

May 14th 2012

Christine Symes
Department for Communities and Local Government

Dear Ms Symes

Consultation - LAAG's Representation and the NPPF

1.0: LAAG's Representation - Dr Roberto Trotta - flawed nature of the Byrne Model

- 1) LAAG would like to stress that any attempt by the Office for Nuclear Regulation (ONR) to now justify its failure to oppose Lydd Airport's planning application on the resilience of the nuclear structures, i.e. on a basis other than the probabilistic methodology in question (Byrne Model addressed by Dr Trotta), could not be justified for the following reasons.

(a) Dungeness A and Dungeness B will remain a hazard after they have ceased power generation and are fully de-fuelled¹. Indeed, for as long as Dungeness A and Dungeness B remain on site, even when shut down and with all of the spent (used) fuel removed off-site, they will continue to present a radiological risk throughout the extended 100 year or so decommissioning phase. Further, the risk will not progressively reduce with time as there will be hazard peaks associated with the various decommissioning processes. These peaks cannot be forecast for the extended period as the decommissioning programme is only given in outline form and could be dictated at any one time by developments on site such as the mechanical failure of certain structures. Therefore, the ONR cannot claim that by the time Lydd Airport is established with the critical mass of a regional airport, Dungeness A and Dungeness B will have ceased power generation and be fully de-fuelled so that crash damage at the Dungeness nuclear complex would no longer present a radiological risk

(b) Assuming a decision is made to proceed with the of development of Dungeness C, it also cannot be claimed that this power station is "safe" because it has been designed to withstand aircraft accidents - in contrast to the designs of Dungeness A and Dungeness B which predate any regulatory necessity to take into account the possibility of crashes of large commercial-sized aircraft. For the European Pressurised Reactor (EPR) - the most likely plant design to be adopted - there remain outstanding issues which relate to the continuing vulnerability of the nuclear power plant to commercial sized aircraft crash. However, there is limited scope to make further modifications to improve the resilience of the EPR and other Generation 111

¹ Dungeness A ceased power generation in December 2006 and was fully de-fuelled in April 2012. The operative Dungeness B is scheduled to generate power until 2018 with the possibility of 5 year life extension. Note, both Dungeness A and Dungeness B each have two reactors.

nuclear power stations to aircraft crash because their designs were also formulated before aircraft crash damage was considered to be a realistic external threat to nuclear power plants.

- 2) The above factors are covered in detail by the nuclear expert, John Large in Appendix 1. Note the specific characteristics of Dungeness A's Magnox reactors - during the decommissioning phase the older Dungeness A plant is thought to be more dangerous than Dungeness B because of the accumulated Wigner Energy within the graphite moderator cores.
- 3) An extract from the summary of Mr Large's opinion is given below:

Dungeness A and B NPPs: *It is a matter of fact that the built structures and containments of the Dungeness A and B nuclear power plants (NPPs) never took into account the crashing of a commercial-size aircraft – there was no requirement in the UK nuclear regulatory system at the times of their respective design and construction phases, nor in the interim has it been practicable to render any substantial structural modification to the built plants to improve resilience. In my opinion, should either of these plants be subject of aircraft crash then severe damage to the various containment structures would most likely result.*

Even when all four of the existing Dungeness reactors and spent fuel ponds have been defueled and the fuel moved off site (Dungeness A has recently completed this and Dungeness B would be expected to shut down in 2018-22 and defuel three to four years following), I show there to remain sufficient quantities of radioactive waste and (radio)activated materials on the sites to present the potential for significant radiological consequences in the public domain should an aircraft crash provoked radioactive release occur.

I demonstrate that the risk of significant radiological consequences will remain with the Dungeness A and B sites for about 100 years or so into the future, that is throughout the period presently allocated by government for deferred decommissioning and the eventual removal of the bulk of the radioactive wastes and structures from the sites.

Dungeness C Generation III EPR: *If Dungeness C is built and commissioned, it will be in a fully fuelled and operational state for 60 to 70 years, thereafter it might be mothballed for 20 to 30 years before dismantling.*

Over the past four years the ONR has been conducting a detailed Generic Design Assessment (GDA) of the European Pressurised Reactor (EPR). Other re-evaluations of the EPR design have been undertaken in response to concerns raised about nuclear safety by the Fukushima Daiichi accident of March 2011 – these re-assessments have been in the form of Stress Tests to determine the resilience of the EPR (and other designs of NPPs) against extreme external events, including aircraft crash.

