

Pete Roche
Energy & Environment Consultant
24 Parkhead View
Edinburgh,
EH11 4RT

RochePETE8@aol.com
Tel: 0131 444 1445
07821378210

Nuclear Free Local Authorities, Scotland.
Nuclear Briefing August 2006.

1.0 New Nuclear - Finance

1.1 The Government's Energy Review has concluded that new nuclear power stations would make a significant contribution to meeting our energy policy goals but it will be up to the private sector to finance them. The Government says it will address barriers to new nuclear build.¹ The jury is still out on whether private investors will take the risk without further guarantees or rigging of the market. New reactors have never been financed within a liberalised electricity market anywhere in the world.² Other countries – even those that are the very embodiment of the free market – expect to provide subsidies or guarantee prices. So the whole nuclear industry will be keenly watching the outcome in the UK.³ The US Government wants 20 new plants as soon as possible, but will provide \$13.7 billion in subsidies - enough to fund the entire capital cost of six reactors.⁴

1.2 The UK Government believes nuclear can be competitive because of large increases in gas prices.⁵ But the sizeable up-front investment costs and the uncertainties in decommissioning and waste management costs make nuclear look unattractive. The Association of Electricity Producers said if they were going to invest they needed action not "frothy" words.⁶ Many believe government guarantees will be required.⁷ Several nuclear utilities, including British Energy, claim they can build reactors without subsidy.⁸ *The Independent* calls this "an almost laughably optimistic claim – [a] triumph of hope over experience". Recent studies purporting to show favourable costs for nuclear electricity would never pass muster with financial experts. The industry's intention is to get a commitment out of ministers first and then debate costs later. British taxpayers need not find out the costs until after reactors have been ordered.⁹

¹ The Energy Challenge: <http://www.dti.gov.uk/energy/review/index.html>

² The Energy Review, Performance and Innovation Unit, February 2002, page 195 para 42.
<http://www.strategy.gov.uk/downloads/su/energy/theenergyreview.pdf>

³ Financial Times Editorial 21st June 2006

http://www.ft.com/cms/s/c607b302-00c2-11db-8078-0000779e2340_i_rssPage=063fb9c2-3000-11da-ba9f-00000e2511c8.html

⁴ Centre for Media and Democracy 26th July 2006 <http://www.prwatch.org/node/5008>

⁵ Financial Times 11th July 2006

<https://registration.ft.com/registration/barrier?referer=&location=http%3A//www.ft.com/cms/s/d86cb700-103e-11db-8f6f-0000779e2340.html>

⁶ Guardian 12th July 2006 <http://www.guardian.co.uk/nuclear/article/0,,1818476,00.html>

⁷ Independent 12th July 2006

http://news.independent.co.uk/business/analysis_and_features/article1173249.ece

⁸ Scotsman 17th May 2006 <http://thescotsmanscotsmans.com/business.cfm?id=733262006>

⁹ Independent 21st June 2006 <http://news.independent.co.uk/business/comment/article1093510.ece>

1.3 The Liberal-Democrats say a nuclear revival will need vast taxpayer subsidies or a rigged market. "*The real question ... is where will Blair hide his nuclear subsidy?*"¹⁰ Their analysis suggests that if consumers were forced to pay a 'nuclear tax' on electricity bills, it could amount to £170 a year.¹¹

1.4 Among the companies at the forefront of the drive to revive nuclear is the French reactor builder, Areva who have now admitted that construction of the reactor has fallen a year behind schedule.¹² The financing of this reactor is riddled with covert state subsidies.¹³ The European Renewable Energies Federation (EREF) has lodged a formal complaint with the European Commission asking it to investigate whether these subsidies violate state aid regulations.¹⁴

1.5 Without subsidies there are probably just too many uncertainties for investors.¹⁵ Certainty either on electricity prices or the cost of carbon emissions will be required.¹⁶ The Government's strategy depends on establishing a stable and predictable price for carbon, which will penalise fossil fuels. This means overhauling the European Emissions Trading Scheme, so the Government is going to have to tell other EU states that they must crack down on their industry to make our nuclear plants pay for themselves.¹⁷ The private sector may also demand a limited liability guarantee on waste and decommissioning costs,¹⁸ leaving taxpayers to pick up the rest of the bill.

2.0 New Nuclear – Fast track planning

2.1 The Energy Review has, in effect, launched a consultation on proposed fast-track planning laws, which would speed up energy developments including nuclear stations.¹⁹ People living near proposed nuclear plants will lose the right to question their necessity or general safety, as planning inquiries are limited to considering local issues for projects of national importance.²⁰ A group of back-bench Labour MPs have pledged to fight the proposals.²¹

2.2 The Government is now seeking public comment by 31 October 2006 on the proposal to establish a policy framework for new build which would include a "Statement of Need" and set out national strategic and regulatory issues which it says are most appropriately discussed through processes other than the planning inquiry. This policy framework will be set out in a White Paper at the end of this year. <http://www.dti.gov.uk/consultations/page32340.html>

¹⁰ Where will Blair hide his nuclear tax bombshell? Liberal Democrat Trade and Industry Team, June 2006. <http://www.libdems.org.uk/media/documents/policies/Nuclear-tax-bombshell.pdf>

