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1.0 Future of Nuclear Power Consultation

1.1 The “Future of Nuclear Power” consultation on the - forced on the Government by Greenpeace’s successful legal action – ended on 10th October - by coincidence the 50th anniversary of Britain's worst nuclear accident when the reactor core at Windscale caught fire sending a plume of radioactive material across the country. Five decades ago secrecy and cover-ups did nothing to reassure those with growing doubts about the risks of nuclear technology. Today, the closed consultation has carried on the tradition, according to Greenpeace, of wilfully misleading the public.¹

1.2 Britain's leading environmental groups withdrew from the consultation just prior to 8th September when consultation workshops, organised by Opinion Leader Research (OLR), were held in 8 cities with 1,100 member of the public. The environment groups said the government had failed to fairly reflect the arguments, and distorted the evidence.² Friends of the Earth described the exercise as “*deeply flawed*” and said “*it is clear that the Government has essentially made up its mind ... we are not prepared to take part in this latest Government farce*”.³ The groups accused the government of “*conducting a public relations stitch-up*”, with misleading, inaccurate and biased information - full of pro-nuclear opinion masquerading as fact.⁴ In total the nine “citizen deliberative events” cost £1.3m including the £772,626 bill from OLR.⁵

1.3 Independently, 20 senior academics say the consultations were deliberately skewed by linking nuclear to fears about climate change - because the government knew past research had shown this to be the only way to get people to accept nuclear, albeit reluctantly. And they say the participants were misled. An inconvenient truth about nuclear - that it can only make a small contribution to reducing the UK's overall CO₂ emissions - was buried.⁶ Paul Dorfman, senior research fellow at the National Centre for Involvement at the University of Warwick, said the exercise was designed to come up with a popular mandate to proceed with nuclear power. The information given to the public was biased and incomplete, casting fresh doubt on whether the government has followed a court ruling to present both sides of the argument.⁷ One participant said it quickly became clear the intention was to provide very limited, biased information in order to lead the participants to a predetermined conclusion.⁸

1.4 Greenpeace has made a formal complaint to the Market Research Standards Council about numerous

¹ Greenpeace Press Release 9th Oct 2007

<http://www.greenpeace.org.uk/media/press-releases/government-nuclear-consultation-submission-deadline-20071009>

² Guardian 7th Sept 2007 <http://www.guardian.co.uk/environment/2007/sep/07/nuclearindustry.nuclearpower>

³ Friends of the Earth Press Release 7th Sept 2007

http://www.foe.co.uk/resource/press_releases/friends_of_the_earth_pulls_07092007.html

⁴ Greenpeace 7th Sept 2007

<http://www.greenpeace.org.uk/blog/climate/what-is-the-government-hiding-about-nuclear-power-20070907>

⁵ FT 13th Nov 2007

<http://www.ft.com/cms/s/0/cb85742c-9176-11dc-9590-0000779fd2ac.html>

⁶ Channel 4 News 19th Sept 2007

<http://www.channel4.com/news/articles/society/environment/spinning+a+nuclear+consultation/821457>

⁷ Guardian 20th Sept 2007 <http://education.guardian.co.uk/higher/news/story/0,,2173018,00.html>

Greenpeace website 19th Sept 2007

<http://www.greenpeace.org.uk/media/press-releases/browns-pollsters-exposed-for-fixing-public-nuclear-consultation-20070919>

Paul Dorfman’s website: <http://www.nuclearconsult.com/>

⁸ Greenpeace 12th Sept 2007

<http://www.greenpeace.org.uk/blog/climate/what-happened-at-the-governments-nuclear-consultation-the-inside-story-20071112>

breaches of the body's code of conduct by Opinion Leader Research at the deliberative workshops⁹ and is considering further legal action. Greenpeace lawyers have written to the Government, calling the consultation "a complete charade".¹⁰

1.5 Unsurprisingly, results from the exercise suggested tentative public support for the Government's plans. 44% agreed that it would be in the public interest to give energy companies the option of investing in new reactors. 37% disagreed. 18% neither agreed nor disagreed while 1% didn't know. But 83% of people said they were either concerned or very concerned about safety and security issues, and 90% were concerned about creating new nuclear waste,¹¹ indicating that serious misgivings about nuclear power remain.¹²

1.6 Meanwhile the Prime Minister appeared, yet again to pre-judge the outcome of the consultation when he told the Labour Party Conference he wanted the UK to become a "world leader in energy and the environment, from nuclear to renewables."¹³

1.7 As part of the Generic Design Assessment (GDA) system, the Health and Safety Executive (HSE) has asked applicants to put as much information about their plans into the public domain as possible. Public comments on the safety case(s) will be invited, and subsequently used by HSE to inform its regulatory decisions. EDF and Areva have launched a joint website detailing their submissions on the EPR reactor,¹⁴ GE-Hitachi has a website on its Evolutionary, Simplified Boiling Water Reactor (ESBWR)¹⁵ as does AECL on the Canadian ACR1000,¹⁶ and Toshiba-Westinghouse on the AP1000 design.¹⁷ The 3 month period in which the public can comment on the design information ends on 10 December 2007.

2.0 New Reactor Programme in Crisis? – leaked document.

2.1 A new reactor programme could be threatened by a recruitment crisis facing nuclear inspectors, especially if Trident nuclear submarines are also replaced.¹⁸ The problem is so serious that new reactors may have to be put on hold. The business secretary, John Hutton, has warned Gordon Brown that the government has only five inspectors working on the GDAs. An additional 35 inspectors are needed to be in place within 16 months. But despite offering 15% more money, the government is finding it hard to recruit more because the Treasury refuses to offer a better pay package.¹⁹ Few engineers have entered the industry in recent years and many older engineers have died or retired.²⁰

2.2 A leaked document, which covered the shortage of inspectors, also detailed problems with nuclear waste, (See Nuclear Waste Management) and the Department for Business, Enterprise and Regulatory Reform's fears that the EU's target of generating 20 per cent of energy (as opposed to electricity) from renewables by

⁹ Greenpeace UK website 19th Sept 2007

<http://www.greenpeace.org.uk/climate/greenpeace-formal-complaint-to-mrsc-over-nuclear-power-consultation>
Research 21st Sept 2007 http://www.research-live.com/news_story.aspx?pageid=30&r=y&newsid=3712

¹⁰ The Lawyer 21st Sept 2007

<http://www.thelawyer.com/cgi-bin/item.cgi?id=128905&d=122&h=24&f=46>

FT 8th September 2007 <http://www.ft.com/cms/s/0/c6131afe-5da4-11dc-8d22-0000779fd2ac.html>

¹¹ GNN 8th Sept 2007

<http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=313320&NewsAreaID=2>

GNN 13th Sept 2007 <http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=314428&NewsAreaID=2>

