compares these practices and results with the situation in Canada and Australia. The report, entitled *Uranium From Africa. Mitigation of Uranium Mining Impacts on Society and Environment by Industry and Governments,* will be published July 1, 2011

Reason for this study to be undertaken was the observation that the sudden increase in uranium prices in 2005/2006 has led to an augmentation of uranium mining activities in Africa. This uranium rush followed a uranium price increase, which developed after secondary uranium stocks - from superfluous Cold War nuclear weapons – started to decrease and the nuclear industry hoped to begin their often-mentioned but never-realized 'Nuclear Renaissance'. The uranium rush has had its effects worldwide: hundreds of uranium prospection and exploitation companies were quickly established by speculators, who all have put claims on uranium deposits. However, with the most attractive deposits already claimed by the large players, and unfavorable conditions in some countries (Australia, rich in uranium, has several provinces which have put moratoria on uranium mining), Africa has received much attention from the industry. The lack of strict regulations and the absence of pressure on companies to be accountable for the effects of their operations in Africa are likely to influence Africa's popularity.

Uranium mines are notorious for their impacts on environment and health. Processing of the radioactive uranium ores to produce a marketable product, uranium ore concentrate, inevitably leads to a release of uranium and its toxic and radioactive decay products, as well as other heavy metals, into the environment. In the best case, only soils become contaminated. In reality, radioactive contamination of ground and surface water, soils, and air, is commonly measured near uranium mines worldwide. Inhalation and ingestion of toxic and radioactive elements can lead to various diseases in humans.

In the study, behavior of companies and governments was analyzed by use of a questionnaire on the mining operations. The questionnaire was sent to NGOs, governments, and the industry. Topics that were treated in the questionnaire were

* **General policies,** which concern agreements with host governments, documentation, certification, stakeholder engagement, grievance mechanisms, closure planning;
* **Economy** on the economic impacts and revenue transparency. The economic part on revenues and revenue transparency was used for the report *Radioactive Revenues,* the joint SOMO/WISE publication published in February 2011.
* **Environment,** impacts from mining in general, and uranium mining specifically. Special attention wass given to *tailings*, the mining waste. Piles of waste rock and ponds of tailings are toxic and radioactive and need to be handled with special care. Isolation from the environment is required. Questions were asked about energy use, greenhouse gas (GHG) emissions, water consumption, biodiversity, radiological surveys in the region.
* **Labour rights** on issues such as number of workforce, ethnicity and gender, discrimination, strikes, lock-outs, wages, occupational health and safety, and radiation protection for workers.
* **Society** considered participation of indigenous peoples and communities; Free, Prior, and Informed Consent, forced resettlements, security forces, public policy, corruption and compliance.

A selection of operations was analyzed: in the Central African Republic, Areva's Bakouma mine; in South Africa, AngloGold Ashanti's Vaal River operations, as well as First Uranium's Ezulwini mine and MWS tailings reprocessing operation; and in Namibia, Areva's Trekkopje mine, Paladin's Langer Heinrich mine, and Rio Tinto's Rössing mine.

In all operations, problems were paramount. Ranging from irresponsibly high water consumption in the desert, to hiding the deaths of workers, to absolute non-communication and denial of the public to the right to participate in decision-making processes; many worrying situations were observed.

The report concludes: 'The question 'What do industries and governments do to mitigate the negative impacts caused by uranium mining?' cannot always be answered properly for every mining operation. Lack of transparency and accountability keep important information shielded from the public eye. This is a worrying signal. It has been widely recognised that accountability and transparency are crucial factors in whether or not populations can benefit from their natural resources. The lack of accountability and transparency observed in the Central African Republic, South Africa, and Namibia, can and does lead to mismanagement, and possibly also to corruption.

Company behaviour and Corporate Social Responsibility performance are highly variable. Environmental and social impacts remain significant; but addressing these issues can help prevent the worst case scenarios. Rio Tinto's prior poor performance is improving by the use of extensive Corporate Social and Environmental Responsibility programmes. AngloGold Ashanti seems to be following the same strategy. Both companies do address their negative impacts and have installed structures and projects to mitigate these. Areva is still highly centralised and is giving little attention to local issues such as stakeholder communication and public participation. Mitigation measures which were described by the company were minimal, which is surprising for a large nuclear energy company, rich in resources and experience. First Uranium performs poorly, especially on public participation and transparency.