¹¹ Daily Mail 18th May 2006

http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=386704&in_page_id=1770

¹² Interactive Investor 13th July 2006

<http://www.iii.co.uk/news/?type=afxnews&articleid=5712147&subject=markets&action=article>

¹³ Guardian 18th April 2006 <http://www.guardian.co.uk/letters/story/0,,1755555,00.html>

¹⁴ European Renewable Energies Federation, Press Release 13th December 2004

http://www.eref-europe.org/downloads/pdf/2004/EPR_Finland.pdf

¹⁵ Times 21st June 2006 <http://www.timesonline.co.uk/article/0,,630-2235717.html>

¹⁶ Financial Times 11th July 2006

<https://registration.ft.com/registration/barrier?referer=&location=http%3A//www.ft.com/cms/s/d86cb700-103e-11db-8f6f-0000779e2340.html>

¹⁷ Observer 9th July 2006 <http://observer.guardian.co.uk/business/story/0,,1815874,00.html>

¹⁸ Reuters 19th June 2006

http://investing.reuters.com/news/newsArticle.aspx?type=reutersEdge&storyID=2006-06-19T083449Z_01_NOA930686_RTRUKOC_0_ANALYSIS-NUCLEAR.xml

¹⁹ Telegraph 12th July 2006

<http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/07/12/nener12.xml&sSheet=/news/2006/07/12/ixuknews.html>

²⁰ Times 12th July 2006 <http://www.timesonline.co.uk/article/0,,2-2266158,00.html>

²¹ Independent 12th July 2006 <http://news.independent.co.uk/environment/article1173232.ece>

2.3 The object is plain: to confine public inquiries to local impacts and silence local objectors and their local authority at a public inquiry on the matters that really worry the majority of the population. *The Business* newspaper says if you suspect you live near the site of a new reactor and you want to block it, you now have until 31st October to make your case if you want to use "economics" or "necessity" in your argument. The government will then consider both these arguments resolved. But the sites will not be chosen until after a review which starts in January next year.²²

2.4 A separate enquiry into the "justification" for building new reactors could begin this year, and will eventually involve a public consultation. In addition the licensing of the most likely reactor designs could also start this year. Local planning enquiries will not be able to question whether there are more suitable locations, or whether a particular reactor is safe.

2.5 The HSE says new reactors could receive approval in about half the time it took to gain consent for Sizewell B.²³ The process of licensing a new series of reactors could take three to four years. This compares with the six and a half years it took to gain a licence for Sizewell B, which opened in 1995 after a mammoth public inquiry. The NII will take a two-phase approach. The first phase would concentrate on a generic reactor design and the second phase would be development of "a generic site envelope," which would reflect conditions found at likely sites for new nuclear construction.²⁴ Nevertheless it could still take up to seven years before the first new nuclear power station gains approval. An HSE spokesman said phase one could take nearly four years and phase two only a little less time.²⁵

3.0 New Nuclear – A Dangerous Distraction

3.1 The *New Statesman* accuses Blair of a lack of imagination. He mistakes a readiness to grasp the nettle for a genuine vision of Britain's future. What has really changed since the 2003 White Paper except that the nuclear industry's PR machine has got its act together?²⁶ *The Telegraph* says Blair needs a few "big ideas" to convince people he is still in control, but this idea isn't big enough.²⁷

3.2 A report by Warwick Business School concludes that new reactors could actually damage the UK's ability to meet climate change targets.²⁸ The Environment Agency warns that new reactors could "drain resources" from renewable energy.²⁹ Jonathon Porritt, says nuclear is seriously diverting attention from the hard decisions required to solve the UK's energy

²² The Business 16th July 2006

<http://www.thebusinessonline.com/Stories.aspx?Nuclear%20power%20is%20on%20site%20and%20back%20on%20the%20agenda&StoryID=86766F03-EC32-4177-BB08-70CE2DA6692D&SectionID=8099C021-87B0-48CA-A5F1-6335FDE21694>

²³ HSE 28th June 2006 <http://www.hse.gov.uk/consult/condocs/energyreview.htm>

²⁴ Independent 28th June 2006 <http://news.independent.co.uk/business/news/article1116623.ece>

Times 28th June 2006 <http://www.timesonline.co.uk/newspaper/0..172-2246528.00.html>

²⁵ Evening Gazette (Teesside) 13th July 2006

http://icteesside.icnetwork.co.uk/0400business/0004tod/tm_objectid=17378345%26method=full%26siteid=109975%26headline=years%2dto%2dwait%2dfor%2dapproval-name_page.html

²⁶ New Statesman Leader 17th July 2006 <http://www.newstatesman.com/200607170002>

²⁷ Telegraph 18th May 2006

<http://www.telegraph.co.uk/opinion/main.jhtml?xml=/opinion/2006/05/18/do1802.xml&sSheet=/opinion/2006/05/18/ixop.html>

²⁸ New Nuclear Power: Implications for a Sustainable Energy System, Warwick Business School, Green Alliance March 2006. <http://www.wbs.ac.uk/downloads/multimedia/enclosures/new-nuclear-power.pdf>

