

The Friendly Atom

NuclearSpin

On February 15, Tony Blair's plan to introduce a new generation of nuclear power stations suffered a serious setback when the High Court ruled that the consultation carried out by the government earlier was "misleading" and "seriously flawed". Justice Sullivan's ruling enjoins the government to canvass public opinion again, causing a likely delay in the publication of the energy white paper scheduled for March. The judgement is a significant victory for Greenpeace which, describing it as a sham, had applied for a judicial review of the consultation process.

The landmark ruling closed a chapter that started on January 23, 2006 when the government officially launched the 12-week consultation exercise on the UK's energy needs, entitled: 'Our Energy Challenge: Securing Clean, Affordable Energy for the Long Term'. The review officially ended in April, and on July 11, Alistair Darling, the Trade and Industry Secretary, gave the green light to a new generation of nuclear power plants extolling that: "nuclear power would make a 'significant contribution' to cutting carbon emissions and to securing Britain's energy future."

It is obvious why the Energy Review should have been seen as a cynical PR exercise that gave the appearance of a public debate, since Blair had reportedly made up his mind in November 2005, when he was said to be "convinced" of the pro-nuclear argument; and the pro-nuclear bias of his Cabinet was equally well known.

Nuclear revival in the rest of the world is being led by the G8 countries, that intend to resurrect fast breed reactors – which were earlier scrapped in the UK, France and Germany due to their astronomical costs. To be sure, there is scepticism within the ranks of the G8; Italy and Germany would rather dispense with the option. In the rest of Europe, Sweden wants to phase out its nuclear power plants; Austria and Spain are equally keen to diversify.

Failing to take into account any lessons learned from past mistakes, The Energy Review seemed to have "abolished history" according to an editorial in the *Sunday Herald*. The same editorial quotes Colin Mitchell, a manager of nuclear policy at the Department of Trade and Industry, saying,

'The Future's Mirror', Corneila Hesse-Honegger, *Studies of malformed plants and insects found in the neighbourhood of power plants*. Published by Locust+

Stripy bug (Graphosoma lineatum). The left side of the thorax is shorter. Found in Rohr.

Soft bug, wings (Deraeocoris ruber). The right wing is too short. The short feeler has no deformation (it broke off). Found near the Gösgen power plant.



"in-depth research into the past performance of nuclear industry is not required to carry out the review." Supreme disdain for learning anything from the past is evident throughout the report.

Only days prior to the High Court decision, British Energy – a company with a disastrous record and 65% owned by the government – was calling for partners to help build a new generation of nuclear plants by 2016. The company had been rescued from bankruptcy earlier by a government bailout, even as it raked in £622 million profit in the first nine months of the financial year and reactors at four of its sites remain out of action due to a lack of maintenance. While most of the proposed sites for new nuclear plants are owned by British Energy, the private financing approach ensures that in the end, while most of the profits remain private, the costs will for the most part be public. The real price of nuclear energy has never been properly disclosed, partly because the public has been saddled with the massive costs of decommissioning. In the UK alone these costs stand at £50 billion, and since the opening of the first civil nuclear power station at Calder Hall in October 1956, the nuclear industry has received global subsidies of around \$1 trillion.

But government is now pushing nuclear power on the grounds that it would be impossible for it to meet its carbon emissions targets otherwise, and, invoking the spectre of terror, on the grounds of 'energy security'.

Peak Uranium

The claims for carbon-free nuclear energy are undermined by the fact that the industry's advocates want us to overlook the carbon emissions that are an inevitable part of the uranium extraction process. This is only going to get worse as the higher demand for uranium (both nationally and internationally) makes it necessary for it to be extracted in less refined forms, adding to the emissions. In reporting on energy security and uranium reserves, Jan Willem and Storm van Leeuwen, independent nuclear analysts at Ceedata Consulting, state:

"A new generation of nuclear reactors will increase demand for uranium ore to produce reactor fuel. In 2005 the world nuclear fleet consumed about 68,000 tonnes of natural uranium, mostly from mined sources. At the end of 2005 the world known recoverable

uranium resources amounted to about 3.6 million tonnes. These resources show a wide variation in ore grade and accessibility. ... Uranium ore is not an energy resource unless the ore grade is high enough. Below grade 0.02% (U₃O₈ Uranium Oxide) more energy is required to produce and exploit the uranium fuel than can be generated from it. Falling ore grade leads to rapidly rising CO₂ emissions from the nuclear energy cycle. Assuming world nuclear generating capacity remains at 2005 levels, after about 2016 the mean grade of uranium ore will fall significantly from today's levels, and even more so after 2034. After about 60 years the world nuclear power system will fall off the 'Energy Cliff' – meaning that the nuclear system will consume as much energy as can be generated from the uranium fuel. Whether large and rich new uranium ore deposits will be found or not is unknown."

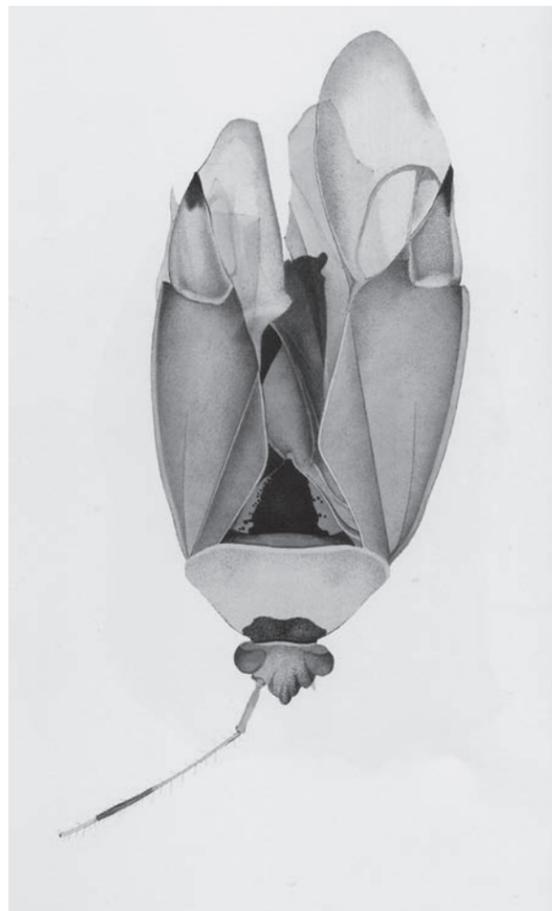
Even according to the House of Commons Environmental Audit Committee's sixth report, "the history of nuclear industry gives little confidence about the timescales and costs of new build"; that "nuclear can do nothing to fill the need for...new generating capacity... by 2016, as it simply could not be built in time"; that "uranium mines can only supply just over half the current demand for uranium, and the situation is likely to become more acute"; whilst "nuclear power can justifiably be regarded as a low-carbon source of electricity... the level of emissions associated with nuclear might increase significantly as lower grades of ore are used"; and that "no country in the world has yet solved the problems of long-term disposal of high-level waste. The current work being conducted by CoRWM [Committee on Radioactive Waste Management] will not be sufficient of address the issue".