Claims of good corporate behaviour are not based on disclosed evidence, and are weakened even more by the company's refusal to communicate openly and acknowledge real concerns of affected populations. Paladin Energy is not giving any proof of active and effective mitigation of their negative impacts.'

The negative consequences from uranium mining were known before the writing of this report. Yet the current mitigation (or 'greenwashing') behavior of industry and responsible governments had so far not been described. The current report will therefore be helpful to point the nuclear industry as well as Northern and Southern governments at the underperformance of the uranium miners, and provide African NGOs with accurate information on relevant processes and issues in their countries. It can be used as a tool to inform stakeholders, to put pressure on companies, and to enhance awareness on the negative impacts of nuclear energy consumption. Public concern about nuclear energy in the EU is generally not focused on uranium mines in Africa, but it can become a main topic if the public is well-informed about the current situation and behaviour of mining companies they are familiar with.

The study was undertaken by WISE Amsterdam in collaboration with SOMO and can freely be obtained by sending an email to wiseuranium@antenna.nl The February 2011 study *Radioactive Revenues,* on financial benefits from uranium mining operations for African host states, can still be downloaded from http://somo.nl/publications-en/Publication_3629/

U-mining in DR Congo; a radiant business

Another new June 2011 study, by the Ecumenical Network Central Africa (ENCA), entitled Uranium Mining in the DR Congo. *A Radiant Business for European Nuclear Companies?* Focuses on AREVA's practices in the Katanga mining province in the DRC and makes the connection with Siemens and German banks. It can be downloaded from http://www.oenz.de/fileadmin/users/oenz/PDF/Studie/Uranium_Mining_in_the_DRC_OENZ_June_2011.pdf

A Cameroonian network of organisations has recently published an information brochure with practical information on uranium in Cameroon. Among others, the Center for Environment and Development (CED) and the Network of Struggle against Hunger (RELUFA) have worked on the brochure – both Cameroonian organisations which give much attention to the topic of uranium mining. The brochure contains some general information on the advantages and drawbacks of uranium mining, and poses some fundamental questions to the government. According to the brochure, the Cameroonian government needs to 'consider the exploitation of this resource with much discernment in order to take a decision which will meet the interests of the population in the best possible way.' The brochure concludes with the questions 'When comparing the possible advantages of a uranium project with the negative impacts, is the risk of an imbalance in favor of negative impacts not too important? In the current context, do we need to exploit this resource, or should we leave it in the ground?'
The brochure can be found at http://www.relufa.org/documents/BrochureURANIUMCameroun.pdf

Source and contact: Fleur Scheele at WISE Amsterdam

RUSSIAN REACTORS FAIL SAFETY HOPES – AND WORSE, LEAKED REPORT REVEALS

A report stunning in its candor prepared for Russian President Dmitry Medvedev by the county's state nuclear monopoly in the wake of Japan's Fukushima disaster reveals that Russia's atomic reactors are grievously under-prepared for both natural and man-made disasters ranging from floods to fires to earthquakes or plain negligence

(729.6148) Bellona - The report of the first round of stress tests on Russia's nuclear reactors, prepared by Russian state nuclear corporation Rosatom, was obtained by Bellona Web and other environmental groups and distributed to Norwegian and Russian media. In the report, 31 serious flaws that make Russia's nuclear industry extremely vulnerable to natural disasters are catalogued.

As such, the report is one of the few documents to surface in recent history that actually flatly contradicts Russia's own rosy assessment that its reactors are safe – a propaganda campaign that was kicked into high gear by Prime Minister Vladimir Putin and President Medvedev after the March 11 quake and tsunami hit Fukushima Daiichi, causing three meltdowns.

Bellona nuclear physicist Nils Bøhmer called the Rosatom report "shocking." "It makes for dramatic reading with a view to the fact that the report comes from the owner of the nuclear plants," he said, describing it as "the most serious description of the status of Russian nuclear plants I have ever seen from Rosatom."

