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FENNOVOIMA: START OF CONSTRUCTION DELAYED

According to the Austrian website Solidbau ('industry and technology on construction') Fennovoima announced that 'nothing will happen' at the site of the proposed nuclear power plant at Pyhäjoki, northern Finland, before 2014. Fennovoima is owned by a large group of Finnish companies in need of their own electricity supply as well as German energy company E.ON.

(754.4268) WISE Amsterdam - Delaying E.ON/Fennovoima project to 2014 means a two year delay before any construction work has started. According to Fennovoima speaker Timo Kallio, this is not a delay but a refinement of the time schedule. However, Jehki Härkönen of Greenpeace, Helsinki, states that it is certainly a 'significant delay' and not 'refining the schedule' as the company needs to apply for construction permission from the government before July 2015 or it will lose the political permission granted by parliament.

The project's EIA (Environmental Impact Assessment) prepared in 2008 says construction is supposed to start in 2012 and the application for permission-in-principle which was prepared in 2009 specifies infrastructure work will start in Q3/2012 and construction of the nuclear power plant in Q4/2013 or Q1/2014. Now the infrastructure work is supposed to start in 2014 meaning the nuclear power plant construction could probably only start a year later. They also announced that the reactor provider won't be chosen during this year. The plant will be supplied by Areva (1700 MW EPR) or Toshiba (1600 MW ABWR), according to the company's website. The coastal municipality of Pyhäjoki is located in Northern Ostrobothnia on the shore of the Baltic Sea.

The delay seems to suggest E.ON is quite uncertain of its plans. In March, German utilities RWE and E.ON decided not to continue with the development of new nuclear power plants in the UK through their Horizon Nuclear Power joint venture.

Waste repository

But more problems ahead for Fennovoima: The Finnish government has given Posiva (jointly owned by Fortum and TVO, the two Finnish nuclear utilies) permission to expand its planned Onkalo repository, which would enable it to accommodate used fuel from the new Olkiluoto 4 reactor planned by TVO. TVO and Fortum maintain that it could not be extended any further for waste from the Pyhäjoki nuclear power plant, without compromising its long-term safety.

According to Fennovoima's Decision-in-Principle from the Finnish Government in 2010, Fennovoima must by 2016 present either an environmental impact assessment program for an own final disposal facility or present an agreement with Posiva and its owners. E.ON/Fennovoima is engaged in a dispute with the existing Finnish nuclear industry over getting access to their waste project. Currently it seems they are losing this dispute and would need to build one of their own but this is not yet clear. Fennovoima managed to obtain local support for its project by promising the waste would never be deposited in the grounds of the nuclear power plant and it also has no budget for building a repository of its own.

Sources: World Nuclear News, 9 March 2012 / Solidbau (Austria), 8 August 2012 / Company website www.Fennovoima.fi / Email Jehki Härkönen, 9 August 2012

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MONITORED THIS ISSUE:

CLOSED SIBERIAN NUCLEAR CITY PREPARES TO BUILD RADWASTE REPOSITORY

Residents of the closed Russian nuclear city of Zheleznogorsk, near the Siberia city of Krasnoyarsk, have approved at a July 30 public environmental hearing a project to construct an underground research laboratory, which will study the possibility of constructing a long term subterranean radioactive waste repository.

(754.4269) Bellona - However, some environmentalists have raise concerns that access to information about the facility, which was only viewable in paper form at the Zheleznogorsk city administration, was intentionally restricted by Russia's state nuclear corporation, Rosatom, to avoid criticism of the project. Because of Zheleznogorsk's militarily closed status, special passes are required to visit the city and thus to view the information. Others claimed that only organizations were invited that confirm the position of the Mining and Chemical Combine. Still others are unconvinced by the safety of the proposed repository, saying that safety assurances are hyped propaganda from Russia's nuclear industry.

The laboratory, near the Siberia city of Krasnoyarsk will be built in the area's Yeniseisky District and will conduct a minimum of nine years of study of mountainous and geological layers in accord with international recommendations and on the basis of experience from other similar international laboratories attempting to perfect the fragile science of safely storing radioactive waste for dozens if not hundreds of thousands of years underground.

Lab before repository

The aim of the years of study, which will be conducted at the exact underground depth of the possible future repository, is to confirm the fitness of the local geology for safe storage of long-lived high- and medium-level radioactive waste, and the development of technology to handle waste. This will encompass the development of building chambers and shafts for radioactive waste storage, as well as the creation of engineering barriers against radiation. Comprehensive studies of the isolating characteristics of engineering barriers will be carried out, as well as studies on the thermodynamics of the chambers and shafts and geological layers.

The studies will form the backbone of a technical report that will be submitted for expert analysis by the State Commission on Useful Mineral Supplies, which will form the basis for whether the project can enter its first phase of construction of permanently isolating facilities, or if further study is required. No decision on whether the repository can be put to use can be taken until the underground laboratory has reasonably proved that the repository will be safe. The mining and chemical combine itself already houses wet storage for spent nuclear fuel, and has also launched a dry storage facility, which this year received its first load of spent RBMK reactor fuel.

Limited access to EIS

Public hearings are a necessary component of a State Environmental Impact Study of planned economic or other activities. The aim of the Environmental Impact Study is to avert or minimize negative environmental, societal, and economic consequences. According to the Zheleznogorsk Mining and Chemical Combine, a mere 50 people from the 100,000 strong region participated in reviewing the environmental impact report before the hearing, including a number of official inquiries from authorities.

Information about the hearing was posted, as required by law, 30 days before it took place in official media. The State Environmental Impact Study was accessible for review, and preparations of remarks and suggestions of interested parties were addressed in the public reception of the Zheleznogorsk city administration, which was staffed by consultants who answered questions from citizens on the voluminous technical text and who noted their opinions on the planned facility.

Environmental groups from Krasnoyarsk and Zheleznogorsk, representatives of the Ministry of Natural Resources and Ecology, scientists and specialists in various fields were invited to attend Monday's hearing.

But there were complaints that access to the impact study was extremely limited. "It was only possible to view the environmental impact study material by traveling personally to Zheleznogorsk," said Valery Komissarov, chief engineer of the isotope and chemical factory of the Zheleznogorsk Mining and Chemical Combine. "Paper and electronic copies were forbidden, three copies of the document were available in the public reception of the city administration, where you could copy some information by hand," he said.

Because of Zheleznogorsk's militarily closed status, special passes are required to visit, and without being able to visit, many interested citizens were unable to view the Environmental Impact Study. According to Vladimir Mikheyev, director of the Citizens' Center For Nuclear Nonproliferation, the closed nature of the impact study shows that Russia's state nuclear corporation Rosatom is hardly ready to cooperate with the public, specifically with critical observations by ecological groups. They only invited organizations that confirm the position of the corporation to their event," Mikheyev told the Russian Press Line news agency.

