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Chair: Councillor George Regan Secretary: Sean Morris



The Clerk,
Energy and Climate Change Select Committee
7 Millbank, London SW1P 3JA

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Emailed to: ecc@parliament.uk

Dear Clerk of the Energy and Climate Change Select Committee,

ECC COMMITTEE INQUIRY ON THE ENERGY NATIONAL POLICY STATEMENTS (NPS)

I provide a submission from the Nuclear Free Local Authorities (NFLA) Steering Committee to the Energy and Climate Change Parliamentary Select Committee's 'Inquiry on the Energy National Policy Statements (NPS)'. The Nuclear Free Local Authorities are made up of around 70 councils from across England, Scotland, Wales, Northern Ireland and the Republic of Ireland. Its terms of reference can be found on the NFLA website <http://www.nuclearpolicy.info>.

The NFLA response concentrates on the Draft Overarching Energy NPS (EN-1) and the Draft NPS for Nuclear Power Generation (EN-6).

1 Executive Summary

- 1.1 The current focus on nuclear power is distracting attention and resources away from other energy programmes. The NFLA believes there is a real need to be sure that a replacement nuclear programme, which can only tackle 4% of UK carbon emissions, is not going to prevent dealing with the other 96%.
- 1.2 Building new reactors has a high opportunity cost. Local authorities would be able to achieve far more if the money was spent instead on energy efficiency schemes. A step change in energy efficiency was promised in the 2003 Energy White Paper – the NFLA believes local authorities and the wider public are still waiting for it.
- 1.3 The Draft Overarching National Policy Statement for Energy suggests nuclear power should contribute as much as possible towards meeting the need for 25GW of non-renewable capacity. Yet small-scale renewables are only expected to provide 2% of electricity, but could provide, together with micro-CHP, as much as 15% by 2020.
- 1.4 Every house will need excellent insulation and some form of Low and Zero Carbon Technology – micro-generation or community heating schemes - if the Government is going to meet both its climate change and its fuel poverty commitments. This means carrying out installations in all of the UK's 25 million dwellings over the next 40 years or 625,000 dwellings every year between now and 2050. Local authorities should be given a major role in implementing such a programme.
- 1.5 Investment in new nuclear reactors is likely to exacerbate climate change because each pound spent is buying so much less of a 'solution' than if it were spent on energy efficiency measures.
- 1.6 The National Policy Statements encourage the nuclear industry to provide as much of the 25GW of non-renewable capacity required by 2025 as possible, but little is made of the

extra offshore wind capacity available. If the Government is going to direct utilities in a certain direction it needs to be explicit about the criteria it is using to make such directions. If it is simply using estimated carbon emissions it needs to investigate further the emissions from the whole nuclear fuel chain.

- 1.7 There is a wide disparity between various claims about the numbers of jobs which might be created by a new nuclear reactor construction programme. Just as spending on nuclear may effectively exacerbate climate change; it also kills jobs because alternative energy strategies are so much more effective at creating jobs.
- 1.8 The issue of dealing with the nuclear waste that has already been created from decades of nuclear power generation is far from resolved. The Government cannot, therefore, assume that waste produced by new reactors can be safely disposed of - along with legacy waste - in a deep geological disposal facility. Thus, the assumption that adequate arrangements for the long term management of radioactive waste from new reactors will exist when required is highly questionable. Cumbria could still be forced to accept a waste disposal facility against its will despite the current emphasis on voluntarism.
- 1.9 The Infrastructure Planning Commission (IPC) should be required to consider the most up-to-date climate projections for sea-level rises and to take a precautionary approach.
- 1.10 If issues connected with emergency planning and nuclear terrorism cannot be debated in an open and transparent way because of security concerns, then we have to conclude that new reactors are not compatible with an open and democratic society.
- 1.11 The Select Committee should recommend that a public hearing take place in the case of applications to build new nuclear reactors and alternative funding arrangements are made for Planning Performance Agreements to avoid the perception of collusion between the applicant and the planning authority.