Report confirms long-held fears

The two Russian nuclear power plants that are closest to Finland and Norway – Leningrad Nuclear Power Plant (NPP) and Kola NPP, respectively – are of the most concern to the international community. Both are in close proximity to Western Europe.

"The report reveals deficiencies which have never before been mentioned publicly, nor reported internationally," chief engineer Ole Reistad of the Norwegian Institute for Energy Technology (IFI) told Norway's NRK television.

Of particular concern at the Leningrad NPP (LNPP) is its use of the fatally flawed Chernobyl-type RMBK-1000 reactors. LNPP operates four RMBK-1000s, while the Kola NPP runs four aged VVER-440 reactors, two of which received engineering life span extensions in 2003 and 2004.

The Rosatom report, stating what many have asserted since Chernobyl, detailed "flaws and defects" in the design of the RMBK-1000 series that could lead to severe accidents - specifically, problems with control rod mechanisms, which are necessary to keep the nuclear reaction in the reactor under control.

The report's revelations have alarmed the government of Norway. Norwegian State Secretary Erik Lahnstein of the Foreign Ministry, who received an overview of the report, told Aftenposten he wanted a full copy of the report sent to the International Atomic Energy Agency, saying "this confirms what Norwegian authorities have claimed for a long time."

He stressed that Russia should shut down its oldest reactors. The Rosatom document said four reactors have been in shutdown mode for 20 years, and no decommissioning plans have yet been set in motion. This would arguably present difficulties in decommissioning other aged reactors in Russia.

Ole Harbitz, head of the crisis commission for the Norwegian Radiation Protection Authority, said of the report that it showed Russia was rethinking the vulnerability of its nuclear reactors to natural phenomena in the post-Fukushima era.

The dangers have been proven before: In the 1990s a severe storm knocked out primary and back-up power supplies to Kola NPP and Norway had to deliver enormous power generators to keep coolant flowing. In 2006, another power outage threatened coolant systems at the plutonium reactor at the Mayak Chemical Combine.

In Finland, Keijo Valtonen, an official at the Radiation and Nuclear Safety Authority Finland (STUK) somewhat soft-pedalled the dangers posed by Russia's reactors, particularly those at Kola and Leningrad nuclear power plants.

Valtonen told Helsingen Sanomat that most of Russia's nuclear plants meet Western safety standards, but that new threats might arise in inspections made after the catastrophe at Fukushima.

But Valtonen has an agenda of his own: By some estimates, some 30 to 40 percent of power produced at Leningrad NPP is exported to Finland, and annual inspections of the plant by representatives of STUK consistently give it high marks, despite environmental dangers that are regularly revealed and confirmed there.

What the report said

Among the more critical safety failings relayed to Medvedev in the report, Rosatom found that Russia's plants do not have relevant regulations in place for personnel to know how to deal with large-scale natural disasters or other serious contingencies; protective shelter for workers would not accommodate the largest teams on any given shift in the event of an accident, and Rosatom does not keep records of previous accidents, meaning workers do not have the benefit of learning from previous mistakes or improving remedial measures, among other shortcomings.

No stress test for Russia.

According to Kirill Kormarov, deputy general director for global business development at Russian state energy corporation Rosatom, Russia has no plans to submit its nuclear reactors directly to EU-style safety stress tests. "We've done tests already", he said. The EU agreed common criteria in May for safety tests to be carried out on all 143 EU reactors starting June 1 (see Nuclear Monitor 728, June 17, 2011: 'Little Stress With Stress Test').

The European Commission has also pushed for the EU's neighbors to agree to a similar nuclear safety review, but currently there is only a "joint declaration to contribute to transparency and to participate in the peer review [a review of national safety reports at an EU level by the European nuclear regulators' group Ensreg]." The declaration was signed on June 23 by the EC and Armenia, Belarus, Croatia, Russia, Switzerland, Turkey and Ukraine.

Platts, 28 June 2011

Elsewhere in the report, Rosatom points out that electrical and safety-significant systems do not receive the attention they need, resulting in a lack of required protection.

The Rosatom document also questioned the capability of reactors to remain safe for extended periods of time if cooling systems fail. There is no guarantee that power backup systems will be effective should this happen - the primary difficulty that beset Fukushima Daiichi when the quake and tsunami hit.