Source: Bellona Foundation, 2 August, written by Anna Kireeva, translated by Charles Digges

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CANADA: JAMES BAY CREE NATION ENACTS URANIUM BAN

In a unanimously adopted resolution, the Cree Nation state they are "determined to protect our way of life against the unique and grave threat posed by uranium mining and waste, today and for thousands of years to come".

(754.4270) Grant Council of the Crees - The James Bay Cree Nation has declared a Permanent Moratorium on uranium exploration, uranium mining and uranium waste emplacement in Eeyou Istchee, the James Bay Cree territory. The permanent moratorium was enacted unanimously by the Annual Cree Nation General Assembly in Waskaganish on August 8.
"The risks inherent in uranium exploration, mining, milling, refining and transport, and in radioactive and toxic uranium mining waste, are incompatible with our stewardship responsibilities in Eeyou Istchee," the Resolution declares.

"The Cree Nation is determined to protect our economies and way of life against the unique and grave threat posed by uranium mining and uranium waste, today and for thousands of years to come," said Grand Chief Dr. Matthew Coon Come. "We are not opposed to sustainable and equitable mining and other industrial and resource development activities in Eeyou Istchee – but the toxic and radiation risks created by uranium mining and uranium waste are unique in scale and duration."

"Uranium moratoriums have been enacted by the governments of British Columbia and Nova Scotia, as well as other foreign jurisdictions, without affecting other mining and resource development activities," Grand Chief Coon Come told the Cree Assembly. "We anticipate that all Québécoises and Québécois, once they know the facts, will join us in this minimal stand of prudent stewardship."

Recent global increases in uranium prices have spurred significant uranium exploration activities in Eeyou Istchee. The most advanced uranium project to date in Eeyou Istchee is at the Matoush uranium ore body site near the Cree community of Mistissini. Strateco Resources Inc. has requested regulatory approval to conduct an advanced exploration project at Matoush, with the stated intention of determining the feasibility of a uranium mine and mill at this site.

"The Crees of Mistissini have declared our strong opposition to uranium mining in Eeyou Istchee," said Chief Richard Shecapio, Chief of the Cree Nation of Mistissini. "We never doubted that the Cree Nation as a whole would stand with us in unity and strength."

The Grand Council of the Crees (Eeyou Istchee) is the political body that represents the Eeyouch, the James Bay Cree people.

Source: news release; 9 August 2012 available at: www.gcc.ca/newsarticle.php?id=281
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NEW REACTORS IN SWEDEN? WHY VATTENFALL'S APPLICATION WAS 'NON-NEWS'

On 31 July the Swedish state-owned power company, Vattenfall, submitted a preliminary application to the regulator concerning the construction of one, possibly two nuclear reactors in Sweden. Considering that Sweden long had a total ban on planning new reactors, such a move might be expected to be hot news – particularly since Vattenfall is owned by a government that professes to promote environmentally sound energy solutions. But it wasn't.

(754.4271) WISE Sweden - The ban on planning new reactors was lifted in January 2011. New nuclear reactors are now possible, but the total number may not exceed the present ten. In other words, any new reactor has to replace one that is taken off line. Furthermore, the amendment requires any new reactor to be placed in one of the localities that currently host a nuclear plant.

Vattenfall's presentation of the initiative makes interesting reading. Practically every third sentence of the press release assures the reader that "this does not mean we are planning to build a reactor". Instead, the purpose of the application, according to Vattenfall, is to obtain a checklist of the requirements that would have to be fulfilled. The regulator's work on the specifications is expected to take about three years. Only then can the company properly judge the scope and business prospects of constructing a new reactor.

Besides the cost of construction, other factors that will affect the decision are (1) the estimated relationship of supply to demand for electricity on the Swedish and European markets in the late 2020's, and (2) the availability of financing and interest on the part of partners in the private sector. Vattenfall notes that its owners require that any venture the company engages in has to be "both profitable and sustainable". This is a new specification, added after the company's adventures in Germany (brown coal and nuclear) which eventually led to an abrupt change of management in early 2010 and brought the then-Minister of Industry under fire.

Should the venture seem to be potentially profitable, a long and intricate process will ensue. First, the Radiation Safety Authority will examine a detailed application and solicit the views of several agencies (the Swedish Environmental Protection Agency, the Swedish Agency for Marine and Water Management, the Swedish Work Environment Authority) and Svenska Kraftnät, the

state-owned public utility that manages the grid. Thereafter, the Authority will make its recommendation to the Government. Parallel with this process, a court will examine the application in light of the requirements of the Environmental Code, focusing on environmental impacts. All in all, approval would probably take 10-15 years. The reactor itself would come on line in 2025, at the earliest.

Political X-factors
Nuclear power is a divisive issue in Sweden, not only between parties but within them. Add to that the distant time horizon and the questions outnumber the answers by far.

The decision to lift the ban on 'new build' was taken by a Conservative-led coalition of four parties, two of which – the Center Party and the Christian Democrats – have reversed their previous anti-nuclear stance in recent years. The rank-and-file of each are divided. According to the polls, both are dancing around the 4 per cent threshold to representation in Parliament. (The parties' position on nuclear power is not the reason for the parties' decline; the reversal of policy on nuclear rather reflects more general factional strife.) In sum, the future of the ruling coalition is highly uncertain. The next general elections are to be held in September 2014.

With the exception of the Greens, the opposition parties that are expected to form a coalition should the current government be ousted have spotty records on nuclear power. The Greens, hardly as large a party in Sweden as in, say, Germany, are alone in their consistent opposition to nuclear. The Left, smallest of the opposition parties, is divided between two priorities: jobs versus the environment. The newly elected party leader, however, has a strong record on environmental issues, energy included. The Social Democrats, largest of the three, are a mixed bag: the most recent party congress formulated the goal of successively replacing the nuclear plant with energy from renewable sources, but at a pace that "poses no threat to either jobs, welfare or the environment". The newly elected party leader, however, was strongly pro-nuclear when he led the metalworkers' union. He and the energy spokesperson who commented on Vattenfall's initiative speak of drafting an energy policy that the whole of Parliament can agree to. Just how strong the party's commitment to renewables is, and where the Social Democrats might land on the issue 10-15 years from now, is hard to say.

Motives
Why the application? From a business point of view it is only natural for a nuclear power company to plan for the future. If an inquiry addressed to the regulatory authority is the only way to gain a clear picture of future requirements and costs, an application is reasonable enough.

Why state-owned Vattenfall? Over a year has gone by since the government lifted the ban on planning for new reactors. No private actor has stepped forward, albeit some major users of energy (the paper-pulp industry, for example) have urged 'someone' to take the initiative. It seems likely that the government may have used its influence as owner of Vattenfall to get the ball rolling.
A second probable reason is that Vattenfall owns 70.4% of Ringhals AB, two of whose reactors are, even today, aged, faulty and costly. One commentator indicated Ringhals, south of Gothenburg, as the likely site of renewal.