¹² FT 10th Sept 2007 http://www.ft.com/cms/s/95541360-5f29-11dc-837c-0000779fd2ac.Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F95541360-5f29-11dc-837c-0000779fd2ac.html&_i_referer=http%3A%2F%2Fsearch.ft.com%2Fsearch%3Fpage%3D4

¹³ FT 25th Sept 2007

http://www.ft.com/cms/s/0/ef9fd942-6ad9-11dc-9410-0000779fd2ac.dwp_uuid=ce240942-6a88-11dc-9410-0000779fd2ac.html
¹⁴ <http://www.epr-reactor.co.uk/scripts/ssmod/publigen/content/templates/Show.asp?P=57&L=EN>

Independent 10th September 2007 http://news.independent.co.uk/sci_tech/article2947388.ece

¹⁵ <http://www.gehgenericdesignassessment.co.uk/index.jsp>

¹⁶ <http://www.aecl-uk.co.uk/View/DesignsAction.aspx>

¹⁷ <https://www.ukap1000application.com/AP1000Documentation.aspx>

¹⁸ North West Evening Mail 21st Sept 2007

<http://www.nwemail.co.uk/news/viewarticle.aspx?id=545705>

¹⁹ Guardian 24th Oct 2007 <http://www.guardian.co.uk/environment/2007/oct/24/nuclearpower.energy>

²⁰ FT 24th Oct 2007

http://www.ft.com/cms/s/0/26dd1cc0-81a1-11dc-9b6f-0000779fd2ac.html?nclink_check=1

2020 would reduce demand for nuclear power.²¹ The leaked documents show that the government had hoped to bring out a nuclear white paper on December 17, but can only do so if it “demonstrates progress has been made on waste”. However, Gordon Brown reaffirmed his commitment to producing 20 per cent of Britain’s energy from renewable sources by 2020 in his “green” speech in 19th November.²² He also emphasised that no announcement on nuclear power would be made until next year.²³

2.3 It is not just the Nuclear Installations Inspectorate that faces a skills shortage. At British Energy up to 40% of staff are set to retire within the next ten years,²⁴ and new reactors will be competing for skilled project managers with other construction projects such as the 2012 Olympics, the 2014 Commonwealth Games, London’s Crossrail, and the house building boom. Nuclear construction in Europe and in emerging economies such as Russia, China and India could also constrain the delivery of key reactor components unless decisions are made swiftly and the planning process is speeded up. Russia alone is planning 40 nuclear power stations. There is only a handful of companies worldwide capable of forging the new pressure vessels and other critical components and there will be capacity constraints there for the next 10 to 15 years and the UK could end up at the wrong end of the queue behind Russia and China.²⁵ The OECD’s Nuclear Energy Agency has warned that a shortage of qualified nuclear scientists internationally could prevent the construction of new reactors.²⁶

2.4 EDF Energy says there are some significant pinch points in the global supply chain, the principal one being reactor pressure vessel manufacture, where current world manufacturing capacity is limited. Other difficult parts to source include turbines and large metal forgings. Suppliers of pressure vessels could have their order books filled in the next 18 months through to 2020, although British Energy says it expects suppliers to increase capacity.²⁷

3.0 Nuclear Finance

3.1 British Energy (BE) claims, in its response to the Government’s consultation, that new reactors don’t need to be subsidized provided standard international designs are adopted and fossil fuel alternatives “carry the cost of the carbon emissions associated with their use”.²⁸ UK Ministers are keen to stress there will be no subsidies, but there are no such qualms in America. A new Energy Bill could make new reactors eligible for tens of billions of dollars in government loan guarantees. The US nuclear industry says it needs as much as \$50 billion in loan guarantees over the next two years to finance around 28 planned new reactors.²⁹ Unsurprising then that *The Daily Telegraph* predicts Gordon Brown will announce plans to underwrite new reactors in the UK or fund some of the waste disposal costs.³⁰

3.2 EDF Energy’s Chief Executive, Vincent de Rivaz, says new reactors cannot be built in the UK without a mechanism to guarantee the long-term price of carbon. Otherwise “it will be difficult to persuade shareholders” to invest. That means the UK government has until sometime in 2009 – when new construction decisions are expected -- to develop a mechanism “supplemental” to the EU’s Emission Trading Scheme. EDF Energy has proposed a ‘carbon hedge contract’ under which the government would guarantee a floor price for carbon. There would be a government pay-out, if the market price for carbon were to sink below the agreed floor price.³¹

²¹ Guardian 23rd October 2007 <http://www.guardian.co.uk/environment/2007/oct/23/renewableenergy.energy>

²² Telegraph 20th Nov 2007

<http://www.telegraph.co.uk/earth/main.jhtml;jsessionid=JSRGAFXD2EBUHQFIQMGCFFWAVCBQUIV0?xml=/earth/2007/11/20/eabrown120.xml>

²³ FT 20th November 2007

²⁴ Times 5th Nov 2007 http://business.timesonline.co.uk/tol/business/industry_sectors/utilities/article2806400.ece

²⁵ Guardian 1st October 2007

<http://www.guardian.co.uk/business/2007/oct/01/politics.nuclearindustry>

²⁶ New Scientist 22nd Nov 2007, <http://www.robbedwards.com/2007/11/nuclear-industr.html>

²⁷ Reuters 9th Oct 2007, http://investing.reuters.com/news/articleinvesting.aspx?type=allBreakingNews&storyID=2007-10-09T101744Z_01_L25919891_RTRIDST_0_NUCLEAR-BRITAIN.XML&pageNumber=1&imageid=&cap=&sz=13&WTModLoc=InvArt-C1-ArticlePage1

²⁸ British Energy Press Release 20th September 2007 <http://www.british-energy.com/article.php?article=201>

²⁹ International Herald Tribune 31st July 2007 <http://www.ihf.com/articles/2007/07/31/business/nuke.php>

³⁰ Telegraph 3rd Oct 2007 <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2007/10/03/nbrown503.xml>

³¹ Nucleonics Week, Volume 48, No. 44 1st November 2007.