I show that seven of the 30 or so outstanding GDA Issues identified by the ONR for the EPR design relate to the continuing vulnerability to commercial-size aircraft crash. Similarly, I have examined the Stress Tests evaluations of the EPR independently undertaken by French and Finnish nuclear safety regulators for the two EPR NPPs presently in advanced stages of construction and, again, I identify that about one-half of the 18 modifications required to improve the resilience of the EPR apply to the vulnerability of this NPP design to commercial-size aircraft crash.

I consider that the EPR (and other Generation III) NPPs remain vulnerable and, moreover, that little effective modification to improve the resilience of this design can be practicably achieved because the design was settled in the 1980-1990s, that is at a time when aircraft crash was not considered to be a realistic external threat to NPPs.

- 4) Finally we would like to remind the SOS that in relation to Dungeness C, the ONR will not be the only arbiter of safety². Under Article 41 of the European Treaty establishing EURATOM the European Commission has the right to make an independent safety assessment. This must be made no later than three months before construction begins (Article 42). The Commission's conclusion about Lydd Airport's status as a hazard could contradict the view of the ONR. Although it could not stop the development of Dungeness C on safety grounds, the Commission would make its opinions public, providing ammunition for opponents of nuclear power to frustrate or stop the new power plant's development.

2.0: National Planning Policy Framework

2.1: Sustainability

- 5) LAAG notes the definition of "sustainable" to mean "*ensuring that better lives for ourselves don't mean worse lives for future generations*".
- 6) In this context, the development of Lydd Airport is unsustainable since it will result in "*worse lives for future generations*" for the following reasons.

(a) The introduction of heavy commercial aircraft at Lydd Airport will introduce an unacceptable risk of an accident at the Dungeness nuclear power complex leading to a large radiological release. Such an accident would have intolerable consequences for society and the environment and have a lasting impact over a number of generations³. The Office for Nuclear Regulation's (ONR's) failure to oppose Lydd Airport's planning application on the basis that the probability of an accident caused by the introduction of heavy commercial aircraft taking off and landing from Lydd Airport is so low it can be ignored, is indefensible, as Dr Trotta's paper and the evidence given at last year's public inquiry show⁴.

(b) Pollution, disturbance and urbanization will have an adverse impact on the many protected habitats at Dungeness which surround Lydd Airport (see evidence from Natural England, RSPB and Kent Wildlife). These reservoirs of biodiversity indirectly have an economic value and act as "buffer sources of species" for future generations. Biodiversity degradation could compromise the social and economic wellbeing of future generations through increasing the cost of food. For example, the loss of pollinators will reduce crop yields and therefore the supply of certain foods, or produce a significant increase in the cost of crop production because of the need to hand pollinate. Other species imbalances could cause insect plagues

² LAAG/8/A - 8.4.2, page 25 - note the ONR was originally referred to as the Nuclear Installations Inspectorate (NII)

³ LAAG/4/A, LAAG/4/B, LAAG/4/I, LAAG/4/J, LAAG 116.

⁴ See Dr Trotta's evidence, LAAG/3A, LAAG/3/B, LAAG/3/E, LAAG/3/F and LAAG/5/A. For an overall assessment of the flawed methodology, plant vulnerabilities and accident consequences - See LAAG's Closing Statement - paragraphs 203-357.

which also reduce crop yields and cause social disruption. Many of the complex interrelationships between man and the natural world are poorly understood. It is the unknown consequences of species degradation which should be of concern to decision makers because of their possible adverse impact on future generations.

(c) Food security is an issue which was brought into the national consciousness by the 2008 food price spikes. The loss of high quality agricultural land on Romney Marsh through urbanization, caused directly by Lydd Airport's development, will compromise food security for future generations. Romney Marsh is dominated by grade 1& 2 agricultural land as Appendix 2⁵ clearly demonstrates⁶.

(d) The development of Lydd Airport as a regional airport, with its runway 600m from Greatstone Primary School, will compromise the quality of education for future generations of young people from Romney Marsh.

2.2 Paragraph 33

7) Paragraph 33 of the NPPF states that any plans should take account of the Government Framework for UK Aviation. The 2003 White Paper still pertains⁷ since the new Aviation White Paper is still gestating. As LAAG argued at the public inquiry⁸, although the existing White Paper gives in principle support to the expansion of smaller airports, all airports are subject to the overarching premise that the starting point is making the best use of existing airport capacity.