Additionally, key equipment involved in the cooling process suffers from metal fatigue and welding flaws – yet another problem that was ignored at Fukushima Daiichi's reactor No 1 when regulators there agreed to give it a 10-year operational life span extension – which contributed to a total failure of cooling at the reactor.

Hydrogen control systems also do not correspond to regulations, meaning Russian reactors are vulnerable to the kinds of hydrogen explosions that tore through three reactor buildings at Fukushima Daiichi.

Most importantly, in light of the Fukushima disaster, the report also said that the risk of earthquakes has not been considered as a safety factor for Russian nuclear facilities. Furthermore, not all of Russia's reactors have automatic shutdown mechanisms like the Fukushima Daiichi plant, should an earthquake occur.

Nor are there currently clear guidelines or sufficient infrastructure for spent nuclear fuel (SNF) management, leading to fears of SNF leaks during a disaster – as also happened in Japan. With respect to Russia's RBMK-1000 reactors, spent fuel is simply allowed to accrue in onsite storage because of lack of space to store it and because no technologies have been developed to reprocess it. Solid and liquid waste facilities across Russia are filled to at least 60 percent, and these facilities at Leningrad, Kursk and Smolensk NPPs – all of which run RBMK 100 reactors – are filled to 85 percent capacity.

Reactor buildings at many of Russia's nuclear power plants are also aged and susceptible to structural failure - meaning the buildings could collapse without the help of mother nature.

Further, the Federal Service for Environmental, Technological and Nuclear oversight, or Rostekhnadzor – Russia's nuclear industry watchdog – lacks safety inspectors, and there is a shortage of qualified maintenance workers at NPPs across the country.

Rosatom Chief Sergei Kiriyenko was quick to comment on the report once Norwegian news outlets and Russian environmentalists had publicized its findings, saying it was just a matter of money to fix Russia's shortcomings in the area of back-up power and coolant system deficiencies.

In the Vedomosti business daily, he cited a figure of 5 billion rubles (US$986 million) to bring Russia's reactors up to specifications by enhancing their back-up power and coolant systems. To counter cost overruns, Kiryenko told the paper, Rosatom would rely on the government.

Source and contact: Charles Digges and Maria Kaminskaya, Bellona Foundation, 21 June 2011.
Web: www.bellona.org

AMERICA'S NUCLEAR FUEL STORAGE POOL PROBLEM

After more than fifty years, the quest for permanent nuclear waste disposal remains illusory. One thing, however, is clear, whether we like it or not: the largest concentrations of radioactivity on the planet will remain in storage at US reactor sites for the indefinite future. And the corporations that own the nation's nuclear reactors are stuffing about four times more spent fuel into storage pools than the pools were designed to accommodate.

(729.6149) Robert Alvarez - In March 1992 George Galatis, a nuclear engineer at the Millstone nuclear power station in Waterford, Connecticut, became alarmed during a refueling. The reactor had to be shut down and the full radioactive core of the Unit 1 reactor, which held thousands of rods, was removed and then dumped into the spent fuel pool—a blatant violation of Nuclear Regulatory Commission (NRC) safety requirements.

The pool was already quite full. It wasn't designed to suddenly hold those very radioactive and thermally hot fuel rods, which give off so much radiation that an unshielded person nearby would receive a lethal dose in seconds. In a previous incident around that time, a worker's boots melted during this procedure. Because the pool could overheat, and possibly cause the pumps and cooling equipment to fail, the NRC had required reactor operators to wait for sixty-five days before performing this task—with good reason. NRC studies over the past thirty years have consistently shown that even partial drainage of a spent fuel pool that exposed highly radioactive rods could release an enormous amount of radioactivity into the environment. Arnie Gunderson, a nuclear engineer with many years of experience at US nuclear reactors, describes this kind of accident as "Chernobyl on steroids."

Northeast Utility (which sold the Millstone reactors to Dominion Power in 2000) was standing to lose about US$500,000 a day for replacement power if it followed the rules calling for a shutdown that would last more than two months. It had taken this shortcut for many years, while the NRC deliberately looked the other way.