2. Introduction

- 2.1 Replacing nuclear reactors will save only around 4% of the UK's carbon emissions. The Government says it challenges the view that 4% is not worth bothering with, and that it has to look across all forms of energy, especially because there will be a greater need to start using more electricity for transport and heating. (1) However, there is a real need to be absolutely sure that promoting new nuclear reactors is not going to negatively impact on the ability to deal with the other 96% of emissions.
- 2.2 In 2003, the Energy White Paper promised local authorities a "step change" in policies and programmes to deliver energy efficiency. (2) Local authorities were encouraged to take the lead, acting as catalysts for change. Some local authorities have indeed been carrying out some innovative climate change strategies, but without central government support these schemes will never be ambitious enough or at the scale required to meet carbon abatement targets. Local authorities are still waiting for the step change in energy efficiency promised six years ago.
- 2.3 Almost before the ink was dry on the 2003 White Paper, the nuclear industry and its supporters in Government began a campaign to re-visit the nuclear issue. It is very difficult to avoid the conclusion that the worst fears of the Sustainable Development Commission, expressed in 2006, have, in fact been realised, and that re-launching the UK nuclear programme has required "*a substantial slice of political leadership*". Political attention has been shifted and undermined efforts to pursue a strategy based on energy efficiency, renewables and Combined Heat and Power (CHP). (3) Sir Jonathon Porritt,

the former chair of the Commission, says nuclear power is seriously diverting attention from the hard decisions required to solve the UK's energy challenges. (4)

- 2.4 Building new reactors, therefore, has a high opportunity cost - the cost of forgoing the alternative outcomes that could have been purchased with the same money. This particularly impacts on local authorities who could achieve far more if the money spent on new nuclear reactors were instead spent on energy efficiency and renewables.

3. Launching the local energy revolution

- 3.1 The arguments in the Draft Overarching National Policy Statement for Energy (EN-1) on energy efficiency and decentralised energy as alternatives to new large scale electricity generation are weak and vague. (5) The document claims that energy efficiency savings are likely to be limited and offset by increases in the use of electricity for heating and transport. It also claims that decentralised and community energy systems are 'unlikely to lead to significant replacement of larger-scale infrastructure'. Only 4GW is expected to be generated by small-scale renewables – around 2% of electricity demand compared with the 12% which the European Photovoltaic Industry Association expects to be able to provide with just solar PV across Europe. (6) Unlike nuclear, energy efficiency and renewables are not encouraged to aim high.

- 3.2 Similarly, the Chief Executive of National Grid, Steve Holliday, says that 15% of the country's electricity production could come from so called "embedded generation" in homes and offices by 2020 as micro-generation becomes increasingly viable after the £9 billion rollout of "smart meters" for every home in Britain. (7) This higher figure will include micro-CHP as well as small-scale renewables.

- 3.3 The Government's proposed Feed-in Tariff, or 'Clean Energy Cashback' scheme, has been set at a rate that is inappropriately low. Alan Simpson MP, who advised the Government on Feed-in Tariffs, says it should aim to get much more than 2% of electricity from micro-generation. "*If they were five times as ambitious, it would only cost the average family another £2 a year*". Confirming that nuclear power detracts from renewables, *The Guardian* reported that the nuclear industry has been lobbying against support for renewables because it undermines the case for new nuclear stations. (8)

- 3.4 The failure of the Copenhagen Conference to come up with a legally binding set of climate targets means all public agencies must redouble their efforts to open up new fronts at the local and grassroots levels to reduce carbon emissions. The trailblazing work of a few local councils, such as Manchester and Kirklees, is beginning to show how grassroots campaigns can be turned into effective action. A groundswell of actions by individual communities led by local authorities will need all the financial support they can get from national government. If the Government is focussed on getting new nuclear reactors build to the exclusion of building a local decentralised energy system, then it will be difficult for local authorities to continue this exciting leadership role.

- 3.5 The Local Government Association (LGA) agrees that local government is pivotal to delivering the step-change in CO₂ emissions reductions required. (9) The scope for local authority action is significant. Through delivery of services such as transport, planning and housing as well as through their influence on all sectors of the community, local authorities can make reductions in emissions from corporate activities and through stimulating savings in the wider community. Such action can help to deliver joint social, economic and environmental aims and link together initiatives to maximise their impact.

