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## 1.0 The Energy White Paper

1.1 The Energy White Paper[1], along with a new consultation document on the future of nuclear power[2], was launched on 23rd May 2007.

1.2 The Government was forced to hold a second consultation on its nuclear plans, after a successful legal challenge in the High Court by Greenpeace. Mr Justice Sullivan said the energy review was not the 'fullest public consultation' promised in the 2003 Energy White Paper; it was "seriously flawed" and "manifestly inadequate and unfair", as well as "misleading", and "procedurally unfair", because insufficient information had been made available for consultees to make an "intelligent response".[3]

1.3 So the White Paper has been unable to make a clear commitment to new reactors. However, writing in *The Times* Tony Blair said "It is right that we consider how nuclear power can help to underpin the security of our energy supply without increasing our reliance on fossil fuels".[4] Alistair Darling made it clear the go-ahead should be given before the end of the year. The Government believes the advantages of allowing private sector investment in new reactors outweigh the disadvantages. It is proceeding "on a contingent basis, with a range of facilitative actions to reduce regulatory and planning risks" to potential investors.

1.4 The White Paper claims to set out a strategy to deliver energy security and a transition to a low carbon economy. The Government wants to establish an international framework to tackle climate change; provide legally binding carbon targets; work towards further liberalisation of EU markets; encourage energy saving; provide more support for, and ensure the right conditions for investment in, low carbon technologies. It will consult shortly on the introduction of a mandatory

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[1] Energy White Paper Meeting the Energy Challenge
http://www.gnn.gov.uk/environment/mediaDetail.asp?MediaDetailsID=203153&NewsAreaID=2&ClientID=201&LocaleID=2

[2] The Future of Nuclear Power: The role of nuclear power in a UK low carbon economy, DTI, May 2007
http://www.dti.gov.uk/files/file39197.pdf

[3] Greenpeace Press Release 15th Feb 2007.
http://www.greenpeace.org.uk/climate/climate.cfm?ucidparam=20070215133454&CFID=712028&CFTOKEN=90306941 Full High Court Judgement available at:-
http://www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/ERJRSullivanJudgement.pdf?&CFID=4713382&CFTOKEN=17459695

[4] Times 23rd May 2007
http://www.timesonline.co.uk/tol/comment/columnists/guest_contributors/article1826518.ece

carbon trading scheme for large non-energy intensive public and private sector organisations in the UK such as hotel chains, supermarkets, banks, central and local government, which together account for around 10% of UK emissions.

1.5 The Government is already consulting on requiring all new homes to be zero carbon by 2016. The White Paper contains proposals for a higher standard of energy efficiency in consumer electronic goods, and launches a consultation on the Carbon Emission Reduction Target (CERT) for 2008-2011, which will replace the Energy Efficiency Commitment, and proposes a doubling of energy suppliers' current effort. Disappointingly it is only after 2012 that the scheme will evolve into one which transforms suppliers into energy service companies. And it is not until 2020 that the Government expects all householders to have been offered help to achieve their cost-effective energy efficiency potential.

1.6 The White Paper has also disappointed the renewable industry by failing to covert the 'aspiration' to produce 20% of UK electricity from renewables by 2020 into a firm commitment. The British Wind Energy Association said this was particularly disappointing in the light of the EU target of providing 20% of energy (not just electricity) from renewables by 2020.[5] It introduces a banding of the Renewables Obligation (RO) to offer differentiated levels of support to different renewable technologies.

## 2.0 The Future of Nuclear Power

2.1 Along with the White Paper, the Government also launched a 20-week consultation on nuclear power which runs until 10th October 2007. Alongside a nuclear consultation document, several other documents were published including reports on: siting options;[6] the Justification Process; [7] potential waste arisings from new build; [8] and a cost benefit analysis. [9]

2.2 The consultation document argues that the UK will be increasingly dependent on imported oil and gas at a time when almost one third of our coal and oil fired power stations are likely to close and all but one of our nuclear stations will have closed by 2023. Decisions on replacement capacity will have significant implications for carbon emissions. If our existing nuclear stations were replaced with fossil-fired stations, our emissions would be 8-16MtC/yr (million tonnes of carbon per year) higher – the equivalent of about 30-60% of the total carbon savings expected from all the measures in the White Paper. Although new reactors are unlikely to be ready before 2020, the consultation says they could make a significant contribution up to and beyond 2050.