3.3 The renaissance in the US may be less robust than it looks. Even if the projects are successful, and building proceeds at breakneck speed, the lead times are so long and costs so high that it's unclear that the US can build enough nuclear plants to make a dent in greenhouse-gas emissions by 2050. They're so financially risky, experts say, that the only reason building plans are under way is that the federal government has stepped in to guarantee investors against loan defaults.³²

3.4 *"If you were a utility CEO and looked at your world today, you would just do gas and wind,"* says Jeffrey Immelt, chairman and chief executive of General Electric. *"You would say [they are] easier to site, digestible today [and] I don't have to bet my company on any of this stuff. You would never do nuclear. The economics are overwhelming."* Mr Immelt told the *Financial Times* that large-scale nuclear construction would go ahead only if a high enough cost was placed on carbon-dioxide emissions. Only five to 10 US nuclear power projects were likely to go ahead unless there was a carbon-pricing framework to create incentives for utilities to build more.³³

3.5 If Finland's experience is any guide, the "nuclear renaissance" may be short-lived.³⁴ The Olkiluoto plant is estimated to be 50% over budget and taking 50% longer than planned.³⁵ Construction began in early 2005 and is now around two years late. Flawed welds for the reactor's steel liner, unusable water-coolant pipes and suspect concrete in the foundations have all been blamed. And problems are not confined to Finland. Country after country has seen nuclear construction programmes go considerably over budget - for example, completion costs for the last ten Indian reactors have been 300% over budget.³⁶

3.6 The Government announced in the Queen's Speech plans to introduce a new Energy Bill. Amongst other things the Bill will create a framework by which owners or operators of a new reactors will be required to make financial provisions to cover the full decommissioning costs and their full share of waste management costs.³⁷ The Speech also included a Planning Reform Bill and a Climate Change Bill.³⁸

3.7 The Planning Reform Bill is intended to deliver a streamlined procedure for approving large infrastructure projects including power stations. It will create an independent infrastructure planning commission to decide on projects of national significance for England and Wales. The commission would act on policy statements drawn up by the government, setting out priorities for sectors such as transport, power and water. Developers would be required to consult affected communities before submitting planning applications.³⁹ Greenpeace and the Campaign to Protect Rural England called it a "developer's charter" which stripped away the public right to a say.⁴⁰

4.0 Nuclear Companies

4.1 British Energy (BE) expects to announce by the end of the year or in January the industrial partners with whom it will bid to build two of the UK's next generation of nuclear reactors.⁴¹ There appears to be no shortage of companies willing to become involved and the list may include some big energy users, such as

³² Christian Science Monitor 28th Sept 2007 <http://www.csmonitor.com/2007/0928/p01s05-usgn.html>

³³ FT 19th Nov 2007

http://www.ft.com/cms/s/0338c4e2-9621-11dc-b7ec-0000779fd2ac.Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2F0338c4e2-9621-11dc-b7ec-0000779fd2ac.html

FT 19th Nov 2007

http://www.ft.com/cms/s/2d0782c6-9640-11dc-b7ec-0000779fd2ac.Authorised=false.html?_i_location=http%3A%2F%2Fwww.ft.com%2Fcms%2Fs%2F0%2F2d0782c6-9640-11dc-b7ec-0000779fd2ac.html

³⁴ Bloomberg 5th Sept 2007 <http://www.bloomberg.com/apps/news?pid=20601109&sid=aFh1ySJ.IYQc&refer=news>

³⁵ Forbes 28th Sept 2007 <http://www.forbes.com/markets/feeds/afx/2007/09/28/afx4165822.html>

³⁶ 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>

³⁷ Downing Street Briefing 6th Nov 2007 http://www.number10.gov.uk/files/pdf/16_Energy%20Bill.pdf

Independent 7th Nov 2007 <http://news.independent.co.uk/business/news/article3135435.ece>

³⁸ Times 7th Nov 2007 http://business.timesonline.co.uk/tol/business/industry_sectors/utilities/article2820967.ece

³⁹ FT 7th Nov 2007 <http://www.ft.com/cms/s/0/fb47d61a-8c98-11dc-b887-0000779fd2ac.html>

⁴⁰ Guardian 7th Nov 2007 <http://www.guardian.co.uk/guardianpolitics/story/0,,2206381,00.html>

⁴¹ Independent 14th Nov 2007 <http://news.independent.co.uk/business/news/article3157802.ece>

Corus, the steelmaker, and Network Rail. Financial partners such as infrastructure funds and private equity groups have not participated in talks so far, but they are expected to join later, if the Government gives the go-ahead to new reactors.⁴²

4.2 But, so far, the industry is only paying the relatively small amounts of money for design assessments, site studies, and other pre-development costs. The really big investment decisions will only have to be taken toward 2012 as the first projects approach the start of construction. In the meantime the industry is waiting to see if "blocks" to new build will be removed.⁴³

4.3 EDF Energy would like to be involved in building four stations⁴⁴ at a cost similar to the Flamanville reactor in Normandy which is expected to cost €3.3 billion (£2.3 billion).

4.4 German company E.ON, owners of Powergen, says Britain risks increasing CO₂ emissions by 5-11% if it does not to replace its ageing reactors. The company is ready to spend £30 - 40bn on building a new mix of electricity capacity, including nuclear and renewable energy. It has not said how many reactors it would like to build,⁴⁵ but says it will only build them with assurances of a long-term pricing mechanism for CO₂ emissions and certainty on waste disposal.⁴⁶

4.5 Another German utility, RWE, owner of nPower, is in talks with British Energy about potential sites for new reactors.⁴⁷ It plans to build coal, natural gas and wind-power plants to boost its output, but investment in nuclear power will depend on public and government support. The Company says nuclear is a serious option but the investment decision will come later - the debate still has some distance to go.⁴⁸

4.6 GdF Suez, the new French energy powerhouse, is also understood to have held exploratory talks with BE. The group, which includes Belgian nuclear utility Electrabel, says it will decide next year or in 2009 whether to take part in building one or more EPR reactor "in countries where that would be possible and desirable". The group is already involved in the first EPR being built in Finland and in the second at Flamanville.⁴⁹ The French state owns most of EdF, and will have a controlling minority stake in GdF-Suez when the merger is complete.⁵⁰

4.7 Other companies thought to have been involved in talks with British Energy include the Spanish utilities Iberdrola, owners of Scottish Power, and Endesa.⁵¹

4.8 Amec has formed an alliance with EDF and Areva to help the French companies build new reactors in the UK. The energy services group becomes the first British company to team up with one of the foreign utilities vying for the work. Amec will help get the EPR design licensed by UK regulators. EDF and Areva have also granted Amec "first refusal" on any future work with the French companies to build the reactors, which is likely to be far more lucrative. The French companies want to tap Amec's experience with dealing

⁴² Times 19th Nov 2007

http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article2896687.ece

⁴³ Pearl Marshall, UK Industry mulls new reactors, Nucleonics Week, Vol. 48, No. 26, June 28, 2007

⁴⁴ Times 8th Oct 2007

http://business.timesonline.co.uk/tol/business/movers_and_shakers/article2609367.ece

⁴⁵ Reuters 10th Oct 2007

http://investing.reuters.co.uk/news/articleinvesting.aspx?rpc=401&type=allBreakingNews&storyID=2007-10-10T154218Z_01_L10112242_RTRIDST_0_EON-NUCLEAR.XML

⁴⁶ Bloomberg 10th Oct 2007

<http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aCnrLkCu0OEE>

⁴⁷ Reuters 11th Oct 2007

http://investing.reuters.co.uk/news/articleinvesting.aspx?rpc=401&type=mergersNews&storyID=2007-10-11T142939Z_01_L11396243_RTRIDST_0_RWE-NUCLEAR.XML