4. Fuel Poverty

- 4.1 Ofgem has estimated that renewing infrastructure and meeting carbon targets is likely to require an investment of up to £200 billion which will mean significant increases in domestic energy bills of between 14% and 25% by 2020. (10) Clearly, without a large domestic energy efficiency programme it will be impossible to meet both climate change and fuel poverty commitments. More than seven million households struggle to pay their fuel bills, almost double the official estimate, according to new research published by the National Housing Federation. (11) Yet EN-1 appears to suggest that tackling fuel poverty will be left to the market:

“...provision of new energy infrastructure contributes to ... reducing fuel poverty ... because the availability of appropriate infrastructure supports the efficient working of the market so as to ensure competitive prices for consumers”. (12)

- 4.2 If the Government is to meet its target to reduce carbon emissions by 80% by 2050, **AND** eliminate fuel poverty by 2016, it will need to implement a set of policies which can cut emissions from the domestic sector by 80% by 2050. Every house will need excellent insulation and some form of Low and Zero Carbon Technology – micro-generation or community heating schemes. This means carrying out installations in all of the UK’s 25 million dwellings over the next 40 years or 625,000 dwellings every year between now and 2050. (13)

5. NPS’s promote nuclear over other forms on energy

- 5.1 EN-1 suggests the UK might need a generating capacity of around 100GW by 2020 of which around 43GW is expected to be new capacity. 26GW of this would need to be renewable to meet the target of providing 30% of electricity from renewables by 2020. 17GW would be other types of electricity generation. By 2025 these figures could increase to 35GW and 25GW respectively.
- 5.2 EN-1 says the precise mix will depend on decisions by the utilities. However, it encourages the nuclear industry, quite prominently, (para 3.1) to contribute as much as possible towards meeting the need for 25GW of non-renewable capacity by 2025, but only mentions (para 3.4.4) briefly that offshore wind has the potential to provide an extra 25GW by 2020. And, as has already been noted, small-scale generation is only expected to provide around 4GW, whereas it could provide up to 30GW according to National Grid.
- 5.3 If the generation mix is not being left to the market, but utilities are being pushed in certain directions, it would have been sensible if the Government had set out clearly the criteria to be used in decision-making about the mix. Given that both EDF and Eon have asked the Government to set a maximum contribution for renewables – at around the 30% level - so as not to constrain nuclear (14) - it would be sensible for EN-1 to state clearly what criteria are being used to push utilities in certain directions. For example, in the view of the NFLA, the Government’s priority should be for electricity to be generated by sustainable renewable methods which do not generate waste – radioactive or otherwise.
- 5.4 Obviously the main theme which runs through EN-1 is that electricity generation should be low carbon. Para 2.3.2 of the Nuclear NPS (EN-6) claims that emissions from the nuclear cycle are around 7 - 22gCO₂e/kWh. However, a recent meta-study which looked at 103 lifecycle studies concluded that the figure is more likely to be around 66g CO₂e/kWh - worse than all the renewable alternatives, including solar PV. (15) If this is the main criterion being used to direct utilities in a certain direction then the Government

needs to investigate more fully what the real emission levels are. In particular, it needs to investigate whether, with increasing demand for uranium, ore quality will decrease causing emissions from the whole nuclear cycle to rise substantially before the end of the life of proposed new reactors. (16)

6. Cost effective and carbon efficient spending

- 6.1 The NFLA believes that tackling climate change is an urgent priority, so the UK Government needs to spend its limited resources as effectively as possible. In other words it is imperative to maximize carbon reductions achieved with every pound spent. Investing in expensive nuclear power is not particularly cost effective. Energy efficiency can be up to seven times more cost effective. So investment in new reactors effectively worsens climate change because each pound spent is buying so much less of a 'solution' than if it were spent on energy efficiency measures. (17)
- 6.2 The proponents of nuclear power argue that, because climate change is so serious the Government needs to promote renewables, energy efficiency *and* nuclear power. This suggests the UK has infinite sources of finance to spend on large numbers of energy projects, which is clearly not the case, and particularly so given the extent of the public finances and a worldwide economic recession. A scarcity of resources means anything that is spent on nuclear power will not be available to be spent on other energy projects.