Why now? Sweden is at mid-term in the current election period. Waiting until closer to the next election would heighten the risk of political fission that nuclear power implies – for everyone but the Greens.

Sources: The Swedish Radiation Safety Authority: www.stralsakerhetsmyndigheten.se/start/Karnkraft/Vart-sakerhetsarbete/Vi-granskar-ansökan-om-ny-karnkraft / Vattenfall's press release: www.vattenfall.se/sv/news-details_152996.htm?newsid=EE033D6727E24052BF75C979319646ED / and Application: Ansökan Dokumentnr 106880-M-2423 (pdf, in Swedish) Dagens Nyheter (web edition) 7 August, and miscellaneous media notices
Contact: Charly Hultén at WISE Sweden

DOEL 3 NPP: FISSURES IN RDM REACTOR VESSEL

Fissures in the reactor vessel of the Doel 3 reactor in Belgium were discovered using ultra-sound during inspections in June and July. The cracks possibly date back to the reactor's construction some 40 years ago by Dutch RDM (Rotterdamse Droogdok Maatschappij), which is no longer in business. Restart of the reactor after the regular scheduled inspections has been delayed. The shutdown for outage (with fuel discharged from the reactor) has been extended.

(755.4272) WISE Amsterdam - Every 12 to 18 months Belgian nuclear power stations are subjected to an inspection of their installations and repair and maintenance operations. During this outage the reactor is shut down and the core is partially refuelled. During these outage periods the so-called 'operating' inspections are conducted to check the good condition of the reactor vessel (mainly weld zones between vessel elements). Non-destructive ultrasound measuring techniques are used. These inspections are carried out in accordance with standards developed for metallurgy by the American *Society of Mechanical Engineers* (known under the name of Standards ASME XI).

At Doel 3 this outage began in June 2012. A new ultrasound measuring technique was used for the first time during that inspection over the whole surface of the Doel 3 reactor vessel. This inspection was conducted by a specialist French firm on behalf of Electrabel. This is the first time in Belgium that the basic material of the reactor vessel was tested (elsewhere than in the weld zones). The whole wall of the reactor vessel was also inspected, although the ASME XI standards only recommend inspection on sensitive components.

These first measurements revealed that further examination was necessary, which began on July 16. Numerous flaw indications (some reports say 8,000) in the basic steel material of the reactor vessel were detected in late June, in particular in the bottommost ring. These are "laminar" flaws parallel with the surface of the walls and, as such, theoretically not dangerous as they are normally not subject to stress

Any repair to the vessel is practically impossible and, according to the FANC (Belgium's Federal Agency for Nuclear Control) is not the option to take, be-

cause it is feared that such an operation would create new stress in the vessel walls, which must absolutely be avoided. A replacement of the vessel is extremely difficult (high radiation dose, etc.) and has never been done anywhere in the world.

FANC expects the following actions from the licensee:
• In-depth investigation of the original reactor vessel construction file to check whether it is a matter of design flaw.
• Metallurgical investigation to detect the cause and explanation of any potential production flaws.
• Drafting of a complete justification file in the context of a restart. It will be submitted to the competent authority for approval. This file will attempt to demonstrate that the detected flaw indications do not represent any danger for the structural integrity of the reactor vessel.

Until these issues have been satisfactorily solved no restart will be allowed, according to FANC, which has also stated that it is questionable if Doel 3 will ever be restarted.

Furthermore, the Tihange 2 reactor has been shut down on August 16 for its planned outage. It will undergo the same kind of inspections as those conducted at Doel 3, since its reactor vessel was forged by the same manufacturer (RDM) in the 1970s

The nuclear safety authorities met on Thursday 16 August in Brussels on the initiative of the FANC. Beside delegates from the FANC, this technical meeting was attended by experts from the USA, France, Switzerland, the Netherlands, Germany, Spain, Sweden and United Kingdom. This meeting was aimed at taking stock of the situation at Doel 3. The attending safety authorities were also informed on the additional inspections asked by the FANC and its technical subsidiary Bel V. Furthermore, this international contact made it possible to share expertise on reactor vessel integrity and inspections. The purpose of the technical meeting was to give information on the situation at Doel 3 and not to make a decision about its future, according to the FANC press release. A second meeting of the nuclear safety authorities will be held in October, to discuss the outcome of the additional investigations at Doel 3, which will be completed at the end of September.

Meanwhile, the Belgium government anticipated a longer shutdown of both Doel 3 and Tihange 2 and promised there will be no blackouts if the stay shut during the winter. Just a few weeks earlier a new phase-out plan was confirmed (see Nuclear Monitor 753, 3 August). According to that schedule Doel 1 and 2 will be closed in 2015, Doel 3 is planned to be closed in 2022 and Tihange 2 in 2023.

NPPs with RDM reactor vessel (type, start-up date)

Argentina: Atucha-1* (PWR; 3-1974)
Belgium: Doel-3 (PWR, 6-1982); Tihange-2 (PWR, 10-1982)
Germany: Brunsbuettel** (BWR, 7-1976), Philippsburg-1** (BWR, 5-1979)
Netherlands: Borssele (PWR, 7-1973), Dodewaard** (BWR, 10-1968)
Spain: Santa Maria de Garona (BWR, 10-1971), Cofrentes (BWR, 10-1984)
Sweden: Ringhals-2 (PWR, 8-1974)
Switzerland: Leibstadt (BWR, 5-1984), Muehleberg (BWR, 7-1971)
United States: Catawba-1 (PWR, 1-1985), McGuire-2 (PWR, 5-1983), North Anna-1 (PWR, 4-1978), North Anna-2 (PWR, 8-1980), Quad Cities-1 (BWR, 4-1972), Sequoyah-1 (PWR, 7-1980), Sequoyah-2 (PWR, 12-1981), Surry-1 (PWR, 7-1972), Surry-2 (PWR, 3-1973), Watts Bar-1 (PWR, 2-1996)

* There is some uncertainty about the Atucha-1 RPV, it is removed from the OECD-list on August 26, after a denial that it was constructed at RDM by the nuclear regulatory commission of Argentina. However, other sources (like the German Jahrbuch der Atomwirtschaft, edition 1971 and 1972, available at the Laka library) state clearly some involvement of RDM.
** NPP Dodewaard, Bruensbuttel en Philippsburg are in permanent shut down

Sources: OECD/NEA, press release 16 August, updated 26 August 2012 / own research Laka Foundation.

As said, RDM built (or took part in the construction of) a total of 22 reactor vessels (see box) during 1960-1984 when it ceased operations. Van Veen, a manager during that time admitted later, RDM had no clue how to built reactor vessels and it was a process of learning while doing: quality control, for instance was an unknown concept in submarine construction, their core-business at the time.