⁴⁸ Bloomberg 11th Oct 2007 <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aEyjwKSf3b0>

⁴⁹ Guardian website 15th Oct 2007 <http://business.guardian.co.uk/story/0,,2191725,00.html>

⁵⁰ Market Watch 16th Oct 2007

<http://www.marketwatch.com/news/story/suez-looks-uk-romania-bulgaria/story.aspx?guid=%7BCFEF267F%2DE152%2D4598%2D9769%2D9AE369D0E2E0%7D>

⁵¹ Times 19th Nov 2007

http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article2896687.ece

with British regulators as a licensed UK nuclear operator. Politically, having on board a British company in a consortium is also seen as an advantage.⁵²

5.0 Nuclear is not the answer to climate change

5.1 The UK can cut its CO₂ emissions by 80% by 2050, according to *80% Challenge: Delivering a low carbon Britain* - a new report published by the Institute for Public Policy Research, WWF and the RSPB. The report says that the government's current target of 60% cuts in CO₂ emissions by 2050 is based on out-dated science and excludes the UK's share of emissions from international aviation. The research includes emissions from international aviation, applies environmental safeguards on the use of biofuels and wind energy, and shows that targets can be met without a new generation of nuclear power stations.⁵³

5.2 Conflicting messages are coming from *The Guardian* stable over the achievements of local authorities in tackling climate change. *The Observer*⁵⁴ says three out of four councils in the UK have no plan in place to reduce and monitor carbon emissions⁵⁴, whereas the Guardian paints a much more optimistic picture. It says 277 authorities have signed the Nottingham declaration - a voluntary pledge to tackle climate change - a 30% increase on last year. Scotland and Wales have their own versions and all local authorities are signed up. Meanwhile, more than 100 councils are in the process of adopting the Merton rule, which requires new commercial developments to generate at least 10% of their energy needs from renewable energy. Equally significantly, on a bigger scale, it now looks as though major cities outside London are starting to really commit themselves to cuts and timetables for action. Last week, at a meeting of eight core cities in Nottingham, Bristol, Leeds and Manchester pledged to develop individual plans to become low-carbon cities.⁵⁵

5.3 Action by local authorities is crucial to the UK's efforts to cut carbon dioxide emissions, according to Climate Change Minister Phil Woolas, as statistics on local and regional emissions for 2005 were published. The statistics underline the vital role local authorities can play in fighting climate change by reducing carbon dioxide emissions, both through their own actions and by setting an example to the wider community.⁵⁶

6.0 British Energy

6.1 BE has been forced to close down four nuclear reactors - 25% of its generating capacity - for the immediate future, after corrosion was found during routine inspections at one reactor at Hartlepool. The company immediately closed down the second reactor at Hartlepool and the similarly designed reactors at Heysham 1.⁵⁷ It was later confirmed that Heysham 1 did indeed suffer from the same corroded wiring problem in wire surrounding the cooling unit.⁵⁸

6.2 Both reactors at Torness were already shut after electrical faults.⁵⁹ With one of the two reactors at Dungeness B in Kent closed for routine maintenance, 7 out of 15 British Energy reactors were closed.⁶⁰ Inevitably this led to speculation from pro-nuclear Professor Ian Fells that there could be blackouts this winter.⁶¹ But the network operator National Grid, said Britain could get comfortably through the winter

⁵² Guardian 22nd Oct 2007

<http://business.guardian.co.uk/story/0,,2196661,00.html?gusrc=rss&feed=24>

⁵³ WWF Press Release 5th Nov 2007 http://www.wwf.org.uk/news/n_0000004525.asp

⁵⁴ Observer 11th Nov 2007 <http://www.guardian.co.uk/environment/2007/nov/11/carbonemissions>

⁵⁵ Guardian 14th Nov 2007

<http://www.guardian.co.uk/environment/2007/nov/14/guardiansocietysupplement.carbonemissions>

⁵⁶ GNN 20th Nov 2007 <http://www.gnn.gov.uk/Content/Detail.asp?ReleaseID=332119&NewsAreaID=2>

⁵⁷ London Evening Standard 22nd Oct 2007

http://www.thisismoney.co.uk/investing-and-markets/article.html?in_article_id=425540&in_page_id=3&ct=5

BBC 22nd Oct 2007 <http://news.bbc.co.uk/1/hi/business/7055946.stm>

⁵⁸ Bloomberg 7th November 2007 <http://www.bloomberg.com/apps/news?pid=20601102&sid=abACxohGJJ1Q&refer=uk>

⁵⁹ Independent 23rd Oct 2007 <http://news.independent.co.uk/business/news/article3087292.ece>

⁶⁰ View London 24th Oct 2007 <http://www.thisislondon.co.uk/news/article-23417880-details/Power+cuts+warning+as+energy+chiefs+shut+down+half+our+nuclear+power+stations/article.do?ito=newsnow>

⁶¹ Telegraph 23rd Oct 2007

<http://www.telegraph.co.uk/news/main.jhtml;jsessionid=WNEDCYP12EEAXQFIQMFCFFOAVCBQYIV0?xml=/news/2007/10/23/nuclear123.xml>

without power cuts, even if Hartlepool and Heysham 1 remain closed. Torness and Dungeness were said to be unlikely to remain off-line for long.⁶²

6.3 Meanwhile, worse-than-expected deterioration of graphite-brick structures in the reactor core at Hinkley B may affect operations in the "long term" but it shouldn't be a serious problem for now, according to BE. The Nuclear Installations Inspectorate, said BE discovered embrittlement on "core restraint components" that was "more severe than previously assumed", but has demonstrated it's safe to keep running the station in the short term. Core restraints are pins that fit in and around the reactor core's graphite bricks to hold them together. The issue will be considered when BE decides whether to extend the operating lives of Hinkley B and Hunterston B, which is of similar design, before the end of this financial year, but "to date, the company has not found any issues that would rule out life extension."⁶³

6.4 Investors are angry that BE has been unable to give a date when Hartlepool and Heysham 1 will return to service,⁶⁴ but analysts estimate they could be out of commission for up to five months.⁶⁵ Investors are growing tired of the company repeatedly missing electricity production targets, and are starting to question whether the technical problems can ever be properly fixed. The poor operational performance will further dent BE's reputation and affect whether it is able to be involved in building new reactors. Its trump card is that it owns the most suitable sites for new reactors. It will provide access in return for an equity stake and a role in a consortium to build and operate one or more reactors, but the value of these sites is very uncertain.⁶⁶

7.0 Nuclear Waste Management – Recent Developments

7.1 Former CoRWM member, Pete Wilkinson, has accused the government of ignoring the committee's advice: it has done little to address the vital prerequisites to deep geological disposal recommended by CoRWM, in particular intensified research to address uncertainties about storage and disposal, and a security-led review of storage.⁶⁷

