

**TOWN AND COUNTRY PLANNING ACT 1990 - SECTION 77 AND TOWN
AND COUNTRY PLANNING (INQUIRIES PROCEDURE) (ENGLAND)
RULES 2000**

**APPLICATIONS BY LONDON ASHFORD AIRPORT LTD
SITE AT LONDON ASHFORD AIRPORT LIMITED, LYDD, ROMNEY
MARSH, TN29 9QL**

**LYDD AIRPORT PROPOSED DEVELOPMENT: DUNGENESS AIRCRAFT
CRASH REPORT ESRT/D0010905 18 JULY 2007**

Client: LYDD AIRPORT ACTION GROUP (LAAG)

REBUTTAL OF THE REBUTTAL PROOF OF EVIDENCE OF DAVID NICHOLLS – LAA/15/D

By

JOHN H LARGE

PLANNING INSPECTORATE REFERENCE: APP/L2250/V/10/2131934

LPA REFERENCES: Y06/1647/SH and Y06/1648/SH

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**LYDD AIRPORT PROPOSED DEVELOPMENT: DUNGENESS AIRCRAFT CRASH
REBUTTAL OF THE REBUTTAL EVIDENCE OF DAVID NICHOLLS LAA/15/E**

1 **QUALIFICATIONS AND EXPERIENCE**

2 I am John H Large of the Gatehouse, 1 Repository Road, Ha Ha Road, London SE18
3 4BQ.

4 I have given my qualification and experience in [LAAG/4/A](#) [¶4 to 7].

5 **INSTRUCTIONS**

6 On 4 May 2011 Ms Louise Barton, of the Lydd Airport Action Group (LAAG), asked
7 me to provide opinion on the rebuttal evidence submitted by David Nicholls
8 (LAA/15/E).

9 **MY OPINION**

10 In this rebuttal and supplementary proof of evidence, I address issues arising from the
11 juxtaposition of the London Ashford International Airport (LIAI) as these relate to
12 nuclear power plants (NPPs) at Dungeness A and B and irradiated fuel dispatch
13 operations at the remote railhead, as these arise from the rebuttal proof of evidence
14 submitted by David Nicholls on behalf London Ashford Airport (LAA).

15 I have read all the Rebuttal Proof of Evidence (LAA/15/D) prepared by David
16 Nicholls on behalf of the LAIA.

17 **REBUTTAL EVIDENCE OF DAVID NICHOLS**

18 In this rebuttal I shall refer to specific paragraphs and pages of David Nicholls thus [¶1
19 p1], this referring to paragraph 1 of page 1.

20 **Qualifications and Experience of David Nicholls**

21 David Nicholls sets out [¶1.6-7 p4-5] his experience in nuclear matters and,
22 particularly, in nuclear safety in terms of a single project undertaken on the European
23 Pressurised Water Reactor (EPR) NPP and, also, on an unspecified number of projects
24 relating the radioactive waste transport systems and operations.

25 I have searched the open literature for publications by David Nicholls on the nuclear
26 related subjects and issues upon which he opines. I have found no publications save,
27 that is, a series of papers on the pebble bed modular reactor (PBMR) by his namesake

who is a South African national – I assume that the David Nicholls presenting evidence for LAIA is not the PBMR David Nicholls.

14 I also note that David Nicholls does not style himself as a Chartered Engineer (CEng), nor does he seem to be a Member or Fellow of any of the professional institutions such as the Institution of Mechanical Engineers (IMechE), the Institution of Civil Engineers (ICE), the Nuclear Institute (NI), or of any similar professional engineering or learned society.

15 **AREVA Risk Management Consulting**

16 I note that David Nicholls describes himself as a Principal Consultant at AREVA Risk Management Consulting (AREVA RMC).

17 AREVA RMS was acquired in 2008 by the French public multinational concern AREVA *société anonyme* (SA) which itself is ~90% owned by the French state.