²⁹ Scotsman 14th June 2006 <http://news.scotsman.com/index.cfm?id=872002006>

Environment Agency response to the DTI Energy Review Consultation

http://www.environment-agency.gov.uk/ourviews/1159513/1389356/?version=1&lang=_e

challenges.³⁰ Energy security will get worse because more gas will be needed in the short term before reactors are constructed, so efforts to reduce fuel poverty will be hampered as costs rise; and UK business will take a hit as we are locked out of the rapidly expanding global markets for renewable energy, which are far greater than the nuclear energy market.³¹

3.3 Even by 2020, the most optimistic assumption is that one new nuclear power plant could be operating, delivering perhaps just over one million tonnes of carbon saving. In contrast, energy efficiency "*could save around 25 million tonnes of carbon through cost-effective energy efficiency measures*" by then, says the Association for the Conservation of Energy. By 2020 the Germans will be three-quarters of the way to completing their systematic programme of upgrading all pre-1978 housing to contemporary energy saving levels. Berlin is now offering grants and tax incentives for home energy improvements worth more than €1.3bn per year. In contrast, our own low-carbon buildings programme runs at just £10m pa.³²

3.4 The Conservative Party also says Blair's pro-nuclear stance is too unambitious. Decentralised energy (DE), generated on a smaller local scale, is the way forward they say, offering enhanced energy security and less susceptibility to terrorist attack. In contrast Blair's proposals would saddle the country with an ill thought-out, "back of the envelope" policy, largely uncosted, which will have only a tiny effect on global warming?³³

3.5 Speaking to the Local Government Association conference David Cameron said he wants unreasonable obstacles to investment in renewable and decentralised energy removed, for example by making it easier for local generators to sell any spare electricity back to the Grid. Cameron emphasised the role of local government in delivering a low carbon future.³⁴ Perhaps a consensus is emerging. Environment Secretary, David Milliband, also told the LGA Conference about the importance of Decentralised Energy and the role of local government. He said we could see the same transformation in energy as we have seen in computers over the past generation.³⁵

4.0 New Nuclear – Backbenchers revolt

4.1 57 Labour backbenchers including two former Environment Ministers have signed a commons motion which says the argument for new nuclear build has not been made and calls for recognition of the enormous potential for energy efficiency, combined heat and power, and renewables.³⁶ A similar motion has been put down in the Scottish Parliament by former Environment Minister, Sarah Boyack.³⁷ Together, the two motions suggest that Blair is not going to get his way on nuclear power without a fight within the Labour Party.³⁸

³⁰ Guardian 5th July 2006 <http://society.guardian.co.uk/societyguardian/story/0,,1812324,00.html>

³¹ FT 19th May 2006 <http://news.ft.com/cms/s/149ee7f6-e6d3-11da-a36e-0000779e2340.html>

³² Guardian 13th July 2006 <http://politics.guardian.co.uk/green/story/0,,1819253,00.html>

³³ Telegraph 18th May 2006

<http://www.telegraph.co.uk/opinion/main.jhtml?xml=/opinion/2006/05/18/do1802.xml&sSheet=/opinion/2006/05/18/ixop.html>

³⁴ BBC 6th July 2006 http://news.bbc.co.uk/1/hi/uk_politics/5152410.stm

³⁵ Public Technology 7th July 2007

<http://www.publictechnology.net/modules.php?op=modload&name=News&file=article&sid=5379&mode=thread&order=0&thold=0>

³⁶ EDM 2204 on new nuclear build:

<http://edmi.parliament.uk/EDMi/EDMDetails.aspx?EDMID=30725&SESSION=875>

³⁷ S2M-4428 Sarah Boyack: The Energy Challenge.

<http://www.scottishparliament.uk/business/businessBulletin/bb-06/bb-05-23f.htm>

³⁸ Sunday Herald 21st May 2006 <http://www.sundayherald.com/55786>

http://www.robedwards.info/2006/05/former_minister.html#more

4.2 Stephen Hale, who until a few weeks ago was special adviser to the then Environment Secretary, Margaret Beckett, writing in *The Observer* says Blair “*refused to consider the alternatives*” to nuclear energy. “*The depressing truth is that the review was undertaken primarily to act as a springboard to formally initiate the government's nuclear position.*”³⁹

4.3 Alistair Darling, Trade and Industry Secretary, says he has changed his mind about nuclear power stations: “*if you want to be frightened about anything you want to be frightened about the impact of climate change*”. As Transport Minister, Darling was in favour of the unrestricted growth of air travel. A replacement programme of nuclear stations would save only 6.7 million tonnes of carbon annually by 2030. Alistair Darling's Aviation White Paper gave the green light to the aviation industry to produce up to three times that volume of emissions by the same date. A rethink of the Aviation White Paper would be a far more effective way for Labour to tackle climate change.

5.0 CoRWM and Scotland

5.1 The publication of CoRWM's Recommendations has failed to resolve the nuclear issue in Scotland. CoRWM says that “*geological disposal*” represents the best available approach, but that interim storage will be required because of the uncertainties surrounding implementation – there may be technical difficulties in siting or community concerns could make it difficult, or even impossible. The Committee says there are still uncertainties with regard to the safety of deep geological disposal in general, and there will be uncertainties if and when a specific site is chosen, so there will need to be much more research. Community involvement in proposals for any waste facility should be based on volunteerism. Participation should be based on the expectation that the well-being of the community will be enhanced. An independent body should be appointed to oversee the process.