7.2 A senior official from Cumbria County Council has suggested it might volunteer to host the UK's radioactive waste deep repository. Speaking at a conference Mr Ralph Howard, corporate director for economy, culture and the environment with the council, said they supported the concept of deep disposal of waste and they 'will be working to find a facility in the UK'.⁶⁸

7.3 Problems with the disposal of nuclear waste could threaten delays in a new reactor construction programme according to a leaked Government document. The document suggests that the Treasury is resisting plans to invite councils to bid for the right to house the waste because it fears that only one council – the one that includes Sellafield in Cumbria – will apply. This lack of competition would leave it able to demand extra funding of more than £1bn.⁶⁹

7.4 Former Independent journalist and Nirex Board Member, Jason Nisse, says the Treasury shouldn't resist the "volunteer" process. A long site selection process using various factors such as geology, existing infrastructure and views of local people, would almost certainly end up with a site in Copeland. We could just ask for volunteers, and still end up with a site in Copeland, but 10 years sooner. As building a repository

⁶² Reuters 23rd Oct 2007

http://investing.reuters.co.uk/news/articleinvesting.aspx?rpc=401&type=allBreakingNews&storyID=2007-10-23T152758Z_01_L23619572_RTRIDST_0_BRITAIN-POWER-NUCLEAR.XML

Guardian 1st November 2007

<http://www.guardian.co.uk/business/2007/nov/01/2>

⁶³ Bloomberg 26th Oct 2007

<http://www.bloomberg.com/apps/news?pid=20601072&sid=agXREEpplwA4&refer=energy>

⁶⁴ Northern Echo 8th Nov 2007

http://www.thenorthernecho.co.uk/business/news/display.var.1818060.0.uncertainty_over_return_of_nuclear_power_site.php

⁶⁵ Independent 14th November 2007. <http://news.independent.co.uk/business/news/article3157802.ece>

⁶⁶ Observer 28th Oct 2007 <http://observer.guardian.co.uk/business/story/0,,2200438,00.html>

⁶⁷ Guardian 12th September 2007, <http://www.guardian.co.uk/nuclear/article/0,,2166840,00.html>

⁶⁸ Whitehaven News 25th Oct 2007

<http://www.whitehaven-news.co.uk/unknown/viewarticle.aspx?c=330&id=557017>

⁶⁹ FT 24th October 2007, http://www.ft.com/cms/s/0/26dd1cc0-81a1-11dc-9b6f-0000779fd2ac.html?nclick_check=1

will cost about £15bn on current estimates, the savings of using the second process would probably equal the £1bn of incentives that Copeland would demand to volunteer.⁷⁰

7.5 The Government's Managing Radioactive Waste Safely consultation has now closed. In the first half of 2008 the Government will announce its policy on the framework for implementing geological disposal, and then, depending on the outcome of the consultation, it will start the site selection process. The first stage is expected to be issuing a public invitation for communities to express an interest in taking part in the siting process. A group of UK scientists say Defra hasn't allowed enough time to prepare detailed plans and briefing materials; and that potential volunteers will not be adequately informed about the strategy. Four independent scientists and representatives from learned bodies including the RSC, the Geological Society and the Institute of Physics, says Defra's proposals are too rushed, 'especially if the material is to be fully subjected to independent scrutiny to ensure that it is unbiased and accurate', and the government must provide full and explicit details of radioactive waste management before engaging communities in discussion, the scientists say.⁷¹

7.6 Meanwhile David Smythe, professor of geophysics at Glasgow University has warned the government that it would be "wrong" and possibly illegal in international law to use Sellafield in West Cumbria for nuclear waste disposal. He says ministers should have ruled out Sellafield after previous research proved the area was unsuitable because of its rock formations. There is clear evidence that West Cumbria possesses no suitable rocks. Unfortunately the recent Government consultation exercise placed the voluntarism of potential host communities ahead of scientific considerations. Smythe is convinced ministers are moving towards choosing a site on the basis of popular consent rather than scientific evidence.⁷²

7.7 Greenpeace's submission called the consultation "misleading" creating a "confused impression" there is a solution to dealing with radioactive waste. It fails to make it clear that CoRWM's recommendations deal only with legacy waste, and it also creates the misleading impression that other countries have successfully built a repository for this kind of waste.⁷³ The consultation also fails to point out that the only site in the UK fully investigated for its suitability to host a nuclear waste dump – Sellafield – was eventually deemed to be unsuitable.⁷⁴

7.8 The Government has set-up a new 'reconstituted' Committee on Radioactive Waste Management. Its job will be to scrutinise the Nuclear Decommissioning Authority's (NDA's) work on the management of radioactive wastes and provide independent advice to the UK Government and devolved administrations in Scotland, Wales and Northern Ireland.⁷⁵ Interestingly the Scottish Government remains involved in the sponsorship of this Committee despite its decision not to be involved with deep geological disposal. This has led to some important differences between the two press releases announcing the establishment of the committee. The DEFRA Release highlights implementation of geological disposal, and Minister Phil Woolas says CoRWM is "one of the key pillars for the planning, development and implementation of geological disposal" In contrast the Scottish release highlighted CoRWM's role in scrutinising robust interim storage.⁷⁶

8.0 Sellafield

8.1 The NDA has published a summary of its "Uranium and Plutonium: Macro-Economic Study". which provides a wide-ranging analysis of options for the UK's embarrassing stocks of uranium and weapons-useable plutonium, and sets out the financial, socio-economic and environmental impacts of each option. The NDA says it will take these findings into account in its discussion with Government.⁷⁷ The report says the UK has enough uranium and plutonium stockpiles to fuel three 1000 MWe reactors for their entire 60-year lives or 12GWe of fast reactors for 700 years. Other options include treating the materials as waste and

⁷⁰ FT 25th Oct 2007

<http://www.ft.com/cms/s/0/ab444948-8296-11dc-a5ae-0000779fd2ac.html>

⁷¹ Chemistry World 2nd Nov 2007 <http://www.rsc.org/chemistryworld/News/2007/November/02110703.asp>

⁷² Guardian 2nd Nov 2007 <http://www.guardian.co.uk/business/2007/nov/02/nuclearindustry.greenpolitics>

⁷³ Greenpeace Response to the MRWS Consultation 2nd Nov 2007

<http://www.greenpeace.org.uk/files/pdfs/nuclear/greenpeace-response-mrws.pdf>

⁷⁴ Guardian 25th June 2007 http://www.guardian.co.uk/uk_news/story/0,2111332,00.html

⁷⁵ DEFRA Press Release 25th Oct 2007 <http://www.defra.gov.uk/news/2007/071025c.htm>

⁷⁶ Scottish Government Press Release 25th Oct 2007 <http://www.scotland.gov.uk/News/Releases/2007/10/25110737>

⁷⁷ NDA News 2nd July 2007 <http://www.nda.gov.uk/news/uranium-plutonium.cfm>

storing them for possible future use.⁷⁸

8.2 Although it is outside the report's scope to make recommendations, it concludes: The option of treating plutonium as 'waste' is low-risk and low cost. If the uranium price is low, it could even have the lowest cost of all. The 'store' option is flexible and puts off large capital expenditure for significant periods. The 'use' option could realise significant value from the materials (particularly if the uranium price is high) but is subject to significant downside risks.