18 AREVA SA's principal commercial business is in nuclear activities, within which it designs and constructs nuclear power plants – if a new nuclear build on the Dungeness C site was to progress sometime in the interim future then, most likely, the nuclear plant would be of AREVA design.

19 Électricité de France (EDF), also a French state owned concern, has a capital stake in AREVA SA. EDF is the owner and operator of Dungeness B NPP and I believe it also owns the parcel land that has been set aside for the possible future development of Dungeness C.

20 In partnership with AREVA, EDF plans to construct and operate new build EPR NPPs at other existing nuclear NPP sites at Sizewell (Suffolk) and Hinkley Point (Somerset) and, along with these sites, EDF promoted the Dungeness C site for the Government's recent Strategic Siting Review.

21 The Dungeness B and C sites have land values associated with continued electricity generation at B and the potential for a new-build NPP and 60 years or so thereafter generating capacity – one analyst has projected an average vacant land value for a new build site at £240 million (2009).¹

1 Jackson Consulting, [Briefing Report - Arguments and Evidence for Retaining Dungeness within the Government's Nuclear National Policy Statement in the National Interest](#), Report for Shepway District Council, 24th December 2009 – [¶A1 p36] – see APPENDIX 2.

22 Obviously, it would not be in the interests of EDF and AREVA to detract from the
land and potential use values of the Dungeness B and C sites by acknowledging there
to be an unacceptable risk of aircraft crash and radiological consequences. In this
respect, I can understand why David Nicholls is so buoyant and positive in promoting
that both aircraft and nuclear operations at Lydd are, to use his words, ‘safe enough’
[¶1.10 p5].

23 **DAVID NICHOLLS’S REBUTTAL**

24 First, I am reluctant to ‘nitpick’ a way through the rebuttal of David Nicholls even
though it contains many errors of fact and misleading conjecture, so instead I shall
confine my criticism of the claims and statements to what I consider to be substantial
errors, misleading and/or misinformed opinion conveyed in the rebuttal.

25 **DAVID NICHOLLS ON NUCLEAR SAFETY**

26 There are, in my opinion, two benchmark statements in APPENDIX I:

27 First, I consider that it is not for David Nicholls to derive, for himself, what he refers
to as a ‘tolerability criterion’ or a ‘design basis criterion’ from the Safety Assessment
Principles (SAPs) [¶A12 p4].²

28 This is because the SAPs are for use and interpretation by the appointed regulators, not
David Nicholls. It is for Nuclear Installations Inspectorate (NII) to determine the
criteria, or whatever, from the SAPs or from wherever the NII chooses.

29 The SAPs make this clear in the [INTRODUCTION](#) [SAPs ¶3 p4]:

30 “ . . . *The SAPs provide inspectors with a framework for making consistent
regulatory judgements on nuclear safety cases. The principles are
supported by Technical Assessment Guides (TAGs), and other guidance, to
further assist decision making by the nuclear safety regulatory process (see
the HSE website). The SAPs also provide nuclear site dutyholders with
information on the regulatory principles against which their safety
provisions will be judged. However, **they are not intended or sufficient to
be used as design or operational standards**, reflecting the non-prescriptive
nature of the UK’s nuclear regulatory system. In most cases **the SAPs are
guidance to inspectors**, but where guidance refers to legal requirements
they can be mandatory depending on the circumstances. . . “*

my emphasis

2 This self-derived *tolerability* is then presented as the ‘official’ benchmark at several other localities throughout LAA/15/D at, for example [¶3.14, 3.16 p13] and [¶4.4 p16].

31 On this basis, I suggest that the Inquiry should not accept any criteria, equivalent or
otherwise, that David Nicholls himself derives - I reiterate it is not for David Nicholls
to decide on the *'operational standard'* determining what is *'safe enough'* [LAA/15/D
¶1.10 p5].

32 There are other places in the rebuttal text at which David Nicholls expressed facts,
findings and statements as though these were representative of the policies and
decisions HSE and/or its NII division – I believe it inappropriate for him to do so.