2.3 The Government argues that since the 2003 White Paper significant progress has been made on the nuclear waste issue. The High Court Judgment criticized the Government for not correctly representing the Committee on Radioactive Waste Management's [CoRWM's] position on new nuclear waste - that it raised different political and ethical issues to legacy waste. This new consultation, therefore: "provides the opportunity to discuss the ethical, intergenerational and

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[5] Guardian 30th May 2007 http://society.guardian.co.uk/societyguardian/story/0,,2090278,00.html
[6] Siting New Nuclear Power Stations: Availability and Options for Government, Jackson Consulting, April 26, 2006. http://www.dti.gov.uk/files/file39030.pdf
[7] Justification Process for New Nuclear Power Stations in the UK: A discussion of the basis for considering together different candidate reactor systems, by TJ Abram, Nexia Solutions, March 2007 http://www.dti.gov.uk/files/file39200.pdf
[8] Potential Waste Volumes Arising from New Build, Dr Paul Gilchrist, NDA, October 2006. http://www.dti.gov.uk/files/file39386.pdf
[9] Nuclear Power Generation Cost Benefit Analysis, http://www.dti.gov.uk/files/file39525.pdf

public acceptability issues associated with a decision to allow the private sector to invest in new nuclear power stations and generate new nuclear waste".

2.4 The Government also says it is developing proposals to ensure that nuclear operators meet the full decommissioning costs and full share of waste management costs. It also says its economic analysis suggests that nuclear power can offer general economic benefit, and the interest shown by some utilities in nuclear power reflects assessments that with carbon being priced to reflect its impacts and gas prices likely to be higher than previously expected, the economics of new nuclear power stations are becoming more favourable.

2.5 Buried away on page 204 of the White Paper is a significant shift. The Government says new nuclear power stations should proceed on the basis that spent fuel will not be reprocessed. This is the clearest statement so far of ministers' intention to abandon reprocessing.[10]

2.6 EDF Energy and Areva are preparing to seek a UK license for the European Pressurised Water Reactor (EPR). [11] General Electric (GE) says it will put its ESBWR (Economic Simplified Boiling Water Reactor), forward for a license.[12] Another major contender will be Westinghouse, which was sold by the British Government to Toshiba last year. All have held intense talks with various utilities, such as British Energy, RWE and Eon, over possible partnerships. Separately, GE and Areva have applied for licenses for their latest reactor designs in the US where Westinghouse has already received certification.

## 3.0 Nuclear Siting

3.1 A report on nuclear siting produced in April 2006 was released along with the White Paper.[13] The Jackson Consulting report, suggests a hierarchy for siting new reactors beginning with existing sites, followed by other nuclear sites and third, sites of other types of power stations. Finally if no other existing sites are available then it may be possible to use a green-field site. In the 1980s CEGB identified 7 potentially suitable green-field sites.

3.2 Of 14 existing nuclear sites, nine are considered feasible, but only four are available immediately – Hinkley, Sizewell, Bradwell and Dungeness. The first two of these could feasibly take new twin reactors.[14] However, there are approximately 14 coal-fired power stations, some of which may potentially be available for new nuclear build. In many cases these sites are likely to already have water and grid facilities for around 2GW of electricity generation.

3.3 The Study also warns that tens of millions of pounds may have to be spent on flood defences and sea walls. Any reactors built in low coastal areas would need protection from rising sea levels and storm surges, the study said. Extra spending on defences would add to the huge cost of construction, estimated at more than £1bn a plant.[15]

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[10] RobEdwards.com 23rd May 2007 http://www.robedwards.com/2007/05/uk_signals_aban.html
[11] Bloomberg 17 April 2007 http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aI2CxeBwiEVc
[12] Telegraph 27 April 2007
http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2007/04/27/cnge27.xml
[13] Siting New Nuclear Power Stations: Availability and Options for Government, Jackson Consulting, April 26, 2006. http://www.dti.gov.uk/files/file39030.pdf
[14] Guardian 24th May 2007 http://environment.guardian.co.uk/energy/story/0,,2086815,00.html
[15] New Scientist 23rd May 2007
http://www.newscientist.com/article/dn11913-uk-backs-new-generation-of-nuclear-reactors.html

3.4 The suggestion that coal-fired power station sites might be used for new reactors has been particularly controversial in Oxfordshire – site of the Didcot power station. The Oxfordshire press reported that both Didcot and Harwell had emerged as potential sites.[16] RWE npower, which owns Didcot Power Station, said it had no intention of going nuclear, or selling its coal-fired Didcot 'A' station when it closes in 2015.[17] And the Conservative leader of South Oxfordshire District Council vowed to fight any move to site a nuclear power station in Didcot. [18]

## 4.0 Nuclear Reactions

4.1 An editorial in *The Independent* said the greatest danger posed by the White Paper could be nuclear investment crowding out investment in renewables and undermining energy efficiency. The Government claims to be interested in an open debate, but acts as if it has made its mind up. Mr Brown will be left with the job of paying for these dangerous follies. It is not too late for Britain to switch back to an environmentally friendly - and non-nuclear - energy track.[19]