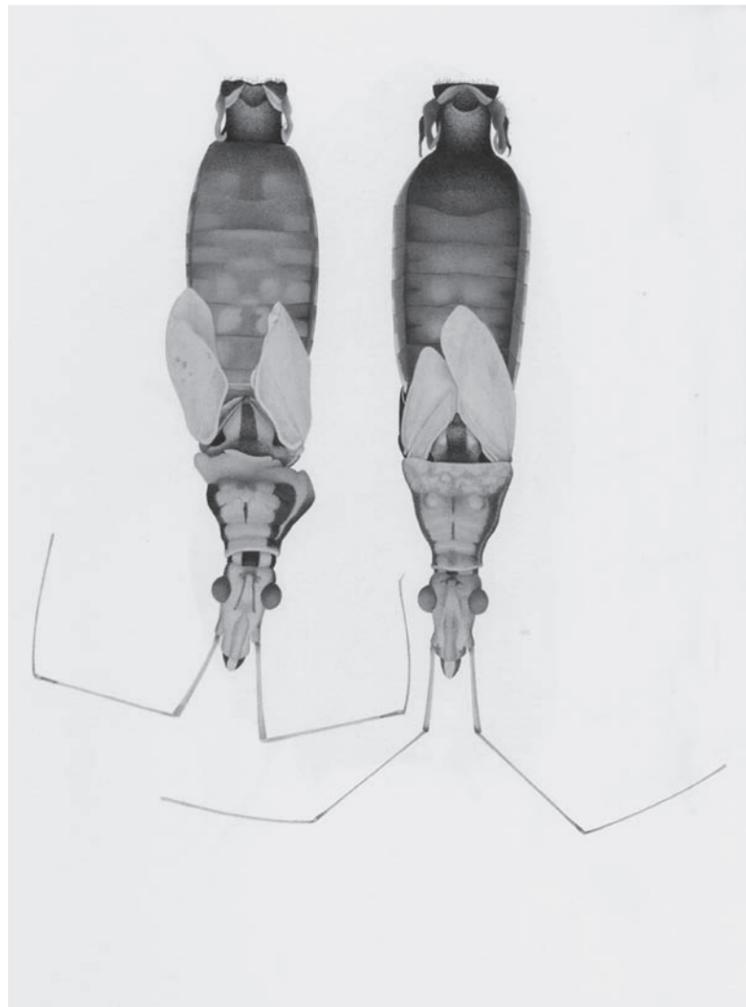
If media saturation has been dominated by a crisis of reaching the peak point in oil production – that less oil is left to find than we have already used – the proponents of nuclear power are silent about the nuclear industry's equally fragile dependency on uranium and the associated insecurities.

As Jan Willem and Storm van Leeuwen state: "It is inevitable that replacements for uranium fuel will be sought within the lifetime of any new nuclear build in the UK. It is also inevitable that as high grade uranium supplies decrease, the cost of nuclear power will increase along with nuclear CO₂ emissions." And that: "Once high-grade uranium ores are no-longer available, the nuclear industry will rely on uranium and plutonium from military and civil stockpiles. These will last only a few years, and questions remain about the net energy gain from reprocessing these materials. In the future, it is likely that the nuclear industry and governments will look to MOXfuel – a mixture of uranium and plutonium dioxides. In time, the nuclear industry hopes to develop fast breeder reactors fuelled by weapons useable plutonium. The widespread use and production of either fuel has serious implications for nuclear weapons proliferation and the risk of nuclear terrorism."

Toxic Freedom

While it strives to sell itself as the environment friendly energy option, the nuclear industry seems curiously keen on escaping government regulation. It already caused concern when it started lobbying to lift regulatory constraints through the creation of a new energy agency, independent of government influence, to oversee its operation if a new generation of nuclear plants is to be built. The creation of such a body would free the industry from any kind of enforceable responsibility and enable artificial price hikes. The industry is also shaken by the example of the plant in Olkiluoto, Finland – the first reactor to be built in Western Europe in the past two decades – causing financial losses to its builder Areva by running wildly





Two damsel bugs (*Nabis rugosus*).
Left: the right wing is too short.
Right: damaged wing as well as completely displaced and misshapen neck plate.
Found in the grounds of the Paul Scherrer Institute (by J. Jenny).

Predictable Fallout

Two already well known consequences come hand-in-hand with the return of nuclear energy; the potential for nuclear proliferation and catastrophic accidents. According to MIT, if the global nuclear capacity triples, it would take the theft of just 0.00025% of the MOX manufactured every year to provide the plutonium for a nuclear bomb. Last year, the G8 leaders had announced their intention to resurrect fast breed reactors, causing controversy since they produce plutonium which is easily weaponised. The same uranium enrichment process used in civilian reactors, increasing the proportion of the U-235 Isotope by a few percent, can be used to reach 90% enrichment, required for weapons grade uranium, making the task of non-proliferation all the more difficult.

While the G8 pay lip service to non-proliferation, they intend to expand the nuclear energy option while keeping “the more sensitive nuclear facilities that can be easily diverted for making bombs within the G8.” Richard Dixon of WWF Scotland responded with dismay that:

“this rich boys’ club seems on course to peddle reactors to the Earth’s poorer nations, at the same time as they are warning us how terribly dangerous the world is.”