33 Second, again in [¶A12 p4], David Nicholls states that he

34 “ . . . does not have access to sufficient information about the power station
structure, operation and safety systems to evaluate the radiological consequences
of a crash.”

35 So, it follows, since he does not have sufficient information to arrive at an informed
judgment then much of his rebuttal where he addresses nuclear safety aspects of
Dungeness B, Dungeness A and the remote railhead, should be dismissed as
unqualified opinion.

36 For example, David Nicholls accuses me of being *'overly pessimistic'* on the
likelihood and severity of the consequences of accidents and incidents [¶2.3 p7], but
he does not demonstrate this to be the case by referring to facts, instead he spends the
next paragraphs referring to matters that are not at all related to the severity of
consequences, particularly:

37 for the times when spent fuel trains are traversing cross the end of Runway 21, he
claims that that the flying restrictions applied in practice are more stringent than I
state [¶2.6 p8], but he provides no evidence whatsoever on just what these
additional and more stringent restrictions are;

38 he makes claims of his all-encompassing knowledge about the way in which the
nuclear facilities will be decommissioned [¶2.8-2.9 p8] but he has never exhibited
and tested this knowledge amongst his peers by publication, and he clearly has
little knowledge of the complexity of dealing with the large quantities of
intermediate level graphite moderator with its charge (Wigner) energy,
carbonaceous dust and propensity to reactivity in air, and so on;

39 the opinion claiming that aircraft crash would only *'disable one of the essential
power supplies'* of the Dungeness NPP [¶2.14 p9] is quite astonishing, especially

when David Nicholls must have penned this whilst three nuclear reactors and a spent (irradiated) fuel pond at the Japanese Fukushima Dai-ichi were virtually out of control, being placed in this calamitous situation as a result of all of the on- and off-site power supplies being disabled (station blackout) by a foreseeable tsunami;

40 he dismisses the hazard and radiological consequences of an incident at the railhead involving flasks of irradiated or spent fuel simply on the basis that the quantity of radioactive material is '*much smaller than at the power stations*' [¶6.15 p28] , thereby ignoring the findings of government agencies and other studies that demonstrate beyond doubt the seriousness and intolerability of the consequences of such an incident and a release from a single flask of spent fuel;

41 he misses the commonsense logic that a ground-launched attack on a low altitude aircraft during take-off or landing is likely to be much more successful than an attack on a high flying aircraft [¶2.19 p10], and he chooses to ignore '*the inclination or ability of persons to attempt such an attack*' has resulted in the past in such dastardly acts succeeding, as so tragically demonstrated on 9-11 2001; and

42 his arguments that there is no causal linkage between an airport and terrorism, implying that those intent on malicious actions do not consider airports and the related air traffic movements to be attractive targets is spurious [¶2.19 p9] – I have listed sixteen confirmed major terrorist incidents at airports and/or involving aircraft over the last 40 or so years, (excluding attacks against military airports, etc) in **TABLE 1** of **APPENDIX I**.

43 **DAVID NICHOLLS ON THE ESR TECHNOLOGY REPORT**

44 Not that I wish to cut across the evidence of Mrs Auty (LAAG/3/E & /F), I note that David Nicholls claims [¶5.15 p24] that the '*significant radiological release*', cited by the [ESR Technology report](#) [ESRT ¶2 p2], would occur at a frequency '*significantly lower than 10^{-7} per year*' and that '*by no means all 'significant' releases would be this large*'.

45 This is largely a play on words: David Nicholls does not know the aircraft crash frequency determined by ESR Technology and he has no means of determining what is the possibility of any one aircraft crashing into the NPP resulting in a *significant radiological release*.

46 As I have previously noted, David Nicholls does not seem to be sufficiently experienced and
knowledgeable with the design of the Dungeness AGR NPP and its nuclear fuel systems to
form and express such a judgment – he admits as much in paragraph 34 above [¶A12 p4].