4.2 Stephen Hale, formerly special advisor to Margaret Beckett when she was Secretary of State for the Environment, now director of Green Alliance, said the White Paper will be a millstone for Gordon Brown. "Labour is investing political capital in nuclear power, an industry that has never delivered. We need a far stronger policy framework for the transport sector, for heat generation and a long-term carbon price that incentivises a step change in low-carbon investment".[20]

4.3 Tom Burke, former Director of Friends of the Earth and special advisor to several previous Environment Secretaries, peels away some of the myths surrounding the Government's case for new reactors and presents the counter-arguments. [21] He says, nuclear generators are not waiting for permission to build new reactors - the only thing preventing construction is economics. The real barrier to investment is the uncertainty about future electricity prices. If Government is intent on having new reactors it will either have to abandon liberalised electricity markets or find a way to cheat on its pledge to provide no subsidies, for example by offering a very high price for carbon or by making the taxpayer bear an unspecified share of the cost of waste disposal.

4.4 Burke says another myth is the question of increasing dependence on Russian gas. This is simply a scare tactic, with three aspects. First, gas is used mainly to provide heat. Only a quarter of the gas Britain burns is used to produce electricity. Much of that quarter is used to generate electricity at peak times because gas turbines can be switched on and off easily. Nuclear-power stations must be run constantly to be economic so they can only replace a small proportion of the gas we use for electricity generation. Second, most of Britain's gas now and in the future comes from Norway. Third, Russia is more dependent on Europe's revenues than the other way round.

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[16] Didcot Herald 24th May 2007
http://www.heraldseries.net/news/hsdidcotnews/display.var.1423490.0.nuclear_power_station_could_be_built_in_county.php
[17] Oxford Mail 30th May 2007
http://www.oxfordmail.net/display.var.1436522.0.power_plant_rejects_nuclear_future.php
[18] Didcot Herald 30th May 2007
http://www.heraldseries.net/news/hsdidcotnews/display.var.1436376.0.leaders_vow_to_oppose_nuclear_move.php
[19] Independent 24th May 2007 http://comment.independent.co.uk/leading_articles/article2578450.ece
[20] FT 24th May 2007 http://www.ft.com/cms/s/5be73b76-096a-11dc-a349-000b5df10621.html
[21] Decoding Nuclear Nonsense, by Tom Burke, Open Democracy, May 25, 2007
http://www.opendemocracy.net/globalization-climate_change_debate/nuclear_nonsense_4648.jsp

4.5 A cross-Party group of MPs, in a letter to *The Guardian*, challenged the view that the lights will go out without new reactors, and that nuclear power will prevent an increase in dependency on imported gas and is necessary to allow us to meet climate-change goals.[22] Lib Dem Energy Spokesperson, David Howarth, writing in *The Independent*, says the Government has been rushed into a bad decision by clever lobbying. A new analysis for the Liberal Democrats says by 2050 the effect of allowing nuclear power to operate alongside renewables is simply to reduce the contribution from wind and wave power whilst hardly affecting the need to import gas. If we want to reduce our dependence on gas, we would be much better insulating our houses than building new reactors.[23]

4.6 Geoffrey Lean, writing in the Independent on Sunday, complains about all the hype, which made it sound like the nuclear industry would soon be growing again. He calls this "bunkum and balderdash". In fact the White Paper put far more emphasis on energy efficiency and renewables, while doing almost nothing to increase the prospects for new nuclear power stations. Lean reckons the small print of the White Paper suggests that only 2 - 4 new reactors will be built by 2030, meaning nuclear capacity could be as little as a quarter of what it is today.[24]

4.7 Unfortunately this does not mean the proposals on energy efficiency and renewables are adequate enough to deliver on climate change targets. Jeremy Leggett, chief executive of Solar Century, argues the White Paper was a huge step backwards from the Government's 2003 vision for energy, which followed intensive consultation with industry, leading to a pretty good product.[25] It is a hodge-podge of half-policies and suggestions which don't get us anywhere close to the deep cuts needed, so all we are left with is the hope that somehow new reactors will start generating in 2017. He called it “a massive blind alley."

