R.1.13 in PD-021 ExQ1: representation asymmetry; radioactive waste & SZC justification

EN010012 ExA Deadline 2 Comment

Application by NNB Generation Company (SZC) Limited for an Order Granting Development Consent for the Sizewell C New Nuclear Power Station

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Content

As requested in ExQ1 under R.1.13 (PD-021), this explanation expands on para.1.1 and sub-section 2.3, respectively, in RR-509.

D2.1 Gross asymmetry: representation resource capacity (re: para.1.1 in RR-509)

D2.1.1 As lay Interested Party, lack of equality of arms in resource capacity undermines significantly ability to consider properly the full set of documentation submitted by the Applicant and Statutory Consultees, to the extent warranted.

D2.1.2 As indicated in RR-509 para.1.1, these representations are bound to fall wholly short of adequacy for lack of requisite resource to commission expert appraisal of the Applicant's as well as Statutory Consultees' submissions on any number of matters helpfully identified in PD-011 (falling under twenty Principal Issues). Not the least, in view of a requirement for Written Representations as per PD-015:

> "*Interested Parties should also provide with their Written Representations "the data, methodology and assumptions used to support their submissions".*"

A case in point being appraisal, evaluation and modelling of coastal and marine geomorphological processes. Other complex matters warranting expert appraisal include appropriateness and efficacy of nuclear emergency measures and preparedness; analyses on protected habitats, landscape and species; life cycle carbon footprint analyses; and, the modelling of proposed Interim Spent Fuel Storage Facility well into the next century under extreme weather worst case storm surge scenarios (both with and without projected climate change modulation), including probability of significant and prolonged inundation of platform installations beyond the Applicant's design parameters.

D2.1.3 According to the Examination Library (as updated 21.05.2021), excluding the documentation submitted by Statutory Consultees in the lead up to Deadline 2, the Applicant alone has already introduced around 997 documents. These comprise complex original Application submissions, followed by errata and supplementary additions as well as updates. The documentation ballooned by 50% subsequent to the ExA's Deadline 1.

D2.1.4 Furthermore, time constraints under tight rolling deadlines within a short six-month Examination timetable weigh inherently and decisively against unresourced Interested Parties. This structural disadvantage embodies systemic unfairness for the lay public.

D2.2 No defensible justification on avoidable preference for SZC, a radioactive waste producing DCO Project (re: sub-section 2.3 in RR-509)

D2.2.1 Introduction

D2.2.1.1 Para.2.3 in RR-509 is headed "***No defensible justification on avoidable preference for SZC, a radioactive waste producing DCO Project***". The heading plainly refers to a 69-year old ever growing problem that continues to remain unresolved. Namely, the accumulating legacies comprising very long-lived highly radioactive waste from nuclear power stations. Para.2.3.2 in RR-509 sets out three materially significant grounds arguably implicitly capable of negating the Applicant's justification for the SZC DCO project solely on the basis of new additional radioactive waste legacy (para.2.3.3). Thus:

> *In the absence of proven up to date evidence from the UK Government on a UK operating GDF, in respect of EN-6 para.2.11.4, the ExA could not reasonably disregard materially significant implication of:*
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> *a. Recommendation 27 of the 1976 Royal Commission on Environmental Pollution (RCEP); and,*
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> *b. a salient fact noted by the former Chief Inspector (HM Inspectorate of Pollution) Dr Allan Duncan, in a Letter to the Editor of The Times newspaper, published on 19 September 2020.*
>
> *There's false equivalence afoot between low carbon nuclear electricity generation and other low carbon modes of electricity generation. None of the latter creates, produce or generate a 250,000-year legacy burden of highly radiotoxic nuclear waste for future generations.*

Brief elaboration follows below, taking in turn the Royal Commission Recommendation, Dr Duncan's Letter and the issue of false equivalence. RR-509 details are not repeated.

D2.2.2 Recommendation 27 of the 1976 Royal Commission on Environmental Pollution (RCEP)

D2.2.2.1 The Royal Commission[1] counselled in the following terms under Recommendation 27:

> 'There should be no commitment to a large programme of nuclear fission power until it has been demonstrated beyond reasonable doubt that a method exists to ensure the safe containment of long-lived highly radioactive waste for the indefinite future.'