47 **DAVID NICHOLLS ON DEMOGRAPHICS**

48 In [¶6.5 p24] David Nicholls acknowledges that no demographic assessments had been
carried out for the proposed airport development by 8 February 2011 – this in turn led
to the failure of Shepway DC to consult with the HSE, and vice versa, as required by
Government [Circular 04/00](#).

49 David Nicholls then states [¶6.6 p24] that *‘it is apparent that the issue has now been
considered by the NII’* going on to state that the NII *‘do not wish to withdraw or alter
their statement of non-objection [15]’*, although the reference given *‘[15]’* is
misleading in that it refers to an earlier HSE letter of 28 July 2010 that predates the 8
February 2011 FOIA response in which it is stated that no demographic assessment
had been undertaken.

50 The situation is further confused by David Nicholls’s referring to his paragraph 6.20
(by which he means 6.21) [¶6.6 p26] stating that his own enquiries have determined
that the demographic *‘issue has now been considered by the NII and that they do not
wish to withdraw or alter their statement of non-objection’*.

51 In fact, all that David Nicholls reiterates is his own opinion [¶6.21 p28] that the HSE
have now carried out a *‘scoping’* assessment. This is because he does not provide any
reference whatsoever to any documentation of the assessment carried out by the HSE
(other than a record of his telephone conversations with the NII [his Ref 18], but
which has not been agreed with or endorsed by the NII), nor does he venture to
explain exactly what he means by *‘scoping’* assessment and how this might differ
from the [Circular 04/00](#) demographic evaluation requirement.

52 I consider this to be a most unsatisfactory means of presenting an opinion – at the best,
it is sloppy and unreliable composition but, at the worst, it is misleading.

53 **DAVID NICHOLLS USE OF SOURCE MATERIALS AND REFERENCING**

54 This brings me the way in which David Nicholls presents and relies upon source and
reference material:

55 I have already referred to how he incorrectly assumes [¶A12 p4] that the SAPs
might be interpreted by any other party than a HSE NII inspector for the purposes
of determining the license conditions for nuclear plants and activities and, indeed,
what is deemed to be *'safe enough'*;

56 that he asserts that aircraft operations are more rigorously controlled when spent
fuel trains are underway on the nearby rail track, but he gives no reference to the
source of this assertion [¶2.6 p8];

57 he confusingly cites a reference letter that predates the date at issue by almost a
year [¶6.6 p24]; and

58 he claims that the HSE has carried out a *'scoping'* demographic assessment but
provides no evidence of or reference to it [¶6.21 p28] – in fact, the HSE stated in
response to FOIA request from David Nicholls (see his reference 17, dated 31
March 2011) that *'No rigorous demographic assessment has been undertaken thus
far by HSE in relation to the proposed forecasts for the airport terminal
passenger capacity'*, which is unambiguously contrary to his claim that even a
scoping assessment had been undertaken.

59 In other examples of misleading referencing to and sourcing of information that he
relies upon for his opinion:

60 David Nicholls suggests [¶6.9 p26] that the reason the HSE objected to the CALA
application at Aldermaston was because it had failed to object to earlier
developments, *'the population already exceeded the relevant criteria'* - he claims
this to be so by referring to the [evidence](#) submitted by Derek Lacey of the HSE.
In fact, there is nothing in the written and published evidence of Derek Lacey that
supports David Nicholls's claim that *'the population already exceeded the
relevant criteria'*; and

61 in referring to the railhead [¶6.15 p28], David Nicholls claims that *'the HSE has
stated that the railhead would not normally be factored into any demographic
analysis [4]'*, but nowhere to be found in his cited reference 4 is there mention of

a railhead and, indeed, the phrase that David Nicholls isolates in single quotation marks is also not with the reference document.³

62 I have gone to the extent of demonstrating the referencing to and source materials cited by and relied upon by David Nicholls to illustrate my doubt about the bona fides of his final reference [18] in which he purports to represent the views, policies and decisions of the HSE.