4.8 Dr Catherine Mitchell of Warwick Business School - a member of the previous Energy Review team - says the new White Paper has nothing to do with placing the UK on a path for carbon reductions that might meet the challenge of climate change. It has sealed the fate of the UK in not being able to meet its future carbon dioxide reduction targets. Nor will UK businesses be able to benefit from the enormous opportunities a sustainable non-nuclear future offers.[26]

4.9 Scotland’s new First Minister Alex Salmond told the BBC's Politics Show: "there's absolutely no chance of us allowing a new generation of nuclear power in Scotland. There is just no consensus in Scottish society or in the Scottish Parliament to have foisted on us another generation of nuclear power stations." [27] A survey of MSPs carried out by Friends of the Earth Scotland revealed a clear majority opposed to new reactors in Scotland. MSPs who say they are against nuclear power outnumber those who say they are in favour by three to one. [28] One commentator said that many Labour MSPs quietly support the SNP’s unambiguous anti-nuclear stance, and that Jack McConnell had returned to his anti-nuclear instincts by failing to object to

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[22] Guardian 23rd May 2007 http://www.guardian.co.uk/letters/story/0,,2085718,00.html
[23] Independent 23rd May 2007 http://comment.independent.co.uk/commentators/article2573270.ece
[24] Independent on Sunday 27th May 2007 http://comment.independent.co.uk/commentators/article2586572.ece
[25] Guardian 28th May 2007 http://www.guardian.co.uk/uk_news/story/0,,2089512,00.html
[26] FT 30th May 2007 http://www.ft.com/cms/s/4015eb46-0e4b-11dc-8219-000b5df10621.html
[27] Herald 21st May 2007 http://www.theherald.co.uk/news/news/display.var.1412234.0.0.php
[28] Sunday Herald 20th May 2007 http://www.sundayherald.com/news/heraldnews/display.var.1411802.0.holyrood_set_to_clash_with_brown_on_nuclear_plans.php

Alex Salmond's anti-nuclear statement.[29]

4.10 British Energy has effectively ruled out new reactors in Scotland describing it as "the least attractive part of the UK" to base a new station following the elections. The high cost of transmitting electricity from Scotland to England is also a factor. [30] On the morning the White Paper was published Alistair Darling warned the lights would go out if the SNP maintained its antipathy to nuclear power. But by the afternoon, he seemed to realize that Scotland wouldn't need to start building new reactors at least until Alex Salmond had left office. [31]

## 5.0 Planning for a nuclear future?

5.1 Communities Secretary Ruth Kelly unveiled a Planning White Paper intended to speed up the planning system. The reforms are also said to improve community consultation. For major infrastructure projects there will be a new national policy framework set by Ministers and parliament. This will be subject to public consultation. A new inquiry system will be led by an independent commission consisting of leading experts from key sectors.[32]

5.2 Greenpeace accused the government of planning to rubber stamp to the wrong projects by diluting democracy. The White Paper is clearly intended to open the door to new nuclear power stations and airports, taking the UK's fight against climate change backwards.[33] Friends of the Earth said once specific projects considered to be of national importance are given the green light in national policy statements, affected communities will have no meaningful opportunity to debate the need for the development. Public input will be limited to implementation of the project. If these reforms are about speeding up the process, as the Government claims, it should examine the real reasons for delays in the current system. [34]

## 6.0 Nuclear Waste

6.1 The Committee on Radioactive Waste Management (CoRWM) has submitted a report – Implementing a Partnership Approach to Radioactive Waste Management[35] - after the Government asked for advice on communities, volunteering and a partnership-based approach. The advice is intended to assist the Government in drafting a new consultation, due to start in the summer, on how to implement the Committee's July 2006 recommendations[36], and in particular how to identify a suitable site for managing wastes.

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[29] See also Lesley Riddoch, writing in *The Scotsman* (premium content - 28th May)
[30] Scotsman 21st May 2007 http://news.scotsman.com/index.cfm?id=785462007
[31] Sunday Herald 27th May 2007
http://www.sundayherald.com/oped/opinion/display.var.1429129.0.and_the_debate_on_how_best_to_keep_the_lights_on_in_scotland.php
[32] The 'Planning for a Sustainable Future' White Paper can be found at:
http://www.communities.gov.uk/index.asp?id=1510503
the accompanying consultation document can be found at
http://www.communities.gov.uk/indx.asp?id=1510731
[33] Greenpeace Press Release, 21st May 2007 http://www.greenpeace.org.uk/media/press-releases/greenpeace-on-planning-white-paper
[34] FoE Press Release 17th May 2007
http://www.foe.co.uk/resource/press_releases/planning_white_paper_major_16052007.html
[35] Implementing a Partnership Approach to Radioactive Waste Management – Report to Government, CoRWM, April 2007 http://www.corwm.org/pdf/2146%20-%20%20Report%20to%20Government%202007%20-%20final.pdf
[36] CoRWM's Final Report, July 2006. http://www.corwm.org/pdf/FullReport.pdf

6.2 CoRWM's advice covers three main areas: (a) Defining communities and how they can express willingness to participate in the siting processes; (b) Setting up and operation of local partnerships through which measures to enhance community well-being could be negotiated; and (c) Indicating the way in which a staged decision process might operate to the point at which availability of a repository is confirmed.