5.2 The Scottish Executive says it “*will not support the further development of nuclear power stations while waste management issues remain unresolved.*”⁴⁰ But the definition of “*resolved*” remains unclear. McConnell says he wants a “*period of reflection*” to consider the issue and this will probably extend into next year.⁴¹ Liberal Democrat Environment Minister, Ross Finnie says by the time CoRWM has reported, it will be too late for this administration to act.⁴²

5.3 Nevertheless, McConnell appeared to reject nuclear power in a speech in Dumfries when he said: “*I am not in favour of new nuclear generation in Scotland until the issue of waste is satisfactorily resolved. Nuclear waste is virtually permanent and potentially very, very lethal, so we should not in Scotland countenance any extension of nuclear power.*”⁴³ Further discussions within the Party will take place in the Policy Forum process and in November at the Conference in Oban.

5.4 Advocates of nuclear power have argued that the CoRWM report will resolve the nuclear waste problem. An editorial in *New Scientist* magazine called this “*optimism gone mad*”. Simply deciding that we should put nuclear waste down a hole, is no more of a solution than has existed for the past 30 years.⁴⁴ The vague possibility that we may have a hole in the ground at an unknown site in what could be many decade's time, cannot be seen as a resolution to the problem. Although the Committee said geological disposal is the most secure option, it argued

³⁹ Observer 9th July 2006 <http://politics.guardian.co.uk/homeaffairs/story/0,,1816301,00.html>

Observer 9th July 2006 <http://politics.guardian.co.uk/comment/story/0,,1816067,00.html>

⁴⁰ <http://www.scotland.gov.uk/library5/government/pfbs-00.asp>

⁴¹ Scotsman 28th April 2006 <http://thescotsmen.scotsmen.com/politics.cfm?id=634292006>

⁴² Herald 15th May 2006 <http://www.theherald.co.uk/politics/61992.html>

⁴³ Herald 21st June 2006 <http://www.theherald.co.uk/politics/64474.html>

⁴⁴ New Scientist 6th May 2006 <http://www.newscientist.com/article/mg19025503.000.html>

Rob Edwards' website 9th May 2006 http://www.robedwards.info/2006/05/optimism_gone_m.html

that the creation of suitable facilities "*may take several decades*" and robust interim stores must be built in the meantime.⁴⁵

5.5 CoRWM says its recommendations "should not be seen as either a red or green light for nuclear new build ... New build wastes would extend the time-scales for implementation, possibly for very long but essentially unknowable future periods. Further the political and ethical issues raised by the creation of more wastes are quite different from those relating to [existing] wastes".⁴⁶ When he was specifically asked at CoRWM's Brighton Press Conference on 27th April if he thought the recommendations had resolved the problem of nuclear waste, chairman, Gordon MacKerron said "no". CoRWM has previously said: "If Ministers accept our recommendations, the UK's nuclear waste problem is not solved. Having a strategy is a start. The real challenge follows."⁴⁷ So there is nothing in the CoRWM report which means the Scottish Executive Partnership Agreement should change.

5.6 Advocates of nuclear power also say ten more reactors would add only 10% to the volume of radioactive waste, but this is highly misleading because the majority of existing waste is made up of bulky, less hazardous material. As the nuclear waste management body Nirex, points out, the volume is not the whole story, we also need to know what type of waste we will be left with by a programme of new reactors.⁴⁸ CoRWM's latest Radioactive Waste Inventory shows that existing reactors will produce 9,900m³ of packaged high level waste and spent fuel. But ten new AP1000 reactors would leave a legacy of 31,900 m³ – three times the amount already created.⁴⁹

6.0 Scotland and the Energy Review

6.1 Scottish ministers made their submission to Energy Review two months late. The Executive reiterated its current opposition to the development of nuclear power "*while waste management issues remain unresolved*", but supported extending the operating lives of Scotland's two existing nuclear stations, and called for more support for renewables, and energy efficiency.⁵⁰

6.2 The need to produce lower carbon energy is creating many new business opportunities and green jobs in Scotland, says the Executive. It wants to promote Scotland as a leading location for the development of renewable energy technology, and "invites" the UK to set a more ambitious renewable energy target. Substantial areas relating to energy policy are devolved - such as the promotion of renewable energy and energy efficiency; consents for new electricity generating plant and transmission lines; planning and building regulations; environmental regulation; climate change; fuel poverty and transport. But overall UK energy policy is reserved to Westminster.

6.3 The Executive makes several recommendations on energy efficiency including actively promoting the growth of Energy Services Companies - creating market mechanisms that incentivise energy suppliers and consumers to reduce energy consumption in buildings. On security of supply the Executive says local generation of electricity, combined heat and power (CHP), and renewable heat should have a role to play in reducing the UK's high reliance on gas

⁴⁵ <http://www.corwm.org.uk/content-898>

⁴⁶ CoRWM's Final Report – Overview para 28
CoRWM New Build Statement, March 2006, <http://www.corwm.org/pdf/1593.1%20-%20new%20build%20statement.pdf>

⁴⁷ CoRWM Draft report www.corwm.org.uk/pdf/0700.2%20-%20Final%20report%20-%20draft%20for%20January%202006%20plenary.pdf

⁴⁸ Guardian, 9th January 2006. <http://www.guardian.co.uk/frontpage/story/0,16518,1682244,00.html>

⁴⁹ CoRWM's Radioactive Waste and Materials Inventory July 2005.
<http://www.corwm.org.uk/content-728>

⁵⁰ Scottish Executive Response to the UK Energy Review.
<http://www.scotland.gov.uk/Publications/2006/06/13161455/1>

for heating, reducing energy costs, and tackling fuel poverty. The Executive therefore invites UK government to examine whether reuse of heat, and encouraging CHP could act as an effective means both of delivering more affordable energy prices to consumers and of helping competitiveness, particularly for energy-intensive industries.