“Our starting point is that we must make best use of existing airport capacity.”⁹

8) We do not intend to repeat the evidence given at the public inquiry other than to reiterate the following.

(a) Kent has adequate airport capacity as both its existing airports - Lydd and Manston - are operating at a fraction of their existing capacities.

(b) Lydd Airport's existing terminal has capacity for 300,000ppa¹⁰ and its existing runway can support well in excess of this throughput using the aircraft types outlined in the common ground statement between Lydd Airport and LAAG¹¹.

(c) Manston Airport located <50 miles from Lydd - Kent's existing regional airport - is also operating at a fraction of its existing terminal capacity of 1mppa¹², while its runway could support a throughput of at least 6mppa.

⁵ Note, The Appendix has three frames - a map showing Romney Marsh, a map showing the rest of Shepway and the map key (use arrow to show each frame). Source: DEFRA/Natural England/MAGIC

⁶ The “lesser” agricultural areas are mainly those designated as protected habitats.

⁷ The Future of Air Transport, Department for Transport, December 2003

⁸ LAAG/9/A, LAAG/9/B and LAAG/8/D paragraphs 2.1-2.5

⁹ The Future of Air Transport, Department for Transport, December 2003, page 7

¹⁰ CD1.14 - Introduction - paragraph 1.1.3

¹¹ CD 4.4 (LAA), paragraph 3.19

¹² Manton Airport's Master plan

The following table, which featured in LAAG/9/A and has been updated, graphically illustrates the excess capacity at these two airports.

Year (end Dec.)	Lydd Airport			Manston Airport		
	Passengers (number)	Percentage of White Paper Potential Capacity of 125,000ppa	Percentage Existing Terminal Capacity of 300,000ppa	Passengers (number)	% of White Paper Potential Capacity of 6mppa	% of Current Terminal Capacity of 1million ppa
1992	4,592	3.7%	1.5%	7,385	0.1%	0.7%
1993	1,515	1.2%	0.5%	11,848	0.2%	1.2%
1994	195	0.2%	0.1%	5,123	0.1%	0.5%
1995	235	0.2%	0.1%	2,523	0.0%	0.3%
1996	303	0.2%	0.1%	941	0.0%	0.1%
1997	2,596	2.1%	0.9%	2,936	0.0%	0.3%
1998	2,370	1.9%	0.8%	2,269	0.0%	0.2%
1999	3,430	2.7%	1.1%	1,599	0.0%	0.2%
2000	1,522	1.2%	0.5%	7,594	0.1%	0.8%
2001	65	0.1%	0.0%	5,921	0.1%	0.6%
2002	3,088	2.5%	1.0%	92	0.0%	0.0%
2003	4,498	3.6%	1.5%	3,582	0.1%	0.4%
2004	4,018	3.2%	1.3%	101,233	1.7%	10.1%
2005	2,817	2.3%	0.9%	206,875	3.4%	20.7%
2006	2,754	2.2%	0.9%	10,167	0.2%	1.0%
2007	2,696	2.2%	0.9%	16,180	0.3%	1.6%
2008	1,673	1.3%	0.6%	11,657	0.2%	1.2%
2009	588	0.5%	0.2%	5574	0.1%	0.6%
2010	485	0.4%	0.2%	25813	0.4%	2.6%
2011	496	0.4%	0.2%	48450	0.8%	4.8%
2012 (e)	550	0.4%	0.2%	10200	0.2%	1.0%

Source: CAA statistics: terminal and transit passengers & LAAG estimate for 2012

Note: 2012 estimate for Manston takes into account Flybe's cessation of services after March 2012-10,200 based on January to March 2011 passenger numbers plus 75% of the 2009 throughput (pre Flybe)

Recent Developments

9) It should be noted that Flybe ceased operations at Manston Airport from March 2012, having started them in May 2010¹³, reflecting both the current recession and the marginal commercial status of all the Kent airports.

10) The calendar year 2011 represented the first full year of Flybe's operations at Manston which boosted passenger numbers to close to 50,000. The table clearly shows that this still only represented 5% of existing terminal capacity and less than 1% of the Aviation

¹³ Flybe began its services from Manston in May 2010 with a service to Edinburgh. This was augmented by a service to Manchester in September 2010 which was suspended in April 2011 and replaced with a summer Belfast service which began in May 2011. All flybe flights from Manston Airport, ceased from March 2012.