6.3 The most important single message from CoRWM is that it is critical to take enough time to get the very earliest stages of the implementation process right. Failure to conduct these effectively and transparently could set the process back substantially. Rushing ahead with a few nuclear communities would revive recollections of past processes which failed. CoRWM says the forthcoming Managing Radioactive Waste Safely (MRWS) consultation should be at least double the length of conventional three-month consultations, and engage with a wider range of participants, including members of the (non-aligned) public, (through Citizens' Panels for example) in order for the results to carry the legitimacy needed. Regrettably the Government is reported to be planning only a three month consultation over the summer-holiday period.[37]

6.4 Crucially, CoRWM says, whilst the consultation will obviously focus mainly on the siting of a deep repository, it also needs to ensure that "*the whole package of CoRWM recommendations is also canvassed properly*", especially consideration of "*the need for and implications of robust storage (especially the extent to which willingness to participate should apply to storage facilities) and the nature of the necessary R&D to reduce uncertainties of all kinds*".

6.5 CoRWM says "*the potentially willing community should be the smallest coherent unit that can be shown to express a willingness to participate*" – for example a few contiguous parishes, and draws attention to widespread scepticism about the capacity of local government to represent community views, although a larger authority is presumed to approve any well-substantiated proposals put forward by a smaller community. This is where its advice differs significantly from the Local Government Association's Nuclear Legacy Advisory Forum's (NuLeaf) which emphasises the need for elected representatives to decide after wide consultation.[38]

6.6 CoRWM recommends a partnership approach, which means establishing an open and equal relationship between the implementing body and potential host communities. This will require '*involvement packages*' (funding) to enable communities to participate, and 'community packages' developed by the partnership to "*ensure the well-being of the community is enhanced*".

6.7 Meanwhile in Japan, where the government is desperately looking for a volunteer for a nuclear waste site, the municipality of Toyo in Kochi Prefecture, applied to start the process to see if the town would be a suitable the site.[39] This first stage alone would bring up to 2 billion yen (£8.28m) in subsidies to the town and neighboring municipalities. But in April, Mayor Tashima lost an election, which was seen very much as a referendum on the nuclear waste issue, to a candidate opposed to hosting a nuclear waste dump.

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[37] Renewal and Regeneration News 17th April 2007
http://www.regen.net/pp/news/index.cfm?fuseaction=FullDetails&articleUID=6dcdaec8-1c6c-4cf3-abc4-9c10927a69f7&newsid=650821

[38] Developing the implementation framework: initial invitations and local decision-making about participation, NuLeaf Briefing Paper 4, 13 February 2007
http://www.eastspace.net/nuleaf/documents/2007-02-13_Initial_invites_and_responses_Briefing_Paper_4.pdf

[39] Japan Times 23rd April 2007 http://search.japantimes.co.jp/rss/nn20070423a5.html

6.8 The ancient Korean capital of Kyongju's won a competition to become South Korea's biggest nuclear waste dump, but it will cost the Government £162 million. Four cities applied, but Kyongju won with nearly 90 percent of its voters saying they wanted to host a dump.[40]

6.9 Dounreay was one of two potential sites for an Intermediate Level Waste dump announced by Nirex in spring 1989. Caithness District Council organized a referendum in November 1989 when 74% of voters opposed the plans, but more recently there has been some discussion about whether the County should volunteer for a new dump investigation. Now, the board of Highlands and Islands Enterprise (HIE), says a nuclear waste repository would harm efforts to regenerate the economy after the rundown of Dounreay.[41]

6.10 Following the High Court's conclusions that the Government's Energy Review consultation document was "*seriously misleading as to CoRWM's position on waste from nuclear new build"*, CoRWM has re-stated its position. In no sense, CoRWM says, should its position be read as providing any solution to the long-term management of any wastes arising from a new build programme.[42] *"CoRWM's proposals apply only to committed wastes ... a new process will be required to examine and justify any proposals for the management of wastes arising from new build"*.It remains to be seen whether statements made in the Government's new consultation on nuclear power will be sufficient to satisfy the Committee.