But press reports from that time show that cracks were not an unfamiliar phenomena. The reactor vessel of the Dutch Borssele reactor was found to have cracks and delivery was delayed in 1971. Now, the Dutch nuclear safety authority (KFD) state that there are no cracks at the Borssele reactor vessel, for many reasons, but that they will look further into it. In 1979, three years before start-up, cracks were found at the Doel 3 and Tihange 2 vessels, according to press reports at the time. The cracks are confirmed during additional examinations in 1981, but reactors are allowed to start up in 1982. Striking detail: head of Doel 3 construction at Electrabel at the time was De Roovere, now head of FANC.

Sources: Atoomenergie, Juli/August 1972 in Dutch, available at: www.laka.org/rdm/atoomenergie1972.pdf / Interview Van Veen RDM, in: Republiek der Kerngeleerden, CD. Andriesse 1997, in Dutch, availabe at: www.laka.org/rdm/republiek.pdf / FANC, Infofiche, August (updated), English version available at: www.fanc.be/nl/page/infofiche-over-de-reactor-en-het-reactorvat/1460.aspx / FANC, Press release, 16 August 2012: Doel 3: Safety Authorities Meet in Brussels / De Morgen, 23 August 2012,
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U.S.: RADIOACTIVE WASTE ISSUE: SUSPENSION OF NEW REACTOR LICENSES

A Perfect Storm is brewing on radioactive waste issues in the U.S., one that will inevitably lead to major changes in radioactive waste policy. Already, elements of this storm have led to a full suspension of all new reactor licenses and license renewals in the U.S.

(754.4273) NIRS Washington - This confluence of events began with President Obama's decision, early in his term to end the proposed Yucca Mountain, Nevada radioactive waste dump and, in tandem with Senate Majority Leader Harry Reid, to end Department of Energy funding to pursue this project. Energy Secretary Chu then appointed a Blue Ribbon Commission to recommend a new approach to radioactive waste issues.

Given that decision, former NRC Chair Greg Jazcko refused to spend any more NRC money or resources on reviewing the Yucca Mountain license application despite harsh criticism from the industry and some in Congress. Jazcko has now been replaced by Yucca-skeptic Allison Macfarlane, who was a member of the Blue Ribbon Commission.

The Commission reported its recommendations earlier this year. They include establishment of a new, but largely undefined entity to handle radioactive waste policy -essentially removing the responsibility from the Department of Energy. The Commission also urged adoption of a new, but also undefined, community "consent" process for siting of a radioactive waste dump. Of most immediate concern to environmentalists, the Commission also recommended speedy establishment of a "centralized interim storage" site for radioactive waste. There is no real scientific, technical or safety basis for such a site -it would use the same dry cask technology as can be used, and is being used, at reactor sites. But it would encourage the generation of more radioactive waste and set off the widespread transport of radioactive waste across the U.S. In the 1990s, this concept was dubbed Mobile Chernobyl, and was defeated by a veto from President Clinton, which was upheld by the U.S. Senate.

The Commission's recommendations are now reflected in new legislation (S. 3469)(*1) offered by retiring Senate Energy Committee Chairman Jeff Bingaman (D-NM) and will be included, although probably in somewhat different form, in a new proposal slated to come from the Obama administration in September 2012. Sen. Bingaman said his committee will hold a hearing on the bill in September, but a date has not yet been set. And Bingaman has publicly acknowledged that his bill so far has little support and will not pass this year. What he wants to do is to begin to lay the groundwork for Congressional consideration next year. A key stumbling block is that his bill does not establish centralized interim storage fast enough or large enough for some members of Congress -meaning that the environmental community has substantial work to do to explain to Congress- many of whose members were not there in the 1990s -the reasons for our unalterable opposition to centralized interim storage.

Meanwhile, the Nuclear Regulatory Commission had re-issued its "waste confidence rule, which states that the NRC need not consider radioactive waste generation in licensing new reactors or extending licenses of existing reactors, because the NRC was confident that a permanent radioactive waste site would be licensed eventually and that, if not, existing on-site storage is good enough in any case. The agency was sued by several states and environmental groups like NRDC, and this summer a federal court ruled in their favor, saying that the NRC has no valid reason to believe a permanent site ever will be established and has no technical basis for stating that existing on-site storage methods are good enough.

Responding to the court decision, grassroots intervenors (including NIRS) filed new contentions in every current new reactor and license renewal case arguing that the NRC no longer has any basis to issue new reactor licenses or renewals. The NRC, in Chairwoman Macfarlane's first major decision, ruled in favor of the intervenors and said the agency indeed cannot grant any new reactor licenses, or approve any new license renewals, until it has addressed the waste confidence problem and provided a technical basis for its rule. Early indications are that this could take a year or more.

In the meantime, pro-nuclear forces are marshaling to try to force Yucca Mountain on Nevada and the American people, and to try other mechanisms to speed nuclear power development, create new radioactive waste sites regardless of environmental impact, and to ignore the hard lessons learned from the past 25 years of failed radioactive waste policy.

The Fukushima disaster and the frightening reality of severe damage to a reactor's irradiated fuel pool have crept into public awareness. At the same time, fuel stored in dry casks at Fukushima was apparently not adversely affected by either the earthquake or tsunami. Add to that a growing recognition that fuel pools at U.S. reactors are typically much fuller than those at Fukushima, and thus are both more vulnerable and carry a larger radioactive inventory, and concern over radioactive waste issues has grown in the U.S. The specter of widespread transport of radioactive waste likely will lead to greater public concern.

Over the past few years, the nation's anti-nuclear, environmental community has managed to coalesce behind a statement of principles for radioactive waste. These principles are known as HOSS -for Hardened On-Site Storage- and reflect a belief that high-level radioactive waste should remain where it has been generated, but that the fuel pools should be emptied to the extent possible as soon as possible into dry cask storage that is additionally protected by berming and other features from natural disasters, terrorism and the like. (*2) No one believes that dry casks are a permanent solution to the problem, but after years of discussion, the nation's anti-nuclear movement believes they are the best answer for the present for the waste that already has been generated. Of course, ending the generation of any more radioactive waste is also vital, and demonstrating the shortcomings of every possible waste storage method -including the preferred method of HOSS- is a key step toward ending waste generation generally.

It is clear that major changes are coming to radioactive waste policy,

probably over the next 18 months. What isn't clear yet is what those changes will be. There is both opportunity and threat. This could be the chance to finally obtain a policy that can withstand public and scientific scrutiny, or it could be a return to the failed approach of seeking short-term industry gain at the expense of long-term scientific and public credibility.