White Paper's "full capacity"¹⁴. With the departure of Flybe, capacity utilisation will decline to <1% of existing terminal capacity¹⁵.

Lydd Airport's claims are unsubstantiated

- 11) Lydd Airport claims its poor commercial status¹⁶ is due to the short length of its runway. In its current planning application it claims it is conforming to the Aviation White Paper by lengthening its runway to overcome this constraint and that this constitutes the best *use of existing airport capacity* since it constitutes "*best meeting demand in terms of attracting airlines to operate services required locally*"¹⁷.
- 12) The assertion that runway length is a constraint is incorrect. Manston, which has one of the longest runways in the UK, is failing to attract commercial levels of business. This in itself indicates that runway length is not the issue.
- 13) Lydd Airport is able to provide services locally on its existing runway. The Common Ground Statement between Lydd Airport and LAAG¹⁸ shows the range of aircraft that can operate at Lydd Airport today. This includes the Bombardier Dash8 (Q400) which was used to provide the now withdrawn, Flybe services from Manston. Although this aircraft type was suited to Lydd Airport, Flybe chose Manston over Lydd Airport because of other operational issues which have nothing to do with runway length¹⁹.
- 14) Lydd Airport is a legacy airport and is a product of its location. Its poor performance is due to competition from the Channel Tunnel, Manston²⁰ and Gatwick airports²¹. Lydd Airport also has many operational constraints which will not be overcome by increasing runway length that make it unattractive to operators²². In addition, it is located in a relatively remote location and is supported by poor road and rail infrastructure.
- 15) As for the Airport's logic, that extending the runway constitutes conforming to the Aviation White Paper - while it is granted there is no sequential test - i.e. existing capacity

¹⁴ In the documentation supporting the 2003 Aviation White Paper (*The Future Development of Air Transport in the United Kingdom: South East Consultation Document, page 92 & 93. Note in the second edition, February 2003, the pages are 109 & 110*) potential airport contributions were determined for 2030 taking into account constraints and assuming maximum use of existing runways in the South East and no new runway capacity in the region. The figure for Manston Airport was estimated to be 3mppa by 2030. This figure was challenged by the new owners of Manston at the time (PlaneStation) and later raised to 4-6mppa as a result of an independent study by Arthur D. Little. The 6mppa figure was embraced as a capacity objective by Kent County Council in the now defunct Kent & Medway Structure plan. The current terminal capacity of 1mppa (with minor extensions) was taken from Manston's Airport's Master Plan.

¹⁵ Note: The 207,000 passenger figure achieved in 2005 is not representative of underlying capacity utilisation as the disproportionately large number of passengers reflects the death kicks of the airline EUjet which effectively gave away seats before its owner PlaneStation went into liquidation

¹⁶ Both Manston and Lydd airports are heavily loss making -see LAAG/7/A - Table 2 , page 5

¹⁷ LAA/4/D - paragraph 2.25

¹⁸ CD 4.4 (LAA), paragraph 3.19

¹⁹ See also LAAG/8/D - paragraph 4.5

²⁰ The aircraft types operated by Flybe can fly commercially from Lydd but Flybe chose to operate from Manston.

²¹ Due to the good road infrastructure many locations in Kent are within one hour drive time from Gatwick Airport.

²² LAAG/10/A, LAAG/10/D and LAAG/10/E - note table 2 in particular

must be used up first before any new capacity is introduced - this is implied in the overarching statement otherwise there would not be any point in having it. Lengthening runways and building new terminals add to airport capacity.

- 16)** In conclusion, Lydd Airport's proposed expansion does not conform to the Aviation White Paper since Lydd Airport must make better use of its existing capacity before creating additional capacity, particularly when the proposed lengthening of its runway would not overcome the airport's inherent limitations.

Yours sincerely

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Appendices

Appendix 1: *Review of the Continuing Risks and Hazards presented to the Nuclear Power Plants at Dungeness from the Proposed Development of Lydd Airport (London Ashford airport) Relating to 1) Decommissioning Structures and Radioactive Wastes Remaining On-Situ 2) Future Operations of any Nuclear New Build Generation 111 Nuclear Power Station at Dungeness C,* John H Large, May 14th 2012.

Appendix 2: Agricultural land ratings - Romney Marsh and the rest of Shepway: Note, there are three frames - Romney Marsh, Rest of Shepway and the Map Key: Source DEFRA/Natural England/MAGIC