6.4 A study by the Royal Society of Edinburgh (RSE) called for a more diverse supply of energy, but did not rule out building nuclear power stations. Among its 37 recommendations, the RSE has called on the Executive to develop a comprehensive energy strategy by the end of 2007.⁵¹

6.5 The trouble with the Scottish Executive's position is that it apparently relies on extending the life of Scotland's two AGRs. These life extensions have been thrown into doubt, after it emerged that cracks have appeared in several reactor. The Nuclear Installations Inspectorate has raised serious questions over safety.⁵² Documents obtained by Greenpeace through the Freedom of Information Act reveal that British Energy does not know the extent of the cracks, cannot monitor their deterioration and does not fully understand why cracking has occurred.⁵³ This "*could fatally undermine the compromise offered to Westminster by Jack McConnell, the First Minister, to extend the life-cycle of the reactors only until renewable energy sources can take their place*".⁵⁴ However, reports commissioned by NFLA[S] and Green NGOs show that Scotland can cope without new nuclear reactors, even without life extensions.⁵⁵

7.0 Nuclear Decommissioning Authority

7.1 The NDA published its Operational Review 2005/06 with financial highlights of its accounts in August. It shows that a 'fee reduction' of £2M has been levied against its Sellafield BNG contractor for the THORP accident of last year.

7.2 A criminal case against BNG, under the Nuclear Installations Act 1965, brought by the Health & Safety Executive (HSE) for three breaches of site licence conditions at THORP is due to be heard by the Crown Court in Carlisle on 16th October. The NDA had claimed that to divulge the THORP fine prior to the hearing might be used by BNG in mitigation and therefore prejudice the Court's sentence.

7.3 The NDA's announcement also showed that £87M of THORP reprocessing income has been delayed 'to subsequent years' as a result of THORP's extended accident closure. Closed in April last year the plant is not expected to re-open until this Autumn at the earliest when, as a result of process changes enforced by the accident it will operate at a significantly reduced throughput. Separately, the accident is reported to have already cost BNG £50M so far, though the final costs of repair and restart remain unquantified. The NDA has already said that it is confident it will be able to recover a majority of the accident losses through an insurance claim.

⁵¹ Scotsman 20th June 2006. <http://news.scotsman.com/scotland.cfm?id=902372006>

Sunday Herald 18th June 2006 <http://www.sundayherald.com/56318>

With added links: http://www.robedwards.com/2006/06/royal_society_s.html

⁵² Guardian 5th July 2006 <http://www.guardian.co.uk/nuclear/article/0,,1812795,00.html>

Guardian 5th July 2006 <http://www.guardian.co.uk/nuclear/article/0,,1812870,00.html>

⁵³ Greenpeace release 5th July 2006 and comment by Nuclear Engineer, John Large: <http://www.greenpeace.org.uk/climate/climate.cfm?CFID=5143211&CFTOKEN=91461491&UCIDParam=20060705083925>

⁵⁴ Scotsman 6th July 2006 <http://news.scotsman.com/politics.cfm?id=982832006>

⁵⁵ http://www.nuclearpolicy.info/docs/consultations/NFLA_Scot_EnergyReview06.pdf

Power of Scotland - produced by RSPB Scotland, WWF Scotland and FoE Scotland. http://www.rspb.org.uk/Images/cuttingcarbon_tem5-98881.pdf

7.4 Greenpeace published a report in April which exposed how the current plan to reopen THORP is an 'engineering 'bodge' which risks compromising safety.⁵⁶ The report by nuclear engineer John Large castigates the option proposed by the NDA for reopening the plant. Large says a properly engineered solutions could take up to three years to implement. The NDA has claimed that if it does not reopen the plant it will face mounting problems because of the amount of foreign and UK spent nuclear fuel stored at THORP. Continued closure could impact on the operation of British Energy reactors which continue to send spent fuel to Sellafield on a weekly basis.