8.3 Britain's stocks of plutonium are kept in "unacceptable" conditions and pose a severe safety and security risk, according to the Royal Society. Ministers must urgently review the way more than 100 tonnes of plutonium are stored. The Government has ignored previous warnings but now the rise of international terrorism means the UK must find a way to use or dispose of the material. The scientists favour using the material as MoX fuel in new or existing reactors, despite the dangers of transporting the weapons useable material around the country.⁷⁹ The *Whitehaven News* speculated that report could boost the prospects for the Sellafield MOX Plant which is under constant review by the NDA because of its poor performance.⁸⁰

8.4 Three Greenpeace activists boarded the Atlantic Osprey as it was making its way from Sweden to Sellafield with a shipment of nuclear waste for reprocessing. The ship left Studsvik in Sweden in October carrying 4.8 metric tons of spent nuclear fuel, including 1.2 kilograms of plutonium for reprocessing. Once it has been treated in Sellafield, it will be returned to Sweden for final storage. Sweden stopped shipments of nuclear waste to Sellafield in the early 1980s, but the Swedish Government claimed this shipment was "special case" because this particular waste, from a research reactor, had to be reprocessed.⁸¹ Greenpeace said the shipment broke Swedish radiation protection laws "and undermines 20 years of Swedish environmental policy not to reprocess spent nuclear fuel." The Swedish Environment minister has said no more waste will be sent or processed outside Sweden.⁸²

8.5 Detailed research for the NDA has failed to come up with a clear recommendation about whether or not to continue reprocessing. The study: Spent Fuel Management: Life Cycle Analysis Model Final Report has just been published. The NDA said the report would result in a range of policy options being given to the Government in the next few months.⁸³

8.6 The Thorp nuclear fuel reprocessing plant in Sellafield is set to restart full commercial operations in 2008, almost three years after it was closed following a radioactive leak.⁸⁴ Thorp recently completed reprocessing the 30 tonnes of fuel in the system when it was shut down. The Health and Safety Executive gave approval for Thorp to restart earlier this year, but problems with equipment that evaporates moisture at the end of the reprocessing cycle led to delays. Sellafield Ltd said it was hopeful that the problems with the evaporators would be solved soon, and that Thorp could resume commercial operations early next year. The NDA said Thorp's shutdown meant it had not received £112m of income in the 2006-07 financial year.

8.7 In its draft 3-year programme for Sellafield (2008-2011), the NDA says it plans to extend the life of Sellafield's ageing magnox reprocessing plant from 2012 to '2016 or later'. The plant (B205) is responsible for a majority of the site's radioactive discharges into the Irish Sea, so high levels of radioactive discharges will continue for the next decade and will infuriate many Governments and Irish and North-East Atlantic communities. It will also renew serious doubts about the UK's ability to meet the discharge targets it signed

⁷⁸ World Nuclear News 4th July 2007 http://www.world-nuclear-news.org/wasteRecycling/UK_considers_uranium_and_plutonium_stockpiles_040607.shtml

⁷⁹ Guardian 21st Sept 2007 http://www.guardian.co.uk/uk_news/story/0,,2173810,00.html

Royal Society's Report 21st Sept 2007: <http://www.royalsoc.ac.uk/displaypagedoc.asp?id=27169>

Royal Society Press Release 21st Sept 2007: <http://www.royalsoc.ac.uk/news.asp?id=7081>

⁸⁰ Whitehaven News 27th Sept 2007 <http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=546857>

⁸¹ IHT 5th Oct 2007 <http://www.iht.com/articles/ap/2007/10/05/europe/EU-GEN-Sweden-Greenpeace-Activists.php>

KIMO Press Release 4th Oct 2007 <http://www.kimointernational.org/Portals/0/kmprn1007.doc>

⁸² Norden 31st Oct 2007 <http://www.norden.org/webb/news/news.asp?id=7340&lang=6>

⁸³ Whitehaven News 18th Oct 2007 <http://www.whitehaven-news.co.uk/news/viewarticle.aspx?id=554214>

Spent Fuel Management: Life Cycle Analysis Model. By ERM, IDM, NDA September 2007

<http://www.nda.gov.uk/documents/upload/Spent-Fuel-Management-Life-Cycle-Analysis-Model-Report-September-2007.pdf>

⁸⁴ FT 23rd Oct 2007 <http://www.ft.com/cms/s/0/c3a401ec-80f5-11dc-9f14-0000779fd2ac.html>

up as an OSPAR signatory.⁸⁵ The NDA blame poor throughput at B205, but at the same time it will probably extend the life of the Wylfa Magnox nuclear station on Anglesey, from March 2010 to the end of that year, further adding to the Magnox spent fuel to be reprocessed before B205 closes.⁸⁶

8.8 The NDA Draft Business Plan has been issued for consultation until 31st January 2008.

9.0 Low-level Waste

9.1 Community projects in West Somerset may get cash handouts to compensate for the risk of having a radioactive waste site on their doorstep. At a meeting of West Somerset Council's cabinet committee in September members were due to examine a proposal 'gain community benefits' from a proposal by Magnox Electric to create a low-level radioactive waste site at Hinkley Point. Members will be asked to allow council leaders to join with counterparts at Sedgemoor Council and negotiate with the company.⁸⁷ Campaigners were concerned the site would become a dump rather than a retrievable, monitorable store.⁸⁸

9.2 Altogether there are three sites where applications have been made, or are likely to be made, for additional LLW management facilities (the repository near Drigg, Hinkley Point and Harwell). NuLeaf has set up a local authority group to: exchange information about developments in LLW management and discuss developments as they affect local government.⁸⁹

10.0 Nuclear Decommissioning Authority

10.1 The official cost of cleaning up the nuclear facilities managed by the NDA will be more than £73bn, 16% higher than estimated last year. The NDA blamed the soaring cost estimates for clean-up on obtaining more detailed estimates for dismantling buildings and clearing sites from individual operators managing locations such as Sellafield and Dounreay.⁹⁰

10.2 Greenpeace estimates that the cost of nuclear clean-up will be closer to £100bn by the time £10bn has been added for the disposal of legacy waste, a further £9bn for getting rid of uranium, plutonium and spent fuel not yet declared a waste, and £5bn for dismantling British Energy plants.⁹¹ The NDA says the £73bn in its accounts is less relevant than the "discounted" figure of £37bn which takes account of inflation and other factors, though it admits even that number has increased by 22% since it was calculated a year ago. Discounted costs at Sellafield are up by £4bn, Magnox sites up by £2.5bn and Dounreay by £800m.