*1- available at: www.energy.senate.gov/public/index.cfm/featured-items?ID=b6de054d-b342-4376-b0e8-dc0fcd512c07
*2- available at: www.nirs.org/radwaste/policy/hossprinciples3232010.pdf

Source and contact: NIRS Washington

MARKING NUCLEAR WASTE DISPOSAL FACILITIES

An issue that has long been on the radioactive waste management agenda is the means of marking a waste repository site, such that future generations will be able to comprehend its purpose and risks. Research into long lasting information carriers is being done, but how do 'future people' know there is a message inside, or even, where do we put it so 'future people' will find it before people start digging? And then the more principal questions, will such a warning not attract people to start digging? Or do we have to forget repositories ever existed? But how?

(754.4274) WISE Amsterdam - Of course we have to stop producing nuclear waste immediately. But even then, the historical waste has to be stored. Responsibility to future generations implies that we necessarily have to do all to prevent future harm. This makes warnings to the future all the more necessary. But how?

There are basically three approaches discussed over the past few decades:

1-Passive institutional control
The most comprehensive research about markers has been done in the US, for the WIPP, the Waste Isolation Pilot Plant in New Mexico.(*01) The WIPP is a deep geologic repository, designed and constructed to provide underground disposal for the department's defense-generated transuranic waste. This waste consists primarily of clothing, tools, rags, debris, residues and other non-liquid disposable items contaminated with trace amounts of radioisotopes.

The Department of Energy (DOE) began by forming two teams of experts in the early 1990s. They were given the task of coming up with a conceptual design for the warning system. The US decided to focus on creating lasting markers at the site of the nuclear waste, a plan considered to be the 'long-term concept' or passive institutional control. This strategy places very little trust in the flexibility of knowledge, and society's ability to pass down information in a relevant and accurate way to future generations. Information is too rapidly changing and hardly eternal, but physical landmarks that convey danger on an instinctual level are more likely to effectively keep humans away from radiation for thousands of years.

The design eventually adopted for WIPP, and shared with the then planned (but now abandoned) Yucca Mountain depository in Nevada, consisted of a giant earthwork surrounding the site, with monuments, markers and information centers scattered around, which will be erected after closure of the repository. Some 32 identical granite monuments are planned to be buried below ground level. On all aboveground and underground surfaces, messages (written in each of the official UN languages - Arabic, Chinese, English, French, Russian and Spanish - as well as Navajo) and pictograms are to be put on. Final plans for marking the WIPP repository will not be submitted to the U.S. Government before 2028.

Stonehenge
The DOE sees Stonehenge in England as an example -a historical analogue- for a marking system. Stonehenge consists of stones in a circle measuring 120 meters in diameter. Blocks of granite were used that in some cases weighed 54 metric tons. Stonehenge was built around the year 3000 before Christ.

There are, however, some problems. Stonehenge is a memorable marking that invites people to visit. This is contrary to the marking the Americans want to realize. The message of the marking after all has to be: keep out of here, do not dig in the ground. The marking has to scare.
And, more generally, more often people do not mind about warnings, like warnings on cigarette packages that smoking can harm one's health. Of

Stone markers warning of tsunami danger in Japan
After the tsunami killed 17,000 people in Japan, March 2011, some pictures were showed in western press of ancient stone markers warned of tsunamis. One picture showed a large marker below the village of Aneyoshi. It says "High dwellings are the peace and harmony of our descendants," and "Remember the calamity of the great tsunamis. Do not build any homes below this point." Hundreds of such markers dot the coastline, some more than 600 years old. Collectively they form a crude warning system for Japan, whose long coasts along major fault lines have made it a repeated target of earthquakes and tsunamis over the
centuries. Modern generations decided these markers, coming from a more primitive time were no longer needed: technology would protect them. Sea walls were constructed, and power plants and villages were built behind them. On March 11, 2011, tsunami waters reached to near where the Aneyoshi marker stands.

This is the problem with ancient markers. Tsunami signs were ignored because new generations felt themselves more capable of protecting themselves.
See for instance: www.cbsnews.com/stories/2011/04/06/501364/main20051370.shtml

course the markings may not consist of valuable material because of the chance of theft.

But archeologists point out that a much earlier attempt to warn off future excavations, the Egyptian pyramids, were looted within a generation. Six of the "Seven Wonders of the World" identified by the ancient Greeks, which were, in a sense, messages intended to provoke in us remembrance mingled with a sense of awe, and as such, six have failed. They have been plundered by vandals, destroyed by earthquakes or used to build other structures. Most have been reduced to rubble.

Information carriers
If we want to remember we have to find ways to preserve information. It seems that no data storage medium lasts long before becoming obsolete. Recently, French nuclear waste management agency ANDRA began a project to address the issue of preserving data. To preserve records of what they've buried and where for a period of tens of thousands of years. The ANDRA project brings together specialists from as wide a selection of fields as possible, including materials scientists, archivists, archaeologists, anthropologists, linguists, and even artists -"to see if they have some answers to our questions." The initial goal is to identify all the approaches possible; in 2014 or 2015, the group hopes to narrow down the possibilities.

On July 12, 2012, Patrick Charton of ANDRA presented what he called a possible solution to the problem of the short life of information carriers: a sapphire disk inside which information is engraved using platinum. The prototype shown costs €25,000 to make, but according to Charton will survive for a million years. The disk is made from two thin disks, about 20 centimeters across, of industrial sapphire. On one side, text or images are etched in platinum- a single disk can store 40,000 miniaturized pages -and then the two disks are molecularly fused together. All a future archaeologist would need to read them is a microscope. The disks have been immersed in acid to test their durability and to simulate ageing. (*02)

There's only the problem that they have no idea in what language to write the message; what language its discoverers will understand in thousands or hundreds of thousands of years- or even if they will be human beings? Archeologists point out that a much earlier attempt to warn off future excavations, the Egyptian pyramids, were looted within a generation. Another problem is the material the carrier is made of and could be considered to be valuable and thus likely to be stolen when found.

Another assumption that we should not take for granted, is the survival of modern scientific understanding. We should not presuppose the future possession of scientific language, but should also include the most simple messages.

But in short: current thought is that rather than attempt to manipulate the emotions of future generations through ominous symbolic warnings, the structures and messages ought to inform those generations that the content of the repository is dangerous and useless.

2- Active institutional control
Under the US Environmental protection Act (EPA) definitions, 'Active Institutional Controls' cover the use of fences, gates, and guards; essentially, those structures and systems which imply continued human presence. Markers are 'Passive Institutional Controls' because they are intended to fulfill their purpose without the need for anyone to remain on site.