By this time, the corporations that owned the nation's nuclear reactors were stuffing about four times more spent fuel into storage pools than the pools were designed to accommodate, with the NRC's blessing. It took several years for Galatis to force the NRC to take action at Millstone, at the expense of his career. His whistleblowing landed him on the cover of Time and embarrassed the NRC into performing a more thorough inspection of the reactor. The agency found a host of problems and ordered Unit 1 closed in 1996. The reactor was permanently shut down in 1998, but the spent fuel remains in a pool while the reactor is still being decommissioned, thirteen years later.

In the tradition of no good deed going unpunished, the Republican-controlled Congress, led by then–Senator Pete Domenici, was outraged over Millstone 1's closure and made sure that the NRC would never do this again. In his autobiography, Domenici proudly notes that he sought to cut 700 jobs at the NRC in 1999, effectively gutting its regulatory efforts. "While many NRC requirements had questionable impact on safety," Domenici said, "their impact on the price of nuclear energy was far more obvious. This 'tough love' approach was necessary."

Domenici had his way. By 2000, the NRC sharply curtailed its oversight activities and became more of an enabler of nuclear power than a regulator. To this day, it remains overly dependent on nuclear industry self-reporting of problems.

Nearly twenty years after George Galatis began his lonely struggle to improve safety of spent fuel pools, the Fukushima catastrophe in Japan has once again turned a spotlight on this serious hazard in the United States. The explosions at the Fukushima Daiichi station left the spent fuel pools at three reactors exposed to the open sky, as Tokyo Electric Power (Tepco), the company that owns the crippled power station, desperately try to keep them cool with thousands of tons of water. Spent fuel in one pool is believed to have caught fire and exploded. American reactors have generated about 65,000 metric tons of spent fuel, of which 75 percent is stored in pools, according to Nuclear Energy Institute data. No other nation has generated this much radioactivity from either nuclear power or nuclear weapons production.

Spent Nuclear Fuel Pools in the US.
U.S. reactors have generated about 65,000 metric tons of spent fuel, of which 75 percent is stored in pools, according to Nuclear Energy Institute data. Spent fuel rods give off about 1 million rems (10,00Sv) of radiation per hour at a distance of one foot - enough radiation to kill people in a matter of seconds. There are more than 30 million such rods in U.S. spent fuel pools. No other nation has generated this much radioactivity from either nuclear power or nuclear weapons production. Nearly 40 percent of the radioactivity in U.S. spent fuel is cesium-137 (4.5 billion curies) - roughly 20 times more than released from all atmospheric nuclear weapons tests. U.S. spent pools hold about 15-30 times more cesium-137 than the Chernobyl accident released. For instance, the pool at the Vermont Yankee reactor, a BWR Mark I, currently holds nearly three times the amount of spent fuel stored at Daiichi's crippled Unit 4 reactor. The Millstone reactors, which have the largest spent-fuel inventory in the United States, hold over five times more radioactivity than the combined total in the pools at the four wrecked Daiichi reactors. Systems required to keep pools cool and clean are being overtaxed, as reactor operators generate hotter, more radioactive, and more reactive spent rods. Reactor operators have increased the level of uranium-235, a key fissionable material in nuclear fuel to allow for longer operating periods. This, in turn, can cause the cladding, the protective envelope around a spent fuel rod, to thin and become brittle. It also builds higher pressure from hydrogen and other radioactive gases within the cladding, all of which adds to the risk of failure. The cladding is less than one millimeter thick (thinner than a credit card) and is one of the most important barriers preventing the escape of radioactive materials.

Even though they contain some of the largest concentrations of radioactivity on the planet, US spent nuclear fuel pools are mostly contained in ordinary industrial structures designed to merely protect them against the elements. Some are made from materials commonly used to house big-box stores and car dealerships.

The United States has thirty-one boiling water reactors with pools elevated several stories above ground, similar to those at Daiichi. As in Japan, all spent fuel pools at nuclear power plants do not have steel-lined, concrete barriers that cover reactor vessels to prevent the escape of radioactivity. They are not required to have back-up generators to keep used fuel rods cool if offsite power is lost.

For nearly thirty years, NRC waste-storage requirements have remained contingent on the opening of a permanent waste repository that has yet to materialize. Now that the Obama administration has cancelled plans to build a permanent deep-disposal site at Yucca Mountain in Nevada, spent fuel at the nation's 104 reactors will continue to accumulate and is likely remain onsite for decades to come.