10.3 In October the NDA put a halt to competitive tendering of the Magnox South management licence in response to a lack of interest from the private sector. The NDA is expected to come up with a new policy initiative in the new year, possibly bundling up more sites together to make them more attractive. The NDA was supposed to be making savings through efficiency gains but the lack of interest by companies in the Magnox South tender suggests it will have to make profit margins more attractive for them.⁹²

10.4 Fears that the NDA budget was going to be cut in the comprehensive spending review appear to have been misplaced. The budget for the next three years is £8.5 billion, an increase of £671 million on the previous three years' allocation. Some of this will be needed to account for a shortfall in income from Thorp. But the NDA confirmed that resources would be shifted from the Magnox sites to Sellafield and Dounreay to

⁸⁵ CORE Press Release 7th Nov 2007 <http://www.corecumbria.co.uk/>

NDA Draft Business Plan 2008-11 page 16.

<http://www.nda.gov.uk/documents/loader.cfm?url=/commonspot/security/getfile.cfm&pageid=15799>

⁸⁶ BBC 8th Nov 2007 http://news.bbc.co.uk/1/hi/wales/north_west/7085001.stm

⁸⁷ This is the West Country 5th Sept 07 http://www.thisisthewestcountry.co.uk/display.var.1666453.0.handouts_for_nuclear_risk.php

⁸⁸ Somerset County Gazette 12th Sept 2007

http://www.somersetcountygazette.co.uk/display.var.1684360.0.stop_hinkley_increased_safety_measures_plea.php

⁸⁹ http://www.nuleaf.org.uk/nuleaf/documents/NuLeAF_E-bulletin_8_October_2007.pdf

⁹⁰ Guardian 11th Oct 2007 <http://business.guardian.co.uk/story/0,,2188228,00.html>

⁹¹ Greenpeace 12th Oct 2007 <http://www.greenpeace.org.uk/blog/nuclear/here-i-go-again-nuclear-waste-costs-spiral-up-up-and-away-20071012>

⁹² Guardian 5th Oct 2007 <http://www.guardian.co.uk/business/2007/oct/05/politics.nuclearindustry>

combat high-hazard waste more effectively, angering the unions who fear that hundreds of jobs could be lost when clean-up work at the Magnox stations is suspended. They also complain that this will lead to a loss of skills in the industry.⁹³

11.0 Scottish News - New Nuclear Reactors

11.1 Scottish Ministers rejected new nuclear power stations as dangerous and unnecessary in their submission to the UK consultation on the future of nuclear power. Energy Minister Jim Mather instead wants the billions of pounds that could be spent on nuclear power reallocated to alternative technologies.⁹⁴

11.2 The Scottish submission says investing in renewables, energy efficiency and carbon capture would give the UK and Scotland a world lead in these technologies. Renewables produce less carbon emissions than nuclear power, and are far more secure than relying on the finite resources of imported uranium. Mather said Scotland has massive renewables potential, and the skills and leadership to pursue a clean, low carbon approach. A vibrant and growing energy sector will make a significant contribution to Scotland's prosperity through investment and jobs.

11.3 The Scottish submission says the costs of new nuclear power stations are likely to be significantly higher than the UK Government estimates - which will inevitably be passed on to consumers and taxpayers, and creates the need for transportation and disposal of nuclear waste - and potential terrorist threats.⁹⁵ Developing new reactors could have a huge impact on the research and development of long-term clean energy alternatives. Mather claimed that the UK Government has already made its mind up without properly considering the alternatives - or even allowing the public to consider the alternatives as part of the consultation. He said he believes the Scottish Government's position has the clear support of the majority of MSPs and public opinion.

11.4 Nuclear power was rejected by aspiring young politicians, after more than two-thirds of the Scottish Youth Parliament voted against it. At a sitting of the junior parliament in Kirkwall, Orkney, 69% of MSYPs voted against future use of nuclear energy in Scotland, even as a short-term measure. After hearing from representatives of Orkney Renewable Energy Forum and British Energy, the junior parliamentarians, aged between 14 and 25, had a spirited debate and participated in energy workshops.⁹⁶

12.0 Scottish News – Radioactive Waste Management

12.1 Vital radiation monitoring of beaches in Dumfries and Galloway was delayed because of an unprecedented row between SEPA and the NDA. The shoreline around Sellafield was intensively surveyed in May and June, at the insistence of the Environment Agency. A total of 69 items contaminated with radioactivity was uncovered, ranging in size from particles to pebbles. Many of the particles were similar to those found at Dounreay on the north coast, for which the UKAEA has announced a £25 million seven-year clean-up plan. Some contained the radioactive isotope americium-241, a product of plutonium, which "could possibly cause a long-term hazard if swallowed". SEPA selected three beaches - Southernness, Powfoot and Kirkcudbright only to find that the NDA was only willing to pay for 60% of the cost.⁹⁷ On 14th November it was announced that Sellafield Ltd would pay for monitoring at Southernness and Kirkcudbright before March 2008. The need for monitoring at Powfoot will be reassessed in March.⁹⁸

⁹³ Times 8th Nov 2007

http://business.timesonline.co.uk/tol/business/industry_sectors/natural_resources/article2827309.ece

⁹⁴ Scottish Government Press Release 9th October 2007 <http://www.scotland.gov.uk/News/Releases/2007/10/09140338>

⁹⁵ Scottish Government's Response to the UK Consultation on the Future of Nuclear Power. 9th October 2007.

<http://www.scotland.gov.uk/Publications/2007/10/Nuclear>

⁹⁶ Aberdeen Press and Journal 12th September 2007

<http://www.thisisnorthscotland.co.uk/displayNode.jsp?nodeId=149971&command=displayContent&sourceNode=149970&contentPK=18366549&folderPk=85766&pNodeid=206467>

⁹⁷ Sunday Herald 7th Oct 2007

http://www.sundayherald.com/news/heraldnews/display.var.1741447.0.sellafield_checks_hit_by_funding_row.php

⁹⁸ SEPA Press Release 14th Nov 2007

<http://www.sepa.org.uk/news/releases/view.asp?id=609&y=2007>

12.2 The former Nigg Fabrication Yard on the Cromarty Firth is up for sale, and Birmingham-based, DSM, a company which boasts a vast experience and knowledge of nuclear decommissioning, has become the "preferred bidder". Its customers include the NDA, BNFL and UKAEA, which between them are responsible for dismantling all Britain's defunct nuclear plants. DSM has also done business with the Royal Navy, which is trying to work out how to dispose of up to 27 old nuclear submarines over the next 30 years. This has caused fears the yard could end up as a radioactive scrap yard for nuclear submarines.⁹⁹