The Scandinavians brainstorming for the Onkalo nuclear repository site in Finland, unlike the Americans, have focused their efforts on keeping good archives and information on nuclear waste repository sites, called a "short-term concept" or active institutional control. The motivation behind a short-term concept is that any physical markers, languages, or symbols based warnings would lose their meanings too soon. Considering the fact that even today abandoned mines less than a century old are often drilled into, it is hard to trust future generations to consult archives over the locations of nuclear waste before any kind of excavation or drilling. (*03)

The half life of institutions
The crux of the stewardship problem is that it is hard to believe that any human institution can last the 10,000 years or more. Indeed, history is replete with failed governments. From ancient times to today's world, the typical story is one of rise and fall, of kingdoms, sheikdoms, monarchies, dictatorships, and even democracies. Leaders come and go, bringing with them new ideas, religions, policies, and programs and leaving legacies easily changed by succeeding leaders and generations. In addition to governments, history has seen similar cycles for human settlements and cities, rise and fall, establishment and abandonment, and rediscovery. Modern-day institutions, such as the private corporation, are no more stable. Only a handful of American companies, out of millions, have managed to stay in business over 100 years and few of the survivors remain in the same business. The life expectancy of the average European or Japanese company is less than 13 years. Thus, at first glance, it appears that, institutionally speaking, active human stewardship of nuclear and hazardous waste sites even for hundreds of years into the future is an insurmountable challenge (although not always information –especially when in writing- is lost)
However, a closer look at history reveals numerous human institutions that have indeed survived for hundreds of years and even thousands of years. Many of these institutions are religious, but also universities. Human institutions associated with indigenous cultures can sometimes be traced by very long periods of time. For example, the N/um chai is a curing ceremony trace dance practiced by the Bushman of the Kalahari that can be traced back approximately 40,000 years.

An article called 'Institutional designs for long-term stewardship of nuclear and hazardous waste sites' by Bruce E. Tonn evaluates several designs for an institution to act as the steward for these sites. (*04)

Six alternative institutional designs are evaluated over a set of four evaluation criteria. Tonn recommends (in the US.) to establish a new type of secular non-profit institution, entitled The Stewardship Institution, to act as steward for the sites. This option is judged most able to focus on the mission of stewardship, meet its technical challenges, survive inevitable periods of political and economic instabilities, and meet current generation cost and implementation concerns.

Atomic Priesthood
The linguist Thomas Sebeok was member of the Bechtel working group. Building on earlier suggestions he proposed the creation of an atomic priesthood, a panel of experts where members would be replaced through nominations by a council. The atomic priesthood would have to preserve the knowledge about locations and dangers of radioactive waste by creating rituals and myths.

The priesthood would indicate off-limits areas and the consequences of disobedience.(*05)

"The ‘atomic priesthood’ would be charged with the added responsibility of seeing to it that our behest [concerning the folkloric relay system] is to be heeded – if not for legal reasons, then for moral reasons, with perhaps the veiled threat that to ignore the mandate would be tantamount to inviting some sort of supernatural retribution."
This approach has a number of critical problems: the reliance on secrecy, manipulation and deceit -- and the accompanying perceived need to create an elite –the atomic priesthood- that holds the secrets and does the manipulating. (*06) And just because the information about waste sites would grant power to a privileged class, people from outside this group might attempt to seize this information by force.

So it seems that all possible solutions to the issue of marking a waste repository site, such that future generations will be able to comprehend its purpose and risks – have unsolvable problems.

3- No markers: just forget about it
Another approach is not marking a nuclear repository site at all; burying nuclear waste hundreds of meters underground in the middle of a barren desert is a better safeguard than any structure or warning signs that could eventually just bring attention to the location, according to this approach. In fact, two of the four teams organized to brainstorm protection ideas for WIPP agreed that no markers was the safest approach, as it defends the nuclear waste from "curiosity seekers." Would it, in fact, be less likely that people would hit the repository by accident than that they would intrude due to the existence of markers?

More importantly, not marking the site, but creating it in secrecy would by default add a layer of protection against anyone seeking to use the radioactive material for harmful purposes. Not marking the site at all completely avoids the problems of language, symbolic, or cultural robustness, but of course adds the moral question of our generation's responsibility to protect future generations, as well as future generations' right to our knowledge.

Michael Madsen says in his award winning documentary 'Into Eternity' about forgetting Onkalo: 'The chamber you must always remember to forget'.

But how do we forget something? Is that an active or a passive process; will rumors about buried 'treasures' end up in myths and survive by oral history. It is obvious that one cannot force oblivion. People are curious in nature. It seems clear that forgetting is not an active process and therefore can not be a policy. Secrecy can of course but, that has nothing to do with forgetting. Forgetting is only the result of bad policy and not of no policy.

4- New emerging vision
Traditional approaches to markers and institutional controls for geological disposal were based on the premise that safety was best assured by keeping the facility apart and isolated from people and the surrounding community.
But a new –fourth- vision has emerged; that it may be worthwhile to consider the repository as part of a societal fabric. The task of maintaining memory would thus be facilitated by measures that would foster community involvement and would go as far as foreseeing that these communities will in time build their own new markers to replace old ones that have become obsolete or are fading away.

Or, as the NEA Forum on Stakeholder Confidence (FSC) puts it in a 2007 report (*07):
"Because a radioactive waste management facility and site will be present in a host community for a very long time, a fruitful, positive relationship must be established with those residing there, now and in the future. Simply put, designers have to make the radioactive waste management facility and site to suit people’s present needs, ambitions and likings, and to provide for evolutions to match at reasonable cost the needs and desires of future generations. A facility that upsets or repels residents or visitors will only be tolerated and will remain a stranger or an unwelcome presence in the community. The challenge is to design and implement a facility (with its surroundings) that is not only accepted, but in fact becomes a part of the fabric of local life and even something of which the community can be proud."
The repository as something to be proud of.

At the end of the workshop 'Archeology meets radioactive waste' held in Dublin during ESOF2012, Cornelius Holtorf, an archeologist leading a working group on that issue at the Linnaeus University, Sweden, put it this way: "Many questions remain that have to be solved sometime in the future".(*08)

Pernament retrievability
But the question about how to mark repositories for coming generations, is preceded by the question of retrievability.

In 1999, A.J. González, IAEA Director of the Division of Radiation and Waste Safety, in his opening remarks of an IAEA confrenece on retrievability of high level nuclear waste, observed that geological disposal was perhaps the only area of safety standards in which the level of international consensus actually "decreased in recent years": in many parts of the world, the development of geological repositories has reached an impasse. According to him that led to a trend towards reconsidering some of the basic orthodoxies of geological disposal; a- the concept that "waste should be disposed of in its country of origin"; and b- the "irreversibility of geological disposal". As a response to these concerns, some countries are beginning to study how repositories might be designed to facilitate retrieval of waste. González is clear about that: "the predominant technical view has always been that such retrievability is not only unnecessary, but probably also undesirable from a safety point of view." (*09)

Not long before this statement, two Dutch researchers, Damveld and Van den Berg, wrote a report on nuclear waste and ethics. According to the authors there should be no difference in detriment between the present generation and future generations. If for the present generation retrievable disposal is the preferred option, this should also be applicable to future generations. Consequently, this approach calls for permanent retrievability. Each new generation should take on the task to take care of the waste which is inherited from the previous one. An irreversible situation is thus avoided. Permanent retrievability is considered less unfavorable than final disposal. Because of the requirement of permanent retrievability rock formations such as salt and clay whose physical properties (plastic deformation) tend to fill the space between the disposed radioactive waste and the host rock, are considered to be less obvious. Therefore a permanent retrievable disposal facility at the surface is the recommended option. It is recognized that both the stability of the institutions charged with the management of the

Waste inventory amnesia
But do we know now, a few decades after the first (low and intermediate level) radioactive waste was stored underground, what is buried in the repositories? Well, no, not exactly.