63 For example, under [Item 6] he states that within the period between receiving a response (31 March 2011) to his FOIA request (his Reference 17), according to his telephone conversation of either 7 April or 5 May 2011, the HSE had completed the 'scoping' assessment – that is the HSE, at his behest, carried out quite complex analyses within 5 or 21 working days (including account of the Bank Holidays and the Royal Wedding).

64 And, under [Item 7] David Nicholls relays, seemingly on behalf of the HSE, that it has not felt the need to change its advice to the planning process.

65 It is not at all credible that the HSE would choose to have the agency of David Nicholls represent this important matter to this Inquiry, certainly not by David Nicholls's recollection of two telephone conversations via a transcript [LAA/15/D Ref 18] that, apparently, has not been scrutinised, agreed and endorsed by the HSE.

66 I note here that I shall consider (albeit with one exception that I make clear in the text) only the comments and opinion of David Nicholls that relate to my submitted evidence, that is I give no consideration to the opinions expressed by David Nicholls on the evidence of David Pitfield and Trudy Auty.

67 Finally, my silence on a point made in any proof or the fact that I have not addressed it in this rebuttal proof of evidence should not be taken as my agreement with that point.

JOHN H LARGE
LARGE & ASSOCIATES
CONSULTING ENGINEERS

³ Actually, this is mis-numbering and the source should be cited as Reference 17 which is the NII response to an FOIA request from David Nicholls.

APPENDIX 1

TERRORIST INSPIRED INCIDENTS AT OR AROUND COMMERCIAL AIRPORTS

TABLE 1 RECENT PAST TERRORIST ACTIVITIES AT OR NEAR COMMERCIAL AIRPORTS

AIRPORT	DATE	COMMENT
Frankfurt Germany	02 03 11	Terrorist shooting with handgun – 2 off duty US servicemen fatalities
Moscow Russia	24 01 11	Terrorist bomb explosion – more than 100 public fatalities
Detroit United States	25 12 10	On board flight approaching Detroit Airport attempt to detonate bomb – the underpants bomber – no fatalities
Glasgow UK	30 06 07	Vehicle loaded with primed propane gas cylinders crash into foyer of airport – 1 terrorist fatality
Domodedova Russia	24 08 04	Terrorist Hijacking shortly following take-off – entire passengers and crew lost
Los Angeles United States	04 07 02	Lone terrorist shooting – 2 El Al staff and 1 terrorist fatalities
Boston United States	22 12 01	Al-Qaeda shoe bomber Richard Reid attempted to detonated shoe bomb on board aircraft approaching Miami airport
New York United States	11 09 01	Terrorists hijack 4 aircraft shortly following airport departures, crashing these into World Centre Twin Towers and Pentagon – over 3,000 public fatalities
Rome Italy	27 12 85	4 terrorists fired assault rifles and threw grenades – 16 public and 3 terrorist fatalities
Vienna Austria	27 12 85	Simultaneous attack with above, 3 terrorists threw hand grenades – 3 public fatalities
Istanbul Turkey	11 08 76	Red Army terrorists attack airport – 4 public fatalities
Entebbe Uganda	27 06 76	Terrorist hijacked airliner – 1 serviceman and 3 public and unknown number of terrorist fatalities
Dawson Field Jordan	06 09 72	3 airliners hijacked and destroyed – no fatalities
Lod Israel	08 05 72	Terrorist hijacked airliner – 5 soldiers and 1 public fatalities
Lod Israel	30 05 72	Japanese Red Army terrorists open fire in terminal – 26 public fatalities
Zurich Switzerland	18 02 69	Terrorist attack of aircraft on runway – pilot and 3 passengers fatalities

APPENDIX 2

JACKSON CONSULTING REPORT - EXTRACTS

Briefing Report - Arguments and Evidence for Retaining Dungeness within the Government's Nuclear National Policy Statement in the National Interest