Domenici and the nuclear industry have often said that spent nuclear fuel could be stacked on a football field ten feet deep. There's a problem with this assertion. First, it's not remotely feasible and, most certainly, ill advised to squeeze the largest concentration of radioactivity on the planet onto a field. This would unleash chain reactions involving enough plutonium to fuel about 150,000 nuclear weapons, and could ignite a radiological fire that would cause long-term land contamination that would make Chernobyl and Fukushima look like pimples on a pumpkin. It would deliver lethal radiation doses to thousands if not millions of people hundreds of miles away. In other words, storing the entire nation's spent fuel in one place would be a mistake.

On June 7 the Japanese government reported to the International Atomic Energy Agency that the amount of radioactivity released into the atmosphere during the first week of the accident was twice its previous estimate. The government failed to mention that an equally large amount was discharged into the sea, indicating that the Fukushima accident may have released more radioactivity into the environment than was released at Chernobyl. Around the same time, the Nuclear Waste Management Organization of Japan reported that cesium-137 contamination from the accident had rendered an area about seventeen times bigger than Manhattan uninhabitable.

I co-authored a report in 2003 that explained how a spent fuel pool fire in the United States could render an area uninhabitable that would be as much as sixty times larger than that created by the Chernobyl accident. If this were to happen at one of the Indian Point nuclear reactors—located about twenty-five miles from New York City—it could result in as many as 5,600 cancer deaths and $461 billion in damages.

The US government should promptly take steps to reduce these risks by placing all spent nuclear fuel older than five years in dry, hardened storage casks—something Germany did twenty-five years ago. It would take about ten years and cost US$3.5–7 billion (2.4-4.8 bn euro) to accomplish. If the cost were transferred to energy consumers, the expenditure would result in a marginal increase of less than 0.4 cents per kilowatt-hour for consumers of nuclear-generated electricity. Despite the destruction wreaked by the earthquake and tsunamis in Japan, the dry casks at the Fukushima site were unscathed.

Another payment option is available for securing spent nuclear fuel. Money could be allocated from US$18.1 billion in unexpended funds already collected from consumers of nuclear-generated electricity under the Nuclear Waste Policy Act to establish a disposal site for high-level radioactive wastes.

After more than fifty years, the quest for permanent nuclear waste disposal remains illusory. One thing, however, is clear, whether we like it or not: the largest concentrations of radioactivity on the planet will remain in storage at US reactor sites for the indefinite future. In protecting America from nuclear catastrophe, safely securing the spent fuel by eliminating highly radioactive, crowded pools should be a public safety priority of the highest degree.

With a price tag of as much as US$7 billion, the cost of fixing America's nuclear vulnerabilities may sound high, especially given the heated budget debate occurring in Washington. But the price of doing too little is incalculable

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BENEFIT CONCERT TO SUPPORT DISASTER RELIEF EFFORTS IN JAPAN AND NON-NUCLEAR GROUPS WORLDWIDE

An impressive line-up of artists are coming together for a special benefit event on August 7 in Mountain View, California, USA. Amongst them names as Crosby, Stills & Nash, Jackson Browne, Bonnie Raitt, Jason Mraz, The Doobie Brothers, Tom Morello, John Hall, Kitaro, Jonathan Wilson, Sweet Honey in the Rock.

(729.6150) MUSE - Proceeds from the concert will be distributed to Musicians United for Safe Energy (MUSE) to support Japan disaster relief efforts, and organizations worldwide working to promote safe, alternative, non-nuclear energy. “The disaster in Fukushima is not only a disaster for Japan. It is a global disaster. We come together now across cultural boundaries, political and generational boundaries, to call for changes in the way we use energy, and in the ways we conduct the search for solutions to the problems facing humanity,” says Jackson Browne. “We join with the people of Japan, and people everywhere who believe in a non-nuclear future.”

It was shortly after the March 2011 earthquake and tsunami that triggered multiple meltdowns at the Fukushima Daiichi nuclear plant in Japan that the decision was made to coordinate a benefit. Shoreline Amphitheatre was chosen because of its close proximity to the Pacific Rim, Northern California’s history and deep association with Japan—and because nuclear reactors on the California coast store spent fuel rods in the same manner as at Fukushima. The concert date falls between the anniversaries of atomic bombs dropped on Hiroshima (August 6, 1945) and Nagasaki (August 9, 1945).