7. Socio-economic impacts

- 7.1 The Appraisal of Sustainability claims that a 1.6GW nuclear plant could employ up to 4000 people during construction and 500 when operational. (18) The Government has stated that a new reactor programme could create 9,000 construction and 1,000 operational jobs per station, without making clear that a "station" refers to two reactors. (19) Former Government Minister John Hutton told the UNITE conference on 28 March 2008 that up to 100,000 new skilled jobs could be created by a new nuclear programme. (20) The NFLA would suggest this figure is rather over-stated as it is based on a scenario which involves the construction of twenty new reactors – up to 32GW.
- 7.2 Further clarity is required concerning these job numbers. EDF, one of the companies likely to be involved in new-build, has said its plans for the UK "*could create approximately 350 direct permanent jobs and over 2,000 temporary jobs during the peak construction period*" for each power station. However, EDF has also said its station currently under construction in Finland currently employs "*around 600 (construction) people work at the site, with up to 3,000 during peak times*". (21)
- 7.3 As a capital intensive industry, nuclear power is not a very efficient way of creating jobs. It produces around 75 jobs per year per TWh of power, whereas wind power produces 918 – 2,400 per year per TWh. And due to technological changes, any new nuclear power stations would employ fewer people than existing plants. (22)
- 7.4 Investment in renewables and energy efficiency could create *seven* times more green jobs over the next ten years than would be lost in the coal and nuclear sectors in Europe, according to a report published by Greenpeace and the European Renewable Energy Council (EREC), and backed by a number of trade unions. (23)
- 7.5 Peter Bradford, a former member of the Nuclear Regulatory Commission, argues that nuclear power could actually kill jobs as the capital markets are not swimming in credit. The NFLA would argue that if billions of pounds are spent for nuclear construction it may

well suck up money than might be otherwise be available for, say, wind projects that could create far more jobs per pound spent. (24)

7.6 Building nuclear reactors may also prevent the diversification of a local economy. Many new businesses would be reluctant to move into an area which is so heavily focused on promoting the nuclear industry. It may also detract from the promotion of other industries, such as those connected to food and agriculture or tourism, which require an area that has a reputation for having a clean environment.

7.7 A large influx of workers during the construction phase of a new reactor would put a strain on local services and facilities. Short duration, capital intensive construction projects have been shown to seriously distort the local labour market. Often the bulk of those employed are from outside the local area. After the project is completed many migrant workers remain in the area compounding local employment problems. (25)

8. Nuclear Waste

8.1 Probably the most contentious point made in the Nuclear NPS concerns nuclear waste. The Government says its preliminary conclusion is that it is satisfied effective arrangements will exist to manage and dispose of the waste produced by new reactors. “*As a result the IPC need not consider this question.*” (para 3.8.20) Consequently the need to store spent nuclear fuel at the reactor sites for up to **160 years** is not even going to be examined by the new IPC.

8.2 The Government’s confidence that it will find a suitable site in a community which has expressed a willingness to host a site is misplaced. The three Cumbrian authorities looking into whether or not to volunteer will not finish the first round of consultation until 31st March 2010, and will not look at the radioactive waste inventory until later in 2010. The full extent of the new reactor programme is still unknown and may require a second deep geological disposal facility. Cumbria may yet decide against hosting a deep geological disposal facility, or it may decide it is only willing to host a facility for legacy waste. It is also possible the geology of West Cumbria may not be appropriate for such a facility.

8.3 However, the Government has explicitly stated it is prepared to “*explore other approaches*” - i.e. override a Community’s wishes – if the voluntarism approach to disposal does not work. (26) This completely undermines the voluntary approach and suggests that Cumbria could be forced to accept waste whether it wants to or not.

8.4 The issue of dealing with nuclear waste already created is far from resolved. The Government cannot, therefore, assume that waste produced by new reactors can be safely disposed of - along with legacy waste -in a deep geological disposal facility. Thus, the assumption that adequate arrangements for the long term management of radioactive waste from new reactors will exist when required is highly questionable.