According to MIT, traditional risk assessment suggests that there would be four core damage accidents by 2055. The fallout from many past disasters has yet to be taken care of. Only last month, the NDA was reporting delays in the clean up of the defunct nuclear complex at Dounreay in Caithness due to a lack of funds available for decommissioning. This has postponed a series of projects crucial for making Dounreay safe, including the emptying of the radioactive waste shaft on the shoreline which exploded in 1977 and was supposed to have been cleaned up by 2003. In 2005, a cementation plant at Dounreay was closed and an investigation started after the spillage of hazardous, dissolved spent fuel. According to *The Times*, “the discovery of nuclear particles on neighbouring beaches has led to calls for a full public inquiry into the scale of pollution at the site, while the [United Kingdom Atomic Energy Authority (UKAEA), responsible for the site] has been accused of a cover-up”. The prototype fast reactor at Dounreay was already shut down

over budget. The reactor caused losses of £180 million in the first half of the year alone, despite the government expediting its construction through a “streamlined” process that kept public consultation to a minimum.

More alarmingly for the UK, the idea of self regulation has been supported by Dieter Helm, of the Oxera consultancy, an advisor to the Blair government.

In most debate on the nuclear question, the toxic issue of radioactive waste is overlooked. The environmentalist turned industry shill, James Lovelock, has claimed that nuclear waste is so safe that he is willing to store it in his garden shed. (He also claims Chernobyl killed only 45 people, whereas 500,000 people are reported to have already died out of the 2 million people who were officially classed as victims. Moreover, there were some 50,000 abortion cases in Europe because mothers feared the effects of the radiation.) Serious scientists, on the other hand, remain far less sanguine about storing nuclear waste in back gardens. While all of it is dangerous, some remains toxic for hundreds of thousands of years. Further undermining the rush for nuclear expansion, *The Guardian* reported in January this year that scientists developing ways to dump Britain’s nuclear waste underground have discovered that ceramic materials proposed to seal high-level waste break down much faster than expected when exposed to the radiation.

Although Westminster and the Scottish Executive have recognised that the 470,000 cubic meters of toxic waste from nuclear plants and weapons needs deep disposal, planning for a new generation of plants when the mess from the last one hasn’t been taken care of seems ill advised at best. Around the world, except for one, all nuclear waste dumps are expected to open only after 2020. The opening of the Yucca Mountain project in the US, originally scheduled for 1998, has been pushed back to 2012. While John Ritch, director of the World Nuclear Association, claims the world needs a 20-fold expansion in nuclear energy, even a tripling of global nuclear capacity, according to the Massachusetts Institute of Technology (MIT), this would require a “new Yucca-sized dump to be opened somewhere every three or four years”. Sweden, a country that leads the world in research and development into deep disposal facilities, finds it unlikely that such facilities will be available for at least 20 more years – one of the reasons why it has decided to phase out nuclear power.

Harlequin bug (Pentatomidae).
Deformed scutellum, and patches not symmetrical.
Found near the Three Mile Island plant.



in 1994. This was the second scare in less than a year to hit the plant. According to the *Daily Mail*, a Dounreay spokesman “confirmed that eight workers were being tested for suspected plutonium intake”. The lab was already shut down the previous year “following a similar alarm involving 15 workers... In August, UKAEA started refresher courses following a number of radiation scares, during which contamination was detected on five workers in a week.” In February this year, the waste reprocessing complex was fined all of £140,000 for illegally releasing radioactive waste into the sea for more than 20 years. Radioactive particles from the plant will pollute beaches for decades to come and the environment will never be completely cleaned up, according to one expert study.

In Sellafield, in Cumbria, according to the *Sunday Herald*, a reprocessing plant has been closed because of a leak, and a plutonium fuel plant and ageing reactors are performing badly. Sellafield has been the site of numerous nuclear leaks, most recently at the Thorpe plant. According to *The Guardian*, workers ignored more than 100 warnings over six weeks that it had sprung a leak. On February 15, 2006, Sellafield was warned by the European Commission that it was in breach of EU rules. It was urged to tighten controls to ensure that nuclear materials “are not diverted from the peaceful uses for which they have been declared.” The warning followed European Commission inspections of Sellafield, which lead inspectors to conclude that “accounting and reporting procedures presently in place do not fully meet Euratom (EU) standards”. One of the most notable incidents came in 1999, when British Nuclear Fuels (BNFL) admitted falsifying documents relating to uranium and plutonium mixed-oxide (MOX) fuel destined for Japan. The scandal was a major embarrassment for BNFL. Japan refused to accept a shipment of the fuel that was already en-route, which meant it had to be returned to Sellafield. The government’s Committee on Medical Aspects of Radiation in the Environment has consistently denied any link between Sellafield and a nearby cluster of childhood leukaemia.