Just a few examples:
In August 2009, the German Federal Ministry for the Environment, Nature Conservation and Nuclear safety (BMU) disclosed new figures for the amount of plutonium present in the Low-level waste dumped in the 60's and 70's in the underground mine at Asse. According to those new figures, not 9.6 kilogram but an amount of 28 kg of plutonium is present in the waste. Currently 12,000 liters of water per day flows into the salt dome and all the 125,000 barrels are planned to be excavated.

In the UK, in February 2009, the LLW Repository Ltd published in newspapers in the Lake-district area an ad asking for people who worked at Sellafield and "have been involved in the consignment of waste to the Low Level Waste Repository near Drigg". The company responsible for the waste repository was looking for those people "in order to build a comprehensive picture of the waste inventory in the trenches". According to LLWR's managing director, the ad is an act of thoroughness not desperation. But Martin Forwood of Cumbrians Opposed to a Radioactive Environment (CORE) said at the time that, despite the "low-level waste" tag, trenches at Drigg are believed to hold more dangerous material. "Information provided to Core in the 1990s revealed debris from the 1957 Windscale fire, materials from the US Three Mile Island reactor accident, and from the Chernobyl explosion."

During a 2004 cleanup operation at the Hanford nuclear site in Washington state, U.S., personnel digging through a trench uncovered a safe containing a glass bottle. And inside the bottle, white sludge. Tests identifying the substance as a type of plutonium gave way to more tests until, in the Spring of 2009, scientists from the Pacific Northwest National Laboratory revealed what, exactly, the crew had uncovered: A 1944 artifact from the fledgling nuclear weapons program—the oldest existing sample of bomb-grade plutonium from a nuclear reactor, with a half-life of 24,110 years.

Sources: Press release BMU, 29 August 2009 / The Guardian, 14 February 2009 / BBC, 2 March 2009

waste and the stability of the society as a whole are questionable for the long term and that deliberate or inadvertent human actions may lead to a release of radioactivity from the facility. However, this is a dilemma without a possible solution. (*10)

The international waste management agencies were not amused with this. As a rapporteur from a workshop on Ethical Aspect at the aforementioned IAEA conference, puts it: "It is obvious, that the set of values given in that study is certainly not at all represented in what we could call the nuclear waste management community. To most of us, who are present here, I think that the main conclusions of this study are totally unacceptable."(*11)

However, until now there is no (final or retrievable) underground repository for high level waste and spent fuel in operation.

Recently, on July 3, in an opinion article at Nuclear Engineering International (under the title: No to spent fuel 'disposal'), the lack of solution for the radioactive waste produced for more than half a century, was considered to be a positive fact. According to the –anonymous- author, countries should wait until their nuclear power programs ends before deciding on the 'final disposal' of used nuclear fuel. Because by that time, countries would know the exact inventory for disposal; they would not have the 'reprocess-or-not' question hanging over their heads; and, perhaps by the time 'waste' nuclear fuel is ready for disposal advances in reprocessing or recycling technologies will mean there are better options. (*12)

Although this wait-and-see-attitude is policy in more and more countries, it is the result of the impossibility (not only due to social factors –resistance- but also technical factors) to establish a final repository, it is seen as a negative rather than a positive fact, were waste management authorities feel not particularly proud of. But now, this is brought forward as a positive and desirable 'solution'.

Consider it a new trend: "No nuclear waste solution? Thank God, that leaves all options open!"
The emperors new clothes.

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LITHUANIA: POLL ABOUT VISAGINAS CONSTRUCTION

According to a survey by Prime Consulting for the Lithuanian magazine Veidas, 48% of Lithuanians may vote against the construction of the planned Visaginas nuclear power plant in a referendum in October, while 19% support the construction. The poll, conducted in the country's largest cities among 500 people on July 16-17, didn't provide a margin of error.

(754.4275) WISE Amsterdam - Lithuania will hold the referendum on October 14 along with the general election (see In Brief, Nuclear Monitor753, 3 August 2012) in which the ruling center-right coalition is widely expected to be ousted from office. Prime Consulting's poll suggest that Lithuania's Social Democrats – who originally called for the vote on Visaginas complaining that details on the project remain too scarce after earlier supporting the plan to build the plant – are most likely to lead the next government.

Andrei Ozharovsky, a nuclear physicist and industry expert with Bellona in Russia pointed out that previous polls had indicated a 65 percent public opposition to the plant. A 50% plus one vote against the plant with a 50 percent voter turn out will be required to scuttle the plant, he said.

The figures from the polls suggest that Hitachi, the strategic investor on the Visaginas plant, may have a dark cloud cast over its plans to enter the construction phase: With the referendum coinciding with the general election, turn out is expected to be robust. But a statement released to Bellona by Hitachi in the European Union remained optimistic in an August 8, email interview with Bellona that the polls do not reflect Lithuanian public opinion. "We believe that all main political parties in Lithuania do not object to the nuclear power plant in Visaginas and that many Lithuanian people support the project. They understand that the nuclear power plant is necessary to ensure energy security of the region."

The country's lawmakers approved the July referendum proposal despite Prime Minister Andrius Kubilius calling for parliament to reject the initiative because it is "not necessary." In June, Lithuanian parliament approved an agreement which provides the contractual framework for Visaginas. The government had planned to sign an agreement with strategic investor Hitachi to proceed with engineering and preparation work. "At this stage Hitachi wants to set up the project company as soon as possible and we expect this can be done before the referendum," Hitachi's statement to Bellona said. A final investment decision on whether or not to go ahead with the project is expected in 2015, NucNet reported, and the plant would be operational by 2020-2022.

Visaginas is also failing to find a niche in a small region where two other nuclear power plants are planned –Belarusian NPP in the city of Ostrovets, and Baltic NPP, to be built in the Russian enclave of Kaliningrad, wedged between the Baltic state and mainland Russia. The site slated for the Visaginas plant is a mere 2.3 kilometers from the Belarusian border and water for the plants cooling systems is to come from Lake Drisvyaty, a water body that straddles the borders of both countries. In a rare union, both the Belarusian government and Belarusian environmental group are against the Visaginas plant. This is could ramp up yet more political tit for tat between Vilnius and Minsk: Lithuania has been vociferously opposed to Belarus NPP on the grounds that Minsk has submitted insufficient proof that its plant will be safe.