12.3 A three-year study has commenced to investigate the potential transfer of radionuclides from seaweed to the food chain when seaweed is used as a soil conditioner, compost or animal feed in the Scottish Islands. The news emerged in the latest issue of Radioactivity in Food and the Environment published by SEPA, the Environment Agency, Food Standards Agency and the Northern Ireland Environment & Heritage Service.¹⁰⁰

13.0 Dounreay

13.1 Dounreay has been reprimanded by the Nuclear Installations Inspectorate for breaking the rules when importing radioactive waste from France. More than seven tonnes of irradiated uranium oxide was shipped to the Caithness plant in June. But its operator, the UK Atomic Energy Authority (UKAEA), "forgot" to ask permission from the NII.¹⁰¹ The fuel was manufactured at Aldermaston before being used in an experimental reactor at Winfrith in Dorset. It ended up being sent to a plant in France in 1989 as part of the since-disbanded European fast-reactor programme. The UKAEA recently arranged to transport the six-and-a-half-tonne consignment to Dounreay, where it has been put into storage.¹⁰²

13.2 Work is running ahead of schedule on the job to form an underground grout curtain around Dounreay's notorious high-active waste shaft. The creation of the barrier is a key part of the £27 million scheme to isolate the former makeshift dump.¹⁰³

13.3 Dounreay has unveiled its plans for a £25 million clean-up operation to remove thousands of radioactive particles released into the sea. The preferred option for dealing with the legacy of the nuclear fragments which leaked from the Dounreay site involves a seven-year project using remotely operated vehicles to scour an area of seabed the size of 60 football pitches. More than 100 of the hotspots have been found on the nearby Sandside Beach. It is thought the clean-up plan could involve a multi-million pound operation to dredge up part of the local seabed. The UK Atomic Energy Authority is also expected to announce an in-depth survey of the beach and more monitoring. It is thought that thousands more metallic fragments of reprocessed reactor fuel remain on the seabed.¹⁰⁴

13.4 UKAEA is consulting on its preliminary best practicable environmental option on the Dounreay particles. The consultation ends on 12th December 2007.¹⁰⁵

13.5 THE cost to taxpayers of cleaning up Dounreay has soared by more than £600 million and could become even more expensive. The decommissioning of the Caithness complex and creating a near-greenfield site was due to be completed by 2032 at a cost of £2.9 billion. However, the figure for the latest long-range proposal for the site, known as the Lifetime Plan, has jumped to almost £3.6 billion. The NDA said the main reasons for the increase were improved estimating of costs in later years and the identification of gaps in

⁹⁹ Sunday Herald 28 October 2007

http://www.sundayherald.com/news/heraldnews/display.var.1791475.0.fears_demolition_firm_may_use_nigg_for_nuclear_waste.php

¹⁰⁰ RIFE-12 <http://www.sepa.org.uk/pdf/publications/rife/rife12.pdf>

¹⁰¹ Sunday Herald 9th Sept 2007

http://www.sundayherald.com/news/heraldnews/display.var.1675126.0.dounreay_admits_to_breaking_rule.php

¹⁰² John O Groat Journal 21st Sept 2007

http://www.johnogroat-journal.co.uk/news/fullstory.php/aid/3095/Dounreay_facing_flak_over_fuel.html

¹⁰³ John O Groat Journal 7th Sept 2007

http://www.johnogroat-journal.co.uk/news/fullstory.php/aid/3002/Waste_shaft_work_ahead_of_schedule.html

¹⁰⁴ BBC 3rd Oct 2007 http://news.bbc.co.uk/1/hi/scotland/highlands_and_islands/7025152.stm

Herald 4th Oct 2007 <http://www.theherald.co.uk/news/news/display.var.1732396.0.0.php>

Scotsman 4th Oct 2007 <http://thescotsmen.scotsman.com/scotland.cfm?id=1583282007>

¹⁰⁵ http://www.ukaea.org.uk/sites/dounreay_particles_in_the_marine_environment.htm

previous plans.¹⁰⁶

14.0 Trident

14.1 First Minister, Alex Salmond, has made a major bid to win international backing for his government's campaign to rid Scotland of nuclear weapons. The first minister has written to 122 countries highlighting the nation's opposition to the deployment of Trident nuclear warheads on the Clyde, and his determination to try and block the UK government's decision to replace Trident. Salmond is also asking the countries to support a request for Scotland to be given observer status at future meetings of the parties to the Nuclear Non-Proliferation Treaty (NPT), an international agreement to limit the spread of nuclear weapons.¹⁰⁷

14.2 On 22 October Scottish Nationalist ministers held a summit in Glasgow aimed at identifying ways of preventing the UK government from going ahead with a replacement for Trident.¹⁰⁸ An MoD email from 25 June 2007, released under freedom of information law, makes it clear that there are a series of potential barriers to any Trident developments at the Faslane and Coulport bases, near Helensburgh. Plans to refurbish the Clyde naval bases to accommodate a replacement for the Trident nuclear weapons system could be stymied by Scottish ministers, according to the e-mail. A new dry dock for servicing nuclear submarines would require planning permission while other developments would be subject to a raft of pollution controls. These are all the responsibility of the Scottish Government, not Westminster.¹⁰⁹

14.3 The danger that a 9/11-style attack on the Trident base on the Clyde could cause a major nuclear disaster has been underestimated, according to internal Ministry of Defence (MoD) documents. A risk assessment for the MoD says that the shiplift used to hoist nuclear-armed submarines out of the water at the Faslane naval dockyard would collapse if it was hit by a plane. Another study by MoD experts says an aircraft crash could trigger "weapon ignition/detonation".¹¹⁰

14.4 A delivery of nuclear warheads from Coulport to the Atomic Weapons Establishment at Burghfield on the night of 12th November turned to farce when vehicles in the MOD convoy got lost.¹¹¹

¹⁰⁶ Scotsman 21st Nov 2007 <http://thescotzman.scotsman.com/index.cfm?id=1831392007>

Herald 21st Nov 2007 <http://www.theherald.co.uk/news/news/display.var.1847359.0.0.php>

¹⁰⁷ Sunday Herald 21st Oct 2007

http://www.sundayherald.com/news/heraldnews/display.var.1775313.0.salmond_help_us_get_rid_of_trident.php

robedwards.com (with full text of Salmond letter) <http://www.robedwards.com/2007/10/scotland-seeks-.html>

¹⁰⁸ Scottish Government Press Release 22nd October 2007 <http://www.scotland.gov.uk/News/Releases/2007/10/22111017>

¹⁰⁹ Sunday Herald 14th October 2007. <http://www.robedwards.com/2007/10/clyde-trident-u.html>

¹¹⁰ Sunday Herald 11th November 2007 <http://www.robedwards.com/2007/11/risk-of-trident.html>

¹¹¹ Daily Mail 15th Nov 2007

http://www.dailymail.co.uk/pages/live/articles/news/news.html?in_article_id=494008&in_page_id=1770&ito=newsnow