8.5 Under the Planning Act 2008 the Nuclear NPS consultation is the last chance to challenge the principle that new nuclear reactors should be built at the ten proposed sites, and that these reactors should be permitted to generate spent nuclear waste fuel which may be stored on the sites for up to 160 years. No information is given on how this waste might be transported away from the sites eventually, and whether facilities might be required in future for, for example, encapsulating the waste. The communities living around the proposed nuclear sites are to be given almost no say on whether their area should be allowed to become a *de facto* nuclear waste storage site for the foreseeable

future. This is in sharp contrast to the voluntarist approach recommended by the Committee on Radioactive Waste Management (CoRWM).

- 8.6 The Government's separate, but related, Justification consultation quotes the International Commission on Radiological Protection (ICRP) Publication 77 as follows:

"Waste management and disposal operations are an integral part of the practice generating the waste. It is wrong to regard them as a free standing practice that needs its own justification." (27)

In other words, the disposal of spent fuel and nuclear waste from new reactors may well be subject to **no further public scrutiny** after 22nd February 2010. It looks likely that, as things stand at the moment, the IPC will be simply told that the strategic question of whether nuclear waste should be disposed of in a geological repository has already been decided and that any planning application for a geological disposal facility only needs to be examined with regard to local planning issues. There will effectively be no Nirex Inquiry Part 2. In other words, Cumbria could be forced to accept a geological disposal facility against its will without even so much as a public inquiry.

9. Climate Change Impacts

- 9.1 A recent study published in the Proceedings of the National Academy of Sciences (28) has predicted that global average sea levels are likely to rise by between 75cm and 190cm by 2100 – three times faster than official predictions of the Intergovernmental Panel on Climate Change (IPCC) which estimates a maximum rise of 59 centimetres by 2100. (29)
- 9.2 There will also be an increase in major storms, more intense gales and hurricanes and these, in turn, will produce massive storm surges as they pass over the sea. The result will be a "climatic double whammy" that will savage low-lying regions including Britain's south-eastern coastline, in particular East Anglia and the Thames Estuary.
- 9.3 The Institution of Mechanical Engineers says coastal sites like the Sizewell nuclear site on the Suffolk coast might have to be abandoned. It will certainly be affected by rising sea levels. Engineers say they can build concrete walls that will keep out the water throughout the working lives of these new plants. But that is not enough. Nuclear plants may operate for 60 years (up to around 2080), but it could take hundreds of years to decommission them, and spent nuclear waste fuel could be stored there until 2180 or later. (30)
- 9.4 In 2007 a report for Greenpeace by the Middlesex University Flood Hazard Research Centre looked at the effect of the expected sea level rises and increases in storm surge over the next 200 years on four reactors sites. It concluded that Dungeness appears to be highly threatened, Bradwell is under significant threat and Hinkley Point is also vulnerable. The situation at Sizewell is less clear, but none of these sites are completely threat-free as a location for a new nuclear power plant. It is also important to note that even the lowest estimates of sea-level rise could significantly increase long-term dependence on defence at the stations and increase the current rate of loss in the physical stability of the environments in which the stations are situated. It is currently difficult and costly, and in the future is likely to be increasingly unsustainable, to maintain the presence of power stations in three of the four sites studied. The report concludes that defending the sites from sea water will mean they are *"likely to become economically unsustainable"* and they *"cannot be considered as suitable locations for new reactors"*. (31)

9.5 The IPC should be required to consider the most up-to-date climate projections and to take a precautionary approach. In some cases the mitigation of flood risk to a given site may have an adverse effect on the flood risk elsewhere. If measures are required on nearby land not owned by the applicant, EN-1 needs to be clear how these measures might be implemented.

10. Emergency Planning

10.1 New risks have emerged since nuclear reactors were built on the existing sites, such as the risk of terrorist attack, flooding due to climate change and the storage of spent fuel on site, increasing the overall level of risk to nearby communities.