6.11 The merger of Nirex with the NDA ran counter to the ethos of openness and transparency established by CoRWM. There was no consultation about whether the NDA is the most appropriate body, and there is a potential conflict of interest because the NDA is a waste producer. The merger went ahead despite legal advice received by Nirex in October 2006 which advised against NDA involvement and said it could be open to legal challenge.[43]

6.12 CoRWM also recommended the establishment of a body to independently oversee the policy implementation process, but the Government has only committed to a reconstituted CoRWM as an advisory body. Members of CoRWM have "*substantial misgivings*" about these plans.[44] The House of Lords Science and Technology Committee has also been severely critical of the failure to set up an independent oversight body. It branded the Government's preferred institutional framework "incoherent and opaque".[45]

## 7.0 Sellafield Update

7.1 The Thermal Oxide Reprocessing Plant (THORP) at Sellafield has been closed since April 2005 because of the spillage of 18,000 litres of highly radioactive liquid waste which began

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[40] Reuters 13th May 2007 http://www.alertnet.org/thenews/newsdesk/SEO240317.htm
[41] Scotsman 16th May 2007 http://thescotsman.scotsman.com/scotland.cfm?id=758462007
[42] CoRWM website, March 2007 http://www.corwm.org.uk/pdf/2162%20-%20Judicial%20Review%20on%20Energy%20Review.pdf
[43] Nirex legal advice available at: http://www.no2nuclearpower.org.uk/reports/nirex_legal_opinion.pdf
[44] Sunday Herald 10th December 2006. http://www.robedwards.com/2006/12/conflict_of_int.html
[45] Sunday Herald 3rd June 2006. http://www.sundayherald.com/news/heraldnews/display.var.1443935.0.concern_over_incoherent_nuclear_waste_disposal_plan.php
Radioactive Waste Management: An Update, House of Lords Science and Technology Committee, 3rd June 2007, http://www.publications.parliament.uk/pa/ld200607/ldselect/ldsctech/109/109.pdf

seeping from a broken pipe around July 2004. The pipe suffered a major fracture around January 2005. Although no radiation escaped, British Nuclear Group (BNG), the company operating Sellafield on behalf of the Nuclear Decommissioning Authority (NDA), should have been able to discover the leak "within days". Yet it continued undetected for around eight months.

7.2 A criminal case against BNG was brought by the Health & Safety Executive (HSE) at the Crown Court in Carlisle in October 2006, and BNG was fined £500,000 after pleading guilty. The NDA also imposed a £2m penalty on BNG.[46] In his judgement, Mr Justice Openshaw said the fact that the leak went undetected for eight months was "*a serious failing deserving of condemnation*", and that two previous cases showed that the defendants cannot reasonably claim to have a good safety record.[47] A Nuclear Installation Inspectorate's (NII) report said: *"these breaches amounted to serious offences*."[48]

7.3 Although BNG received consent to restart operations at THORP from the NII in January, problems with the evaporator in which the highly active liquors are processed prior to storage in the High Level Waste tanks have delayed the re-start until 'the middle of 2007'.[49] Some operations have already resumed, allowing liquors, held in the plant since the shutdown, to be dealt with. But THORP has yet to receive formal permission from the NDA to fully re-start the plant.[50] The Installation of a new (medium active waste) evaporator will require the roof to be taken off so that the equipment can be lowered in, in November, but BNG says this will not require THORP to be shut again.[51]

7.4 The Sellafield MoX Plant (SMP) completed an order for the Beznau nuclear station in Switzerland which was originally due to be delivered in March 2006. BNG blamed equipment reliability problems for the delay. The final batch was transported under armed guard from Sellafield to Workington and loaded on to the Atlantic Osprey, an armed, converted roll-on roll-off cargo vessel, for shipment to Cherbourg. But the previous batch, dispatched in November 2006, was routed to Barrow via the M6 motorway, because the Workington dock was undergoing repairs. It travelled on the main A590 road through Ulverston during Friday afternoon's peak traffic period. These armed convoys would become much more common if it was decided to use up Britain's embarrassing stockpile of weapons-useable plutonium to manufacture MoX fuel for use in new reactors.[52]

7.5 Two of the leading candidates vying to take over the £15bn-plus contract to manage and clean up Sellafield pulled out less than two weeks after making it onto the shortlist. Energy Solutions and Jacobs Engineering, both American companies, said they want to focus on the Magnox reactor and other contract competitions, including the bid to manage the Drigg low-level dump.

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[46] Telegraph 17 Oct 2006
http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/10/17/npipe17.xml
[47] Transcript of the Court Case.
http://www.greenpeace.org.uk/media/reports/british-nuclear-group-court-case-transcript-and-sentence
[48] Thermal Oxide Reprocessing Plant leak investigation and consent to re-start, HSE, 23rd February 2007
http://www.hse.gov.uk/nuclear/thorp.htm
BBC 24th Feb 2007 http://news.bbc.co.uk/1/hi/england/cumbria/6392283.stm
[49] Guardian 29th Jan 2007 http://business.guardian.co.uk/story/0,,2000858,00.html
[50] Whitehaven News 19th April 2007 http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=488932
[51] Whitehaven News 5th April 2007 http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=484185
[52] Platts Nuclear News Flashes 20th April 2006.
Whitehaven News 22nd March 2007http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=479243
And Platts Nuclear News Flashes, 26th March 2007.