7.5 The Sellafield MOX Plant which was originally expected to produce 12 fuel assemblies in the financial year to 31st March 2006, only produced 4. BNG blamed equipment reliability problems.⁵⁷ Meanwhile, BNG signed its first new MoX fuel order in four years, with German utility EnBW for Neckarwestheim-2 nuclear station. The contract includes a commitment by the utility to convert all the separated plutonium from the fuel it is having reprocessed at THORP into MoX. However, the spent nuclear waste fuel from Neckarwestheim-2 still has to be reprocessed and THORP is still not working.⁵⁸

7.6 Safety standards will be compromised when short-term competitive contracts are awarded by the NDA say trade unionists undermining safety procedures and putting the public at risk. The NDA is inviting multinational companies to bid for three-year contracts to clean up old nuclear complexes like Dounreay and Sellafield.⁵⁹

7.7 British Nuclear Group (BNG) is preparing to return high-level waste (HLW) from reprocessing Japanese spent fuel back to Japan starting in 2007/08. At least 11 shipments are expected, assuming the Japanese are able to change the law to allow them to import slightly more HLW as a substitute for bulkier lower level wastes. Roughly one of the shipments going to Japan would be HLW which was originally British. In return approximately 22 shipments of Japanese Intermediate Level Waste would remain in this country. According to one report this substitution could cut Japan's waste disposal costs to almost a quarter of current estimates.⁶⁰

8.0 Terror

8.1 There are now so many terror suspects in Britain that the police and security services are unable to monitor them all. Anti-terrorism police and MI5 have identified as many as 900 people whom they suspect could be linked to potential terrorist plots -a dramatic increase on a previously reported estimate of 400.⁶¹

8.2 The Franco-German European Pressurised water Reactor (EPR), which could be considered for construction in the UK, is not designed to withstand a 9/11-style aircraft attack by terrorists, according to a leaked report. It is capable of resisting an accidental crash by a five-tonne military fighter, but claims that it will also withstand the impact of a 250-tonne commercial

⁵⁶ "Leak of radioactive liquor in the feed clarification cell at BNG THORP Sellafield: Review of the management and technical aspects of the failure and its implications for the future of THORP", Large Associates, 13th April 2006, Greenpeace International.

<http://www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/7592.pdf>

⁵⁷ Platts Nuclear News Flashes 20th April 2006.

NDA SMP Update 16th February 2006

[http://www.nda.gov.uk/News--SMP_Update_\(1403\).aspx?pg=1403](http://www.nda.gov.uk/News--SMP_Update_(1403).aspx?pg=1403)

⁵⁸ Platts Nuclear News Flashes 8th May 2006

Nuclear Fuel Vol, 31 No.11 22nd May 2006

⁵⁹ Sunday Herald 28th May 2006 <http://www.sundayherald.com/55982>

TUC Hazards Magazine 22nd May 2006

http://www.tuc.org.uk/h_and_s/tuc-11900-f0.cfm#tuc-11900-3

⁶⁰ Nuclear Fuel Magazine Vol.31, No.12 5th June 2006

⁶¹ Scotsman 11th May 2006 <http://news.scotsman.com/topics.cfm?tid=758&id=702822006>

airliner flown deliberately into it are based on extrapolation. This assumption, according to independent nuclear engineer, John Large, is "entirely unjustified".⁶²

8.3 Roger Brunt, head of the Office of Civil Nuclear Security (OCNS), says Britain's shortage of qualified scientists means constructing new reactors will require an influx of foreign experts. Brunt told MPs that his agency is already struggling with its workload – last year it vetted around 18,000 people. So building new nuclear stations could pose a security threat.⁶³

8.4 The nuclear industry has reported 39 lapses in security against terrorism in the past year, including laptop thefts, internet misuse, a power cut and lightning strikes. The failings are revealed in a report from the Office for Civil Nuclear Security (OCNS). The revelations have disturbed experts and environmentalists, who are calling for security to be tightened. The OCNS has itself warned of “complacency” on leaks of sensitive nuclear information.⁶⁴

8.5 Meanwhile the Civil Nuclear Constabulary’s Annual Report reveals that the armed police who guard Britain's civil nuclear plants have been investigated for 45 cases of misconduct and faced 14 formal complaints over the last five years. In one instance, a handgun and ammunition were stolen from a police station.⁶⁵

8.5 An undercover journalist planted a fake bomb on a train carrying a cargo of nuclear waste after he wandered up to unattended train wagons at a north-west London depot.⁶⁶ Greenpeace revealed detailed timetables for the trains, including journeys through the centre of Edinburgh and other Scottish population centres triggering alarm that terrorists could exploit the information.⁶⁷

9.0 Uranium - is there enough?

9.1 According to the International Atomic Energy Agency (IAEA) the total identified amount of conventional uranium, is about 4.7 million tonnes, which is sufficient, at current demand, for 85 years.⁶⁸ However, as the richer ores become exhausted and poorer and poorer ores are used, continuing use of nuclear reactors for electricity generation will finally result in the production of more CO₂ than if fossil fuels were to be burned directly.⁶⁹ A report by the Dutch nuclear expert Jan Willem Storm van Leeuwen says that, after 2034, the grade of uranium ore being dug out of the ground will fall dramatically. This will cause nuclear power to become increasingly inefficient and expensive, leading to an increase in carbon dioxide emissions, because more

⁶² New Scientist 18th May 2006

<http://www.newscientist.com/article/dn9191-europes-new-nuclear-reactors-will-not-be-911proof.html>

Links to the leaked EDF document (in French) and John Large's commentary

http://www.robbedwards.info/2006/05/europes_new_nuc.html

Greenpeace Press Release 19th May 2006

<http://www.greenpeace.org.uk/climate/climate.cfm?CFID=4849953&CFTOKEN=88171006&UCIDParam=20060519182454>

⁶³ Uncorrected evidence by Mr Roger Brunt, Director and Mr Bryan Reeves, Senior Inspector, Transport, Office for Civil Nuclear Security to the Trade and Industry Committee.