And last summer, the laundry at Hunterston nuclear power plant in North Ayrshire sprung a leak with radioactive water escaping from a tank, causing it to be shut down...

Not-So-Public Relations

When the results of Labour’s long awaited energy review were published in July, the nuclear industry was enthusiastic about the outcome. Keith Parker, CEO of the Nuclear Industry Association (NIA), that represents 40,000 nuclear workers “warmly welcomed” the review’s findings that nuclear would make a “significant contribution” to securing Britain’s energy future.

“Nuclear power offers reliable, secure and affordable low carbon electricity for the benefit both of consumers and environment,” said Parker. The choice of words here is deliberate, and part of a carefully crafted PR campaign to repackage nuclear from its traditional image – dirty, dangerous and expensive – to one that is “secure”, “affordable” and “green” (“low carbon”). The industry’s PR strategy has centred around capitalising on the growing concerns with climate change by appropriating environmental rhetoric to sell its re-entry into the energy market.

The PR Company Weber Shandwick wrote a briefing paper called “The Case for Nuclear Energy” for British Nuclear Fuel (BNFL), the state-owned company that runs the controversial Sellafield site, arguing that nuclear power has become “essential” in combating CO₂ emissions,

the main cause of climate change.

Climate change features in a series of “Racecards” or key messages that the PR company, Strategic Awareness, developed for BNFL to promote nuclear. One is “CO₂ Emissions = Climate Change = Irreversible damage to our environment.” The racecards, whose task is to make the issue of energy “personal” and “real”, also use another key selling point: energy security. “Without nuclear we will be reliant on other countries for our energy supplies”. (Despite this being the explicit outcome of policy to deregulate and globalise the energy market.) An October 2005 Strategic Awareness document notes that “without nuclear newbuild, renewables will not make a difference. Nuclear provides ‘always on’ electricity”. The paper also covers the safety angle by suggesting that “everyday emissions into the air are safe”. There is more radiation “in a bottle of mineral water”.

From the beginning, the industry has relied on the “third party” approach – a PR technique where propaganda is presented through someone seemingly independent, with more credibility – to get independent researchers, academics, parliamentarians, the media and trade unions to make its case. Philip Dewhurst, Public Affairs Director of BNFL, chair of NIA and a nuclear spin doctor, let slip during an interview with *PR Week* that BNFL was spreading its message “via third-party opinion because the public would be suspicious if we started ramming pro-nuclear messages down their throat”. The NIA has been central to BNFL’s multimillion pound PR campaign. With British Nuclear Energy Society and other partners in the PR business, the NIA conducted a behind-the-scenes campaign to cultivate sympathetic journalists and politicians. Last summer NIA and BNFL approached key academics and independent researchers to attend a “Media Training Workshop”, run by PR company Weber Shandwick, along with their staff.

Fire bug, legs (Pyrhocoris apterus). Two legs on the left side are light and bent. The chitin armour is soft rather than firm. Found in Bernau, near the Leibstadt power plant (by J. Jenny).



Vegetable bug (Eurydema oleraceum). Section missing from right feeler. Found in Rohr.

Pendragon, after much foot dragging, it was the latter (rather than the government) that chose the information that was eventually released. A similar request by *Corporate Watch* into the PR activities of BNFL and its relations with Weber Shandwick was finally vetted by Philip Dewhurst, BNFL’s head of PR.

Not too long back, CoRWM itself was accusing a government body, the Nuclear Decommissioning Authority (NDA), of a conflict of interest when it was appointed to oversee the deep disposal of 470,000 cubic metres of waste from nuclear power stations and weapons in the UK. Contrary to CoRWM’s recommendations of establishing an independent body to oversee the disposal of the radioactive waste, the government appointed NDA, a state agency with an interest in promoting short-term efficiency and a dual role as waste creator and waste disposer.