D2.2.2.2 RCEP Recommendation 27 could be said to bear directly on the justification argument for the proposed SZC DCO project. Ensured safe containment integrity of buried nuclear waste over 250,000 years into distant futures remains unproven. Ten years on from the conclusions in the 2011 nuclear NPS EN-6 (in para.2.11.1 and section B5, respectively), there's not even a hint of any development of (let alone a fully available contemporaneously operating) suitable Geological Disposal Facility (GDF) anywhere in the UK.

a. On the face of it, Recommendation 27 arguably sets out a salient test for justification of new nuclear power stations. The Recommendation suffices to bring into question a justification rationale that significant longer term environmental risk (the disbenefit: an inherent characteristic of long-lived highly radioactive waste) and its continuing accumulation is outweighed by the generation of electricity (an inherently relatively short term benefit).

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[1] RCEP (1976) Nuclear Power and the Environment. Royal Commission on Environmental Pollution, Chairman Sir Brian Flowers. Sixth Report. Cmnd 6618. HMSO.

b. The conditional RCEP test applies in the UK, and turns on demonstration beyond reasonable doubt. Arguably, not only is the conditional test evidently not met currently, there is also no realistic prospect of meeting the conditional test by the end of the operating life of the proposed SZC DCO project (putatively 60 to 75 years).

To that extent, how could it be reasonable to maintain defensible justification exists, such that the Applicant may be granted a DCO for the proposed SZC project? The SZC project is undeniably destined to create, produce and accumulate new additional inventories of long-lived highly radioactive waste (an inherent attribute of reactor fuel), practicably non-disposable for the foreseeable future.

D2.2.2.3 Notably, the Applicant is currently constructing the Hinkley C new nuclear power station (subsequent to a Grant of DCO by the Secretary of State on 19 March 2013). According to the Applicant, the proposed SZC DCO project would replicate the Hinkley C design. The two sites would each host the largest nuclear reactors in the UK. The twin projects would evidently constitute major significant amplification of new additional high-level radioactive waste legacy inventories. The SZC project would effectively double the nuclear waste inventories created by the Hinkley C project. In that regard, the RCEP Recommendation 27 remains arguably manifestly relevant to the ExA's Recommendation to the Secretary of State. There is no knowing when or whether an environmentally safe guaranteed GDF, fully compliant with the RCEP conditional test, would become available in the UK.

D2.2.3 **Dr Allan Duncan's Letter to The Times newspaper**

D2.2.3.1 According to Dr Duncan[2]:

> '… After more than 40 years of repetitive research, design, consultation and planning, we are still no closer to having the necessary disposal facility for intermediate and high-level nuclear waste. …'

This is plainly a factual assessment of the prevailing state of affairs.

D2.2.3.2 In terms of this Comment, unless the Applicant adduces unequivocal verifiable proof that the "beyond reasonable doubt" conditional test in RCEP Recommendation 27 would be fully satisfied "for the indefinite future", by the end of the operating life of the proposed SZC DCO project, the Applicant's justification for the SZC DCO should logically fall indefensible.

D2.2.4 **Nuclear electricity equals low carbon electricity?**

D2.2.4.1 Might it be perverse to approve the Applicant's preference for the operation and maintenance of the proposed SZC DCO nuclear power station as a low carbon option for generating electricity, despite the creation and accumulation of new additional high level radioactive waste legacy (including spent nuclear fuel inventories)? Is it logical to substitute nuclear waste production for carbon waste emissions from coal-fired power stations as an acceptable waste product of electricity generation?

D2.2.4.2 Further, on what basis could the Applicant maintain that the radioactive waste disbenefit from the proposed SZC DCO project is justifiable as "exceptional" or "wholly exception"?

D2.3 Supplementary issues regarding SZC justification

D2.3.1 A right to submit supplementary comment is reserved, should further issues be spotted in the course of the DCO Examination, arguably capable of bringing into question the Applicant's justification case.

J Chanay
01.06.2021

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[2] Duncan, Dr Allan (2020) Letter to the Editor, *The Times* 19 September 2020.