<http://www.publications.parliament.uk/pa/cm200506/cmselect/cmtrdind/uc1122-v/uc112202.htm>

⁶⁴ Sunday Herald 13th August 2006 <http://www.sundayherald.com/57240>

With links and report to download: http://www.robbedwards.com/2006/08/revealed_nuclea.html

⁶⁵ RobEdwards.Com 14th June 2006 http://www.robbedwards.com/2006/06/britains_nuclea.html

⁶⁶ Daily Mirror 21st July 2006

http://www.mirror.co.uk/news/tm_objectid=17422378%26method=full%26siteid=94762%26headline=we%2dplant%2d%2dbomb%2d%2don%2dnuke%2dtrain-name_page.html

⁶⁷ Scotsman 22nd July 2006 <http://news.scotsman.com/uk.cfm?id=1065112006>

⁶⁸ UN 5th June 2006 <http://www.un.org/apps/news/story.asp?NewsID=18741&Cr=uranium&Cr1=>

⁶⁹ Oxford Research Group, Secure Energy Factsheet Number 4, Energy Security and Uranium Reserves. <http://www.oxfordresearchgroup.org.uk/publications/briefings/factsheets.htm#factsheet4>

energy will be required to extract and process the uranium.⁷⁰ The Scottish National Party (SNP) has made a similar point in its energy review.⁷¹

9.2 We could of course attempt to use fast reactor technology to lengthen the life of world uranium resources. But this would involve returning to the separation from spent nuclear waste fuel and transport of weapons-useable plutonium with all the attendant security problems that would entail. The United Nations IPCC said the security threat of trying to tackle climate change with a global fast reactor programme “would be colossal”⁷²

10.0 Dounreay

10.1 Like BNG at Sellafield, the UKAEA has incurred a £2m fine - the biggest financial penalty in Dounreay's 50-year history - over the spillage of highly active liquor at a waste processing plant. The penalty followed a spillage last September when the lid of a 500-litre steel drum was closed while operators were trying to fill it with highly active liquor.⁷³

10.2 Meanwhile, another radioactive particle has been recovered from the public beach at Sandside - the 67th hotspot. The metallic fragments of reprocessed reactor fuel are linked to a rogue historic discharge from the plant. The particles have been discovered on the seabed and beaches near Dounreay over the past two decades. SEPA says it has now submitted reports to the procurator fiscal over the particles.⁷⁴

10.3 Residents living close to Dounreay are to challenge UKAEA over plans to build huge waste storage vaults near their properties. Residents in Buldoo, Caithness are trying to stop the development of the shallow storage dumps which will be built just 430 metres from the nearest home and will be left in the ground forever. They want a public inquiry into the move, as the stores would be built outside Dounreay's licensed site.⁷⁵

10.4 UKAEA want to build a £100 million plant to treat liquid and solid radioactive wastes at Dounreay. Liquids in underground tanks, accounting for almost 80 per cent of radioactive waste at the site, will be solidified in cement and put in steel drums. The Caithness plant will also solidify other liquid waste and store it for up to 100 years, pending a national strategy for long-term storage or disposal of intermediate level waste. It is hoped that building can start in early 2008, with 120 workers employed on construction. The plant is one of three facilities, costing a total of £127 million, for which the UK Atomic Energy Authority is seeking planning permission. An interim store is planned for casks until a decision is made on how they will be finally disposed of, and permission is being sought for an extension to a store for intermediate level waste.⁷⁶

10.5 Ambitious plans to regenerate a community in Thurso, using renewable energy are to receive financial support from the NDA. £60,000 will be invested over the next 3 years to help Ormlie Community Association Ltd develop its green energy scheme. It will support the appointment of Thurso engineer, Louise Smith, who also chairs the Caithness Renewable Energy Forum, as project manager. The charitable body set up by residents of a Thurso council estate in 1997 has attracted

⁷⁰ See “Nuclear Power: the Energy Balance” by Jan Willem Storm van Leeuwen and Philip Smith <http://www.stormsmith.nl/>

⁷¹ Scottish Energy Review <http://www.snp.org/homepagelatest/policy/energyreview>

⁷² IPCC working group II (1995) Impacts, Adaptions and Mitigation of Climate Change : Scientific-Technical Analyses. Climate Change 1995 IPCC working group II.

<http://archive.greenpeace.org/comms/no.nukes/nenstcc.html>

⁷³ Herald 10th August 2006 <http://www.theherald.co.uk/news/67634.html>

Scotsman 10th August 2006 <http://thescotsmen.scotsman.com/scotland.cfm?id=1160962006>

⁷⁴ BBC 13th August 2006 http://news.bbc.co.uk/1/hi/scotland/highlands_and_islands/4789167.stm

⁷⁵ Scotsman 29th July 2006 <http://news.scotsman.com/politics.cfm?id=1100572006>

⁷⁶ Scotsman 28th July 2006 <http://news.scotsman.com/scotland.cfm?id=1094402006>

over £3 million to date to fund improvements to the neighbourhood. The scheme will test six different types of solar energy heating systems in rented houses. This will be followed by plans to harness the wind and convert some of the energy to hydrogen.⁷⁷