Source: Bellona, 8 August 2012

IN BRIEF

African nuclear commission takes shape. Afcone, a new commission to coordinate and promote the development of nuclear energy in Africa, is set to become fully operational after key founding documents were finalized and adopted. South Africa has agreed to host the commission. The African Union (AU) established the African Commission on Nuclear Energy (Afcone) in November 2010, following the entry into force of the African Nuclear-Weapon-Free Zone Treaty in July 2009, which required the parties to establish a commission for the purpose of ensuring states' compliance with their treaty obligations and promoting peaceful nuclear cooperation, both regionally and internationally.
At a meeting in Addis Ababa on 26 July, the elected commissioners adopted the rules of procedure, structure, program of work and budget of Afcone. The commission will focus on the following four areas: monitoring of compliance with non-proliferation obligations; nuclear and radiation safety and security; nuclear sciences and applications; and, partnerships and technical cooperation, including outreach and promotion of peaceful uses of nuclear energy. The meeting agreed to a budget of some US$800,000 per year for the period 2012-2014. It also agreed on a scale of assessment for contributions to Afcone's funding.
South Africa is currently the only African country to operate nuclear power plants for electricity generation, but several others - including Egypt, Ghana and Nigeria - are considering building such plants. Namibia, Niger and South Africa are major uranium producers, accounting for about 15% of world output in 2011. Other African countries have significant uranium deposits, with some having prospective uranium mines.
World Nuclear News, 13 August 2012

Koodankulam: Clearance for fuel loading. The People's Movement Against Nuclear Energy (PMANE) condemns the undemocratic and authoritarian decision of the Atomic Energy Regulatory Board (AERB) to grant clearance for the 'Initial Fuel Loading' and 'First Approach to Criticality' of Unit-1 of the Koodankulam Nuclear Power Project.
Even as the country is awaiting the Madras High Court's judgment on a batch of petitions that have challenged the legality and appropriateness of the Environmental Clearance granted to the Koodankulam project, this decision amounts to contempt of court

and outright insult of the rule of law in our country. More interestingly, the AERB has given assurance to the Madras High Court that the post-Fukushima taskforce's recommendations would be fully implemented in all the nuclear installations in India and that no fuel loading decision at the Koodankulam nuclear power project would be taken until then. The current permission to load fuel is a gross violation of that commitment made at the Court and the sentiments of the struggling people.
This attitude and functioning style, however, is very much in congruence with the undemocratic, authoritarian and anti-people nature of the atomic energy department. The political parties and leaders in India, especially in Tamil Nadu, the civil society leaders and the media must take a stand and protect the interests of the 'ordinary citizens' of India and reassert the rule of law in our country.
The struggling people will do whatever democratically possible to oppose the authoritarian and illegal decision of the Indian nuclear establishment.
Press release, The Struggle Committee PMANE, 10 August 2012

No permanent resettlement Chernobyl Exclusion zone in next 20 years. Despite earlier reports, the exclusion zone around the Chernobyl nuclear plant remains unfit for habitation, said Dmytro Bobro, the acting head of the State Agency for the Chernobyl Zone. Short visits to the exclusive zone are not banned, and up to 10,000 visitors arrive there on memorial days, he said at a press conference in Kyiv. Concerning people who returned to the zone of their own accord and live there, relatives are allowed to come and see them for not more than five days, but if a longer term is requested, they are placed under radiological control, he said.
Experts said at a press conference on August 15 that part of the 30-kilometer exclusion zone around the Chernobyl nuclear power plant and Chernobyl itself are already fit for living. Chernobyl could be opened to personnel working under the Shelter project to construct the new confinement shelter. These people work in shifts now.
But a few days later, Bobro said that some 200 square kilometers in the total area of 2,000 square kilometers are relatively safe. "But again, there is no infrastructure there, and the territory has "contaminated spots" and should not be populated, although it could be sown with crops to be used as biological fuel," he said. Humans could return to this territory in about 30 years. But if rehabilitation measures are taken, people would be able to come back even earlier to an area of 200 or even 500 square kilometers, he said. "Half of the exclusion zone will remain unfit for habitation forever as it is contaminated with plutonium isotopes," Bobro said.
Interfax, 17 August 2012 / ForUm, 17 August 2012

South Africa: develop 'Plan B'. South Africa should work on a ‘Plan B’ if nuclear build proves too costly, the newly released National Development Plan 2030 asserts. The plan, which was handed to President Jacob Zuma on August 15, acknowledged that the Integrated Resource Plan (IRP) for electricity proposed that new nuclear energy plants be commissioned from 2023/24. But it also argued that South Africa needed a “thorough investigation” of the implications of nuclear energy, including its costs, financing options, institutional arrangements, safety, environmental costs and benefits, localisation and employment opportunities, and uranium-enrichment and fuel fabrication possibilities.
The National Nuclear Energy Executive Coordinating Committee (NNEECC), which was set up late last year, had its inaugural meeting in early August, when it began deliberation on the findings of a so-called ‘integrated nuclear infrastructure review’. The review is a self-assessment of the country’s readiness to proceed with a new nuclear build and reportedly covers 19 areas. But the 26-member National Planning Commission (NPC) argued that an alternative plan be developed in the event that sufficient financing was unavailable, or timelines became too tight. The NPC did not say which entity or organ should conduct the cost/benefit analysis, only that one should be completed ahead of any decision to proceed to a procurement phase. The analysis should also not be confined to the economics of the project and should include social and environmental aspects.
Engineering News (South Africa), 15 August 2012

Sellafield: record number of hotspots found on beaches. A record number of radioactive hotspots have been found contaminating public beaches near the Sellafield nuclear complex in Cumbria, according to a report by the site's operator. As many as 383 radioactive particles and stones were detected and removed from seven beaches in 2010-11, bringing the total retrieved since 2006 to 1,233. Although Sellafield insists that the health risks for beach users are "very low", there are concerns that some potentially dangerous particles may remain undetected and that contamination keeps being found. Anti-nuclear campaigners have called for beaches to be closed, or for signs to be erected warning the public of the pollution. But the government's Health Protection Agency (HPA) has said "no special precautionary actions are required at this time to limit access to, or use of, beaches". But it also pointed to a series of "uncertainties" in the beach monitoring that could lead to its risk assessment being reviewed. The latest equipment might miss tiny specks that could be inhaled, it said, as well as buried alpha radioactivity that "could give rise to a significant risk to health if ingested".
Adding to the attempts to down play the radioactive state of the beaches, the official monitoring of the coast has been deliberately abandoned - at the specific request of some local authorities - during the peak periods of school and public Bank Holidays for fear of alarming the tourists.
The Guardian, 4 July 2012 / CORE press release, 4 July 2012

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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