Four teams are now left in the race: (a) a consortium made up of Serco, the British support services group, Bechtel, and BWXT Nuclear Services UK (b) Amec, in partnership with Washington Group International and Areva, the French reactor builder; (c) a consortium of Fluor and Toshiba; and (d) CH2M Hill of the US.[53] The NDA will issue invitations to tender later this year with a view to announcing the winner by the middle of next year. Meanwhile, the trade union, Amicus, has expressed concern that nuclear safety could be threatened if BNFL's Project Services Division is sold to private equity buyers. Project services, which employs more than 700 people, looks after the equipment monitoring radiation safety and security for the Sellafield reprocessing centre, the old Magnox nuclear reactors.[54]

## 8.0 Dounreay

8.1 Fragments of radioactive nuclear fuel continue to arrive on the beaches in Caithness around the Dounreay facility. In April a particle was found on Murkle beach to the east of Thurso (Dounreay is to the west), during a radiation monitoring exercise. This was only the second particle to be found to the east of Dounreay. Previously a particle was found on Dunnet beach in March 2005. But hundreds have been found on the Dounreay foreshore and on the surrounding seabed. 94 particles, including 17 this year, have been removed from Sandside beach.[55]

8.2 The UKAEA is in the process of deciding how to implement an acceptable clean up strategy, both onshore and offshore. Over the next few months a preliminary Best Practicable Environmental Option (BPEO) report will be published for public comment. Then UKAEA will make recommendations to the Scottish Environment Protection Agency and the Nuclear Decommissioning Authority in early 2008.[56]

## 9.0 Nuclear Economics

9.1 A new report published by Greenpeace reveals that country after country has seen nuclear construction programmes go considerably over budget. The nuclear industry, despite assertions to the contrary, is facing spiralling costs, construction delays, safety failings and falling global demand for its technology. In India, for example, completion costs for the last ten reactors have been 300% over budget. The World Energy Council says construction times have risen from 66 months in the mid-1970s to 116 months - nearly ten years - for completions between 1995 and 2000. The new generation of reactors being proposed for Europe and elsewhere are unproven, leading to more potential delays.[57]

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[53] Sunday Telegraph 15th April 2007
http://www.telegraph.co.uk/money/main.jhtml?xml=/money/2007/04/15/cnsella15.xml
Whitehaven News 12th April 2007
http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=486452

[54] Times 7th April 2007
http://business.timesonline.co.uk/tol/business/industry_sectors/utilities/article1624113.ece

[55] John O Groat Journal 18th April 2007 http://www.johnogroat-journal.co.uk/news/fullstory.php/aid/2005/Murkle_radioactive_particle_confirmed.html

[56] John O' Groat Journal 4th April 2007 http://www.johnogroat-journal.co.uk/news/fullstory.php/aid/1917/Particles_issue:_UKAEA_vows_'substantial_progress'.html

[57] The Economics of Nuclear Power, by P. Bradford, A. Froggatt, D. Milborrow and S. Thomas, Greenpeace, May 2007. http://www.greenpeace.org.uk/files/pdfs/nuclear/nuclear_economics_report.pdf
Guardian 3rd May 2007 http://business.guardian.co.uk/story/0,,2070918,00.html

## 10.0 Nuclear Accidents

11.1 A letter from various Chernobyl children's charities on the 21st anniversary of the disaster reminds us that many of the young people who have grown up in Chernobyl's shadow have little cause to celebrate their "coming of age". The children's cancer hospital in Minsk is overcrowded with babies and small children diagnosed with leukaemia or other cancers. The children's hospice is overwhelmed with new patients, the majority of them babies with genetic disorders. And doctors are baffled by the blood diseases, normally associated with old age they are seeing in young children, the numbers of children with heart disease, respiratory problems or endocrine disorders, and the rising tide of breast cancer in young women.[58]

11.2 The fact that there has not been another accident with a core meltdown since 1986 may be lulling us into a false sense of security, according to a new analysis commissioned by European Greens. Every year there are thousands of incidents, but because there is no catastrophic radioactive leakage, the world reacts as if there is no problem. The Forsmark incident last summer should have shattered this complacent approach. An accident on the scale of Chernobyl was probably only avoided by minutes. But the main difference between Forsmark and lots of other incidents is that the real risk of Forsmark was publicized rather than brushed under the carpet. The reports authors from the Institute of Risk Research, Union of Concerned Scientists and the Oko Institute, conclude that the widespread belief that nuclear safety is enhanced because of a lessons-learned is untrue.[59]

