NPS Review (presentation version) Jan 2015 DECC-NGO nuclear Forum

The NPS and its Annexes comprise a lengthy planning guidance document supporting a nuclear 'plan'. The plan '*that new nuclear power stations need to be developed significantly earlier than the end of 2025 ' (2.2.2 page 7)* had Imperative Reasons of Overriding Public Interest (IROPI) '*given the urgent need to decarbonise electricity, enhance energy security, and diversity of supply' .*

At the time of publication in July 2011 it was envisaged that around 16 GW of schemes, on about five out of eight listed potential sites around England and Wales, could become operational between 2018-2025. The NPS contained a provision for review should the SoS decide it would be appropriate.

In the three and a half years since, various real world events and issues have occurred which suggest a review. The paper presented lists eight reasons and there may be more.

1 Plan timescale : while it is possible that five planned schemes may be consented by end of 2025, projects could slip, and projects on the other listed sites (Bradwell, Hartlepool and Heysham), possibly linked by investment deals to earlier projects (eg Hinkley C-Bradwell), might be consented post 2025

The plan's rationale, to deliver nuclear electricity, preferably significantly before 2025, has slipped by at least five years. At most it can now deliver only a third of the cumulative output originally envisaged, and even that figure could fall towards zero.

2 Further tranches and future technologies : the 16 GW plan is now a first tranche, 25 GW is possible, and small modular reactors and a fast reactor 'PRISM' demo are being promoted, on the listed or new near-urban sites.

3 Plutonium and HAWs : geological disposal of the UK's HAWs was considered THE waste management solution, and there will also be 140 tonnes of separated plutonium to deal with. Now, MOX use, waste-consuming fast and heavy-water reactors (PRISM, CANDU), or immobilisation, are being considered.

4 National security : the high and increasing level of global terrorist activity since the 2011 NPS suggests a fundamental re-evaluation. Drone attacks alone beg a review of 'defence-in-depth' concrete thicknesses, clear areas, distances to perimeter fences, and the emergency planning zones beyond (currently outside the NTS).

5 Climate change issues : IPCC 5th report projections of sea level rise suggest regular review of the coastal sites possibly identifying less vulnerable or 'inland' SMR sites. The NPS sites would become de-facto long-term waste stores if GDFs or other waste options do not materialise.

6 Radioactive waste management : 'second tranche' schemes on the listed sites could add a further 9 GW to the 16 GW plan, adding to the spent fuel arisings and the GDF footprint. GDF availability, the thermal modelling error (a serious miscalculation admitted New Year's Day 2014), Cumbria's withdrawal from the MRWS process, and problems globally, all need review.

7 Health effects : the latest evidence of the effects of radiation from nuclear power stations including evidence and lessons learned from Fukushima need reviewing and re-justifying.

8 Wider issues : the 2011 IROPI rationale is muddled, wrong in places, and lack engineering experience. Aside from that, in just 3.5 years, numerous events have occurred which each should trigger an IROPI reassessment. Whether or not it is within the discussion remit of this Forum an IROPI case is required by EU-UK planning law.

Aside from any EU Laws, it is in the National Interest of any state which claims to be a knowledge-driven economy to routinely and rapidly assess changing technology and world

events (be it shale gas, falling renewables costs, or drone threats) and respond, not carry on regardless. The same applies to National Security, 'the first responsibility of any government'.

The 2011 IROPI case rested on three pillars, reliable secure and diverse supply (from 2018), and the speedy delivery of low-carbon electricity (significantly before 2025). Yet despite the Ukraine crisis and EU gas concerns, the Government has felt sufficiently relaxed to see lower deployment rates for onshore wind, PV, biomass conversions and offshore wind despite their continuing popularity, and despite the gaping slippage in any nuclear delivery.

Consent-deals for new nuclear stations by 2020, envisaged to deliver 25 GW by 2030 ?, plus some gas CCS (UK shale ?), could well lock out much, or any, need and low-carbon funds for building renewables capacity in the 2020s which could deliver. Renewables plus minimal BECCS or moderate gas+CCS would wipe out any IROPI for new-nuclear.

By 2030, around 50 % of electricity could be generated from wind, new-nuclear or gas : http://www.businessgreen.com/digital_assets/8521/Energy_dependency_and_resilience_v2_1.pdf

Yet the public are ill informed about such historic energy choices in media or manifestos as ministers pickle local determination and pick strategic U turns.

And can the British public trust their broadcasters to pick who debates the public interest : http://www.theecologist.org/blogs_and_comments/commentators/2557652/the_bbc_friends_of_the_earth_and_nuclear_power.html

The paper points out flaws and misleading analysis in the IROPI examination of 'diverse' and 'secure' fuel mixes and 'proven', 'reliable' electricity supplies. The contrast between a centralised inflexible nuclear Grid and a decentralised network comprising multi-renewables with high-redundancy balancing and back-up and fossil-renewable gas options, is set out. Also, the climate-conscious should no longer exclude BECCS, bio-SNG and carbon-negative incentives.

An IROPI case would now rest on a lone pillar of cost of electricity, of £ 89.50 per MWh for a Hinkley C-Bradwell + Sizewell C deal. A July 2014 ETI estimate for floating offshore wind is '*£ 85 or lower by mid-2020s'* : http://www.businessgreen.com/bg/news/2354778/could-a-floating-turbine-cut-offshore-wind-costs-by-almost-half

DECC need to transparently review the electricity costs of a multi-GW nuclear roll-out versus optimal mixes of offshore wind, PV, onshore wind and (BE)CCS. Any cost-benefit of a new nuclear roll-out would then need to outweigh its significant dis-benefits of security risks (terrorist and foreign ownership) and proliferation. Justifiable cost benefits or disproportionate security and health risks should be determined by the UK public, security services and National Security Council, not just within DECC or Cabinet offices.

Future generations globally will not thank the UK for promoting the spread of nuclear technology, materials and expertise around the world, on the false promise that nuclear power is 'essential' to avoid dangerous climate change (3-4 % global energy by 2050) or that UK electricity might be a bit cheaper for a while (or more expensive).

In summary, the NPS is not fit now, and has already largely failed, in its purpose.

A fundamental review is now highly appropriate or a Hinkley C could become a haunting concrete monument of historic significance to outdated planning, wishful thinking, and the domination of foreign over indigenous powers, set in the low-lying landscape of King Arthur.

Neil Crumpton, PAWB rep, Jan 2015