10.2 An examination of the possibility of evacuating Mersea Island, for example, which is only around 2 miles just across the Blackwater estuary from the Bradwell site, gives cause for concern. The Strood is the road leading off Mersea Island to the mainland, the one exit route in the case of a nuclear incident. It also floods twice a day at the highest tides in Spring and Autumn, sometimes for as much as two hours. Mersea Island has a large additional summer population of perhaps 5,000 tourists, many of whom would be at caravan and camp sites, without the shelter of permanent accommodation. This would further compound the difficulty of implementing an evacuation plan. (32)

10.3 In Cumbria the emergency planner has attacked plans to build nuclear power stations on farm land on two green field sites near Sellafield. David Humphreys, Cumbria County Council's Emergency Planner says at Sellafield *"we already have a well developed emergency plan and a well educated local population. [But] what does concern me are the new reactors at Kirksanton and Braystones. What this does is it brings in an entirely new population being put at risk from these reactors. As an emergency planner it creates major new problems."* (33)

10.4 Whilst EN-6 says the IPC should ensure applicants have consulted the Emergency Planning Authority (and the Nuclear Installations Inspectorate), the Government dismisses concerns about terrorism risks saying it believes the regulatory framework will ensure that risks are minimised and sensibly managed by the industry. The regulatory framework requires nuclear power stations to have their security arrangements approved by the Office for Civil Nuclear Security. The Generic Design Assessment (GDA) is also considering a wide range of hazards including the ability of reactors to withstand accidental aircraft crash or malicious activity. (34)

10.5 Nuclear terrorism has the potential to cause a large number of deaths, and the risk of a successful attack will increase if more nuclear power stations and radioactive waste stores are built. (35) Yet local authorities have very little input into these areas. In fact, information on nuclear reactors and radioactive waste facilities is likely to be increasingly withheld, because of security risks, reversing the trend of the last decade to allow greater openness and transparency in what has traditionally been a highly secretive industry. (36) So great is the risk of a terrorist attack on nuclear facilities that some say nuclear power should no longer have a role to play in supplying energy. (37)

11.0 If there is not the ability to publicly debate the risk then the public should not be subjected to it.

11.1 Leaked documents by EdF on the vulnerability of the new European Pressurised water Reactor (EPR) to terrorist attack revealed a dangerously flawed approach to security. (38) Nuclear engineering consultancy, Large and Associates, has assessed the secret EdF document and concluded that it includes seriously flawed assumptions about

whether the reactor could withstand a potential terrorist attack using hijacked commercial aircraft. (39) Clearly modes of attack other than crashing a passenger aircraft into a nuclear site also need to be considered, such as attacks involving vehicles loaded with explosives, or suicide bombers. (40)

- 11.2 NFLA believes that if these issues cannot be debated in an open and transparent way because of security concerns, then we have to conclude that new reactors are not compatible with an open and democratic society.

12 The IPC and democratic accountability

- 12.1 The NFLA is seriously concerned about how the Planning Act 2008 represents an attack on democratic accountability. (41) In the case of applications to build nuclear power stations the removal of the right to cross examine witnesses is particularly disturbing. The new Act means that the IPC will normally make decisions without even a public hearing. The Select Committee could go some way towards rectifying this situation by recommending that public hearings take place in the case of applications for nuclear power stations.

- 12.2 NFLA is also concerned that there may be a perception, amongst some community groups, of potential collusion between the applicant and the local authority when a Planning Performance Agreement is reached, with funding going from the applicant to the local authority. The “perception” of collusion could seriously strain relationships between the local authority and its citizens, because of the danger that any funding from the developer will compromise the local authority’s final recommendations. The Select Committee should consider recommending to the Government that alternative funding arrangements are made for the planning authority.

13 Conclusion

In its submission to the Energy and Climate Change Parliamentary Select Committee the NFLA has sought to show that there are major unresolved issues and concerns over a nuclear new build programme. Other renewable energy alternatives, energy efficiency and micro-generation may all be significantly curtailed in favour of nuclear power. The NFLA hopes the Committee will consider all these issues and make appropriate recommendations to the Government.

If you have any queries on this submission please contact the NFLA Secretary, Sean Morris, on 0161 234 3244 or s.morris4@manchester.gov.uk.

Yours sincerely,



Bailie George Regan
Chair, UK and Ireland Nuclear Free Local Authorities

Please note:

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