## 11.0 Nuclear Spin

11.1 The recent United Nations Intergovernmental Panel on Climate Change (IPCC) report[60] – widely spun as providing a recommendation by climate scientists for an expansion of nuclear power – actually showed how far from the truth the assertion that nuclear power can play a major role in mitigating global warming actually is.[61]

11.2 Up to 2030 the report divides mitigation measures into seven categories: energy supply, transport, buildings, industry, agriculture, forestry, and waste, and estimates that together they have a potential to reduce emissions by about 16.2-30.3 Giga tonnes of carbon dioxide equivalents/year (GtCO2/y). Of this sum, energy supply constitutes a mere 2.4-4.7 GtCO2/y. Within this energy supply category, there are several possibilities that are currently on the market: improved supply and distribution efficiency, co-generation of heat and power, fuel switching from coal to gas, nuclear power, renewable heat and power (hydropower, solar, wind, geothermal and bio energy), and early applications of carbon capture and storage (e.g. natural gas processing). The message is clear: an expansion of nuclear power can at best play a minor role in mitigating climate change. The report makes clear which sectors of the economy offer the most potential for emissions reductions. These are buildings (5.3-6.7 GtCO2/y), industries (2.5-5.5

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[58] Guardian 23rd April 2007 http://www.guardian.co.uk/letters/story/0,,2063291,00.html

[59] Residual Risk: An account of events in nuclear power plants since Chernobyl in 1986, by Georgui Kastchiev et al, European Greens, May 2007 http://www.greens-efa.org/cms/topics/dokbin/181/181995.residual_risk@en.pdf

[60] Working Group III contribution to the Intergovernmental Panel on Climate Change Fourth Assessment Report Climate Change 2007: Mitigation of Climate Change. Summary for Policymakers, IPCC 4th May 2007. http://www.ipcc.ch/SPM040507.pdf

[61] Fight Against Global Warming: N-Energy Won't Help, by MV Ramana and G Ananthapadmanabhan, Deccan Herald 12th May 2007 http://www.deccanherald.com/Content/May122007/editpage200705121173.asp

GtCO2/y), and agriculture (2.3-6.4 GtCO2/y). Bert Metz, co-chair of the IPCC group that wrote the report, stressed that it was not an endorsement of nuclear power. "It is absolutely a technical review. We are not making policy recommendations," he said. [62]

## 12.0 British Energy

12.1 Repairs on boiler tubes have been completed at Hinkley Point B and Hunterston B, but only one reactor at each station has come back on-line.[63] British Energy (BE) had hoped to get permission to re-start all the reactors at 70% capacity in April.

12.2 BE published the findings of the Nuclear Installations Inspectorate's (NII) Periodic Safety Review (PSR) of Hinkley and Hunterston on 1st May. The NII concluded that the issues arising from its PSR assessment are not immediate safety concerns; normal station operation can continue whilst a remedial programme of work is progressed. BE announced that it would invest £4.5m to meet safety standards at the two stations.

12.3 But the NII said the company's submission to the review had "a number of significant shortfalls both in the quality and scope of information that is required by the UK regulatory system". It mentions that "a specific fire scenario (details withheld) should be investigated with due urgency". The Inspectorate says: "It is a challenging programme of work, and we have accepted [BE's] assurance that it can be carried out without adverse effects on other safety-related work". If satisfactorily completed, no further safety review should be needed before January 2017. BE says it will now assess the accounting lives of the two stations and decide by March 2008 whether they should be extended beyond the current date of 2011.[64]

12.4 The Government is to sell part of its stake in British Energy, with proceeds going towards decommissioning costs of the company's eight nuclear power stations. Trade and Industry Secretary Alistair Darling said 400 million shares would be sold, cutting the Government's stake in the firm from 64% to 39%.[65] Greenpeace accused the Government of priming the energy market for nuclear before the nuclear consultation has even started.[66]

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[62] Reuters/Planet Ark 7th May 2007 http://www.planetark.org/dailynewsstory.cfm/newsid/41741/story.htm
[63] FT 30th May 2007, http://www.ft.com/cms/s/1fc84528-0e4b-11dc-8219-000b5df10621.html
[64] Herald 2nd May 2007, http://www.theherald.co.uk/business/news/display.var.1368757.0.0.php
[65] BBC 30th May 2007 http://news.bbc.co.uk/1/hi/business/6704145.stm
[66] Guardian 31st May 2007 http://business.guardian.co.uk/story/0,,2091587,00.html?gusrc=rss&feed=24