“The MUSE concert will not only be a great show, it will hopefully entice the public to become better informed of the tremendous dangers of nuclear power,” says Graham Nash. “We have to keep real and true information flowing so that people can act on it.”

“We’re so lucky to have been able to bring back some of the original MUSE team to collaborate with some new and younger artists for MUSE 2, so that we can immediately help with the Japan relief effort and raise funds and awareness for the no nukes issue,” says Bonnie Raitt. “I'm excited to be a part of this important and truly collaborative effort. It’s going to be a very special, one of a kind event.”

Pat Simmons, of The Doobie Brothers, who performed at the original MUSE shows adds, "We are so proud to be reuniting with so many of our talented friends, who share our concern for the safety, and sustainable future of our fragile planet. Current events have brought us to a turning point in our human existence. It's time to consider alternatives to the present course of energy production that have been forced upon us by an aggressive corporate power structure. We join together to generate funds to help our Japanese friends, as they recover from the devastation that they have had to endure, due to man's careless use of nuclear energy, and nature's unpredictability. Through these efforts we also hope to raise public awareness of the challenges we are faced with, and the important responsibilities we share in moving us towards a safer, nuclear free future."

The concert stage will be powered by an integrated system of clean, alternative energy sources, using solar, biodiesel, and wind technologies. One goal is that the concert will inspire musicians in other areas to organize shows that both employ and promote safe energy alternatives, and that raise funds for disaster relief efforts and for groups—local, regional, national, and international alike—advocating non-nuclear programs and initiatives.

“As Japan struggles to subdue meltdowns at Fukushima, and Ft. Calhoun Nuclear in Nebraska struggles to keep its reactor and spent fuel above the Missouri's floodwaters, we once again face a crucial choice,” says John Hall. “Will we, as a country, invest in clean, renewable sources of energy, or will we continue to use taxpayer dollars to indemnify and subsidize the dirty, deadly old technologies that are making our planet unlivable?”

"Even though the news cycle has moved on from the Fukushima disaster, this is another massive world energy disaster from which there will be long-term effects,” adds Jason Mraz. “I am thrilled to be a part of this amazing show that will not only help those in Japan, but that will also call attention to the urgent need to embrace safe, clean energy alternatives."

Japanese musician and multi-instrumentalist, Kitaro, joined the bill as a way to give thanks “for all of the support for Japan from the world, and to all of the Japanese, who are helping each other.” He adds, “It is time to consider the change to alternative clean energy instead of nuclear power.”

For more information, please visit: www.musiciansunited4safeenergy.com and www.nukefree.org

IN BRIEF

Invitation to the 2011 Nuclear Heritage Network-meeting Czech Republic. The first international anti-nuclear networking gathering in Europe after the Fukushima disaster organized by activists of the Nuclear Heritage Network will take place from August 1-5, 2011 in Ceské Budejovice (Budweis) in the Czech Republic close to the Austrian border and near to the controversial Temelín nuclear power plant.
As part of the gathering anti-nuclear activists from several countries will also meet with Czech and Austrian activists who cooperate in a unique cross-border network, which is partly coordinated and funded by the Upper-Austrian regional government.

We will visit a group of Lower-Austrian activists, who have been organizing for years now so called "energy-meetings" and have become pioneers in using and making renewable energies popular.
The gathering is also supposed to get to know each other in person, to share experiences in the anti-nuclear field, and to develop mutual projects and campaigns. Goal is to improve the international anti-nuclear cooperations and to discuss how to provide more resources by the Nuclear Heritage Network as well as by activists and organizations out of the network for international anti-nuclear activities. Thus, the initiatives are supposed to strengthen the anti-nuclear movement as well as to face various obstacles within and outside the movement.
As the logistic frame of our meeting is limited, please announce your participation to us as early as possible, and not later than July 20: falk@nuclear-heritage.net or b.riepl@eduhi.at.