In Scotland, the parliament’s Cross Party Group on the Civil Nuclear Industry, despite declaring five separate items of funding from electricity generator British Energy (BE) from May 2005 to January 2006, does not mention that secretarial support for the parliamentary group is provided by BE, which includes drafting agendas and taking minutes of meetings, none of which is made available to the public. In a meeting with Nuclear Spin, John Home Robertson MSP, chair of the CPG even went so far as to declare, “I work for the nuclear industry”, only hastening to add afterwards that he isn’t paid to do so.

Effective Solutions

Despite an amply resourced propaganda campaign and active collusion of the Blair government, it appears that the nuclear industry has failed to convince the public of the desirability of nuclear energy. In Europe, nuclear power remains the most unpopular source of energy. A whole year of relentless propaganda has failed to rally more than 20% to its cause. Solar and wind energy on the other hand, have 80% and 71% support respectively. In the UK 19% favour nuclear, whereas support for wind power stands at 63%.

On October 5, 2006, Greenpeace launched its court action challenging the validity of the government’s Energy Review, which it claimed was “legally flawed” as “the government did not carry out the full public consultation to which it had committed itself before making its decision”. According to Sarah North, who leads the organisation’s nuclear campaign, “given that there are much more sophisticated, effective and safer ways than nuclear power to meet our energy demands and cut our climate change emissions, Greenpeace feels compelled to challenge the government on its irrational and unsubstantiated pro-nuclear policy.” It is a “dangerous distraction from real solutions to climate change,” she added. Climate change is indeed a serious issue, therefore it is important that the available resources are spent on the most viable an effective solutions.

Greenpeace claims their landmark success will mean that the government will be forced to carry out a much more comprehensive consultation that takes into account the full range of issues related to the introduction of a new generation of nuclear power plants: radioactive waste, financial costs and the design of the reactors. However, while the judicial review has disrupted the process, Blair was quick to declare that “this won’t affect policy at all”.

All references are archived at:
www.spinwatch.org
www.nuclearspin.org

(Dewhurst has now joined Gazprom, the Russian energy giant, perhaps in a bid to help it gain access to the British market.) A *Corporate Watch* investigation revealed that Weber Shandwick monitors all relevant parliamentary processes for BNFL, such as the House of Commons Environmental Audit Committee, whose sixth report, published in March 2006, thoroughly refuted the nuclear argument.

BNFL has also been using Nuklear 21, a trade union lobby group, as a “front” organisation to make a case for nuclear energy on the grounds that it would prevent nuclear workers losing jobs. It also underwrites Supporters of Nuclear Energy (SONE) a pro-nuclear front group headed by well known anti-green campaigner Sir Bernard Ingham. Through NIA, BNFL channelled at least £21,000 to SONE. According to *Corporate Watch*, Ingham, on BNFL’s behalf, lobbied Digby Jones, the head of the Confederation of British Industry, who in turn promised to approach Blair personally and enlist support of the Energy Intensive Users Group.

While SONE claims to be a proponent of “informed debate”, a different attitude prevails when it is working behind the scenes. David Fishlock, one of its members told the Lord’s Science and Technology Committee, “the public should not be expected to have an opinion. There are many things for which quite legitimately the public looks to government to make up the mind of 56 million people. Nuclear energy is a matter that is largely in government hands and is a matter for government decision.”

Conflicts of Interest

The new push for a return of nuclear energy plays out over a landscape marked by a dizzying array of conflicts of interest. The Committee on Radioactive Waste Management (CoRWM), set up by the government to resolve the issue of nuclear waste and supposedly free from industry or government influence, is closely intertwined with AMEC NNC, a nuclear company with a vested interest in both new nuclear build as well as decommissioning. A *NuclearSpin* investigation found that besides acting as CoRWM’s programme manager, AMEC NNC managed the discussions at its plenary meetings, organised its public consultation and procurements procedures, along with its PR company, Luther Pendragon. In fact, Luther Pendragon was contracted to AMEC NNC instead of CoRWM. When *NuclearSpin* put in an Freedom of Information request for all correspondence between CoRWM and Luther