11.0 Miscellaneous

11.1 The Government has confirmed its intention to sell some of its 65% stake in British Energy.⁷⁸ It has appointed three banks to manage the sale Citibank, Deutsche Bank and Merrill Lynch.⁷⁹

11.2 A shipment of radioactive scrap metal that arrived in Scotland eight years ago is still lying in storage, awaiting a decision on its fate. The cargo, which was shipped from Egypt to Coatbridge in 1998, has become the source of a long-running dispute between the UK and Egypt over its ownership. According to SEPA the scrap had been brought to the UK to be disposed of, but when it was found to have low levels of naturally occurring radioactivity, it was decided it should be sent back.⁸⁰

11.3 Cleaning up military nuclear sites in Scotland will cost taxpayers up to £3 billion. The bulk of the costs will be at Dounreay, where the Royal Navy's nuclear submarine programme has a test reactor and waste disposal facility. The Ministry of Defence forecasts that decommissioning the two units will cost £2.1 billion. Decommissioning both retired and active Trident submarines will take place at the Rosyth and Devonport in Plymouth. The cost of that work will be £837 million, with another £4 million set aside for the "disposal of support equipment which contains depleted uranium".⁸¹

11.4 The European heatwave has forced nuclear power plants to reduce or halt production. The weather, blamed for deaths and disruption across much of the continent, has caused dramatic rises in the temperature of rivers used to cool the reactors, raising fears of mass deaths for fish and other wildlife.⁸²

11.5 On 25th July 2006 the main power supply to the Forsmark-1 reactor in Sweden was interrupted. Two of the four backup generators failed to start, but luckily two were sufficient to run part of the plant's cooling system. If they hadn't started there could have been a catastrophic meltdown. A former director of Forsmark commented that: "*it was pure luck there wasn't a meltdown*". For 20 minutes, workers were unable to obtain information about the condition of the reactor and were only able to respond after 21 minutes.⁸³

11.6 The laundry at Hunterston has sprung a leak. Radioactive water escaped from a tank, causing it to be shut down. British Energy dismissed the leak as a "relatively minor occurrence". But the revelation is described as "very worrying" by anti-nuclear campaigners, who say the incident casts doubt on the competence of the nuclear industry and should be investigated by the safety regulators.⁸⁴

⁷⁷ UKAEA Press Release 23rd May 2006 http://www.ukaea.org.uk/news/2006/23_05_06.html

⁷⁸ Guardian 21st July 2006 <http://business.guardian.co.uk/story/0,,1825514,00.html>

⁷⁹ FT 4th August 2006 <http://www.ft.com/cms/s/58e2ede0-2355-11db-848d-0000779e2340.html>

⁸⁰ Scotsman 24th July 2006 <http://news.scotsman.com/scotland.cfm?id=1070762006>

Herald 24th July 2006 <http://www.theherald.co.uk/politics/66453.html>

⁸¹ Scotsman 27th July 2006 <http://news.scotsman.com/index.cfm?id=1088632006>

⁸² Observer 30th July 2006 <http://observer.guardian.co.uk/world/story/0,,1833620,00.html>

⁸³ BBC News 3rd August 2006 <http://news.bbc.co.uk/1/hi/world/europe/5241780.stm>

CNN Europe 3rd August 2006

<http://edition.cnn.com/2006/WORLD/europe/08/03/sweden.nuclear.ap/index.html>

Spiegel Online 4th August 2006 <http://service.spiegel.de/cache/international/0,1518,430164,00.html>

⁸⁴ Sunday Herald 6th August 2006 <http://www.sundayherald.com/57100>

11.7 Union leaders at Sellafield in Cumbria are set to oppose plans for long-term nuclear waste storage there unless it is tied to a deal for a new reactor. Gary Smith, national officer at the GMB, said: "If the government wants to build a repository on site at Sellafield, that will come at a price. We will not allow Sellafield to be perceived as a dumping ground."⁸⁵

11.8 Copeland has yet to decide whether it will make a bid to be the site of a deep nuclear waste dump. Confusion over whether the borough had already volunteered arose following a meeting of Copeland Council's controlling Labour group. "All eyes are on Copeland," admitted council leader Elaine Woodburn, "but it would be wrong to say we have already volunteered to host this deep waste repository." The minutes read: "A meeting with government ministers will be sought to qualify implications of Copeland volunteering to accept nuclear waste. We should expect resources to be made available for public consultation. Agreement on the timing of the right to withdraw must be made at the start of the process."⁸⁶

11.9 A leaking nuclear waste dump could expose future generations to radiation levels up to 1,000 times higher than safety targets, according to the government's radioactive waste agency, Nirex. Documents obtained by *The Sunday Herald* reveal that people hundreds of thousands of years in the future face an increased risk of cancer because their drinking water could be contaminated by radioactive waste buried today.⁸⁷

⁸⁵ North West Enquirer 10th August 2006 http://www.nw-enquirer.co.uk/news/environment/%91don%92t_make_sellafield_a_nuclear_landfill_site%92_200608111295.html

⁸⁶ Whitehaven News 10th August 2006 <http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=398489>

⁸⁷ Sunday Herald 11th June 2006 http://www.robedwards.com/2006/06/high_radiation_.html