Report for Shepway District Council, 24th December 2009

Title Page	<p>Briefing Report</p> <p>Arguments and Evidence for Retaining Dungeness within the Government's Nuclear National Policy Statement in the National Interest Report for Shepway District Council • 24th December 2009 • Issue 2</p> <p>Jackson Consulting (UK) Limited • www.JacksonConsult.com • 24th December 2009</p>
Annex 1 page 36 of 44	<p>A1. Best Estimates of Nuclear Development Land Prices</p> <p>Nuclear utilities generally do not publish the exact price they have paid for acquiring nuclear development land. Nevertheless it is possible to produce a best estimate of these prices from government data in the public domain and specialist data published by leading utility and trade journals, with some verification provided by well placed informed market observers.</p> <p>A1.1 Hinkley and Sizewell</p> <p>Determining the value of nuclear land is extremely difficult as this will depend on each utility company's own individual assessment of the future profitability of the nuclear power station over a projected 40- to 60-year plant operating lifetime.⁴⁶ The government's <i>White Paper on Nuclear Power</i> published in January 2008 forecast that the net present value (NPV) of replacing</p> <p>Britain's 10 GWe of nuclear generating capacity would be of the order of £15 billion assuming a 40-year generating lifetime.⁴⁷ This is the government's measure of the expected profitability of the nuclear stations under a central scenario (neither pessimistic nor optimistic) after taking into account the expected electricity generating income offset against lending, construction, operation, decommissioning and waste disposal costs. Under these circumstances a single Westinghouse AP1000 1.1 GWe station would be expected to make a profit of £1.7 billion NPV while an Areva EPR 1.6 GWe station would make a profit of £2.4 billion NPV. But because a single nuclear site might well be able to accommodate two or even three new reactor units, the total profitability of each station could be as high as £4.8 billion NPV for a twin-unit EPR or £5 billion NPV for a triple-unit AP1000. The price that a utility is willing to pay for access to a suitable nuclear build site is likely to be linked in some way to the profit that the business can reasonably make from operating the nuclear station. For example, a 5 per cent gain-share of the nuclear utility's generating profit would value a site at £83 million NPV if the land was used for building a single AP1000 station or £240 million NPV if the land was used for building a twin EPR station. The energy utility Electricite de France (EDF) successfully acquired British Energy in January 2009 for £12.5 billion following merger clearance from the European Commission in December 2008. The merger gives EDF access to British Energy's prime nuclear development sites - Hinkley and Sizewell - which is likely to have been an important factor in the commercial logic of the acquisition. British Energy has a portfolio of eight nuclear development sites that might be worth £1.9 billion in total, assuming the average land value of each site is worth £240 million at 5% profit gain-share for building a</p>

3.2 GWe twin-unit EPR nuclear station. On this basis the nuclear development land was probably worth around 15% of the total £12.5 billion acquisition price paid by EDF for British Energy. In June 2009 EDF announced that it would proceed with EPR nuclear development at two prime sites, first Hinkley in South West England and then Sizewell in South East England around 18 months later. As a best estimate, we can conservatively assume the land value of these two prime sites to be each around the £240 million level as calculated above.

Notes:

- 46 The complexities of nuclear land sales are discussed in Chapter 2 *Sites for Sale: Selling Nuclear Real Estate* published in *Nukenomics: The Commercialisation of Britain's Nuclear Industry*. Ian Jackson. Nuclear Engineering International Special Publications. 2008.
- 47 See *Economics of Nuclear Power* on Page 59 of the *White Paper on Nuclear Power* published in January 2008. The £15 billion Net Present Value (NPV) calculated for 10 GWe of replacement nuclear capacity assumes a future long term carbon price of !36 per tonne. The full economic analysis is published in Chapter 4 *Economics of Nuclear Power* in the government's 2007 consultation document *The Future of Nuclear Power*, May 2007.