Swiss police clear Mühleberg protest camp. On June 21, police cleared the protest camp against the Mühleberg nuclear power station which was set up in the city of Bern at the beginning of April. The city government issued a statement saying the decision to clear camp outside the headquarters of BKW Energy, which operates Mühleberg, had been taken after the activists had refused to dismantle the tents despite lengthy discussions. It said it would have been prepared to allow a permanent vigil, but had made it clear from the beginning that it would not tolerate a camp with a permanent population. It added that it had now withdrawn its permission for a vigil and would not allow the area to be re-occupied.
The Mühleberg Abschalten (Switch off Mühleberg) association accused the Bern city government of taking the side of the nuclear lobby after the cantonal parliament decided last week not to do anything to take Mühleberg out of the grid. But it said the protest would continue until the power station was switched off. Only a few hours after the eviction, about 200 people gathered around the site for a lunchtime protest picnic with flags and placar. In the evening of the same day, several hundred demonstrators marched through Bern peacefully to protest the clearing of the camp.
World Radio Switzerland, 21 June 2011 / Swissinfo.ch, 21 June 2011

Threats to nuclear reactors in US. In July, the United States' Nuclear Regulatory Commission will release the final results of its 90-day reactor safety review. The NRC will claim that nuclear reactors in the United States are safe. But the report will leave out critical information that exposes that claim as a myth.
We've already seen in Japan the catastrophic combination of inadequate regulations,
aging reactors and unpredictable weather. What will be missing from the NRC report?

*As severe weather becomes more frequent, nuclear reactors have become more
vulnerable and less reliable. Flood waters have knocked out power at the Fort Calhoun Nuclear Station in Nebraska. On June 27, the barrier intended to keep water from immersing the reactor grounds was breached. The plant is now reportedly running on emergency generators to maintain the cooling systems.
But floods are not the only weather phenomena to threaten reactors; extreme heat and droughts also force reactors offline. Nuclear power plants consume more water than any other energy technology. In recent summers, water rationing due to heat waves in the southeast has required shutting down nuclear plants in Tennessee and Florida.
Current regulations - amazingly - fail to account for possibility of a single weather event or natural disaster knocking out electricity from both the grid and emergency generators.
*U.S. nuclear reactors are being pushed well beyond their operational design and the
resulting deterioration undermines their safety. In the U.S., reactors were designed and licensed for 40 years, but 66 of the 104 operating units have been relicensed to operate for 20 more years. In fact, the NRC has never denied a renewal - not even for the Vermont Yankee plant, where problems like groundwater contamination from leaking tritium led the state senate to vote against renewing its license. Corroded underground piping in aging plants is responsible for radioactive tritium leaks at 75% of U.S. commercial nuclear power sites.
*Federal regulators are far too cozy with the nuclear industry. Together they are maintaining the illusion that the nation's aging reactors operate within safety standards by repeatedly weakening those standards or simply failing to enforce them. According to a recent investigation by The Associated Press, NRC officials have - time after time, and at the urging of the industry - decided that original regulations were too strict and argued that safety margins should be eased.

Immediate steps can and must be taken to strengthen the regulation of nuclear
reactors. But ultimately, we need to shift away from nuclear to renewable, safer and
more efficient power choices.
Public Citizen's Climate & Energy Program, 28 June 2011

Jellyfish block Torness. Two reactors at the UK Torness nuclear power station have been shut down after huge numbers of jellyfish were found in the sea water entering the plant. The jellyfish were found obstructing cooling water filters. The plant's operator, EDF Energy, said the shutdown was a precautionary measure and there was never any danger to the public. A clean-up operation is under way, but according to the utility it could take a week to re-start again. Torness has two Advanced Gas Cooled Reactors but also relies on supplies of sea water to ensure it operates safely. It has filters which are designed to prevent seaweed and marine animals entering the cooling system. If these are blocked, the reactors are shut down to comply with safety procedures. Staff at the plant took the decision to shut down the reactors in the afternoon on June 30. In February 20101 one of the two reactors was also shut down following a technical failure which affected the transformer, causing an automatic shutdown.
BBC Scotland, 30 June 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.

Receiving the WISE/NIRS Nuclear Monitor

US and Canada based readers should contact NIRS for details of how to receive the Nuclear Monitor (address see page 11). Others receive the Nuclear Monitor through WISE Amsterdam.
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