

27/05/2011

LAAG/3/J

**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

NOTE TO INQUIRY

PRECAUTION, CONSEQUENCE BASED DECISIONS AND INHERENT SAFETY

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FOR LAAG

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

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

May 27th 2011

PRECAUTIONARY APPROACH, CONSEQUENCE BASED DECISIONS AND INHERENT SAFETY

- 1) This note is in response to a request to identify the extent to which the HSE and NII follow a precautionary principle or approach when making decisions.
- 2) The following extracts have all been taken from HSE's Reducing Risks, Protecting People¹ which is a document submitted to the inquiry by Mr Nicholls (LAA 15/F 1, No 10).

PRECAUTION IN THE FACE OF UNCERTAINTY

- 3) It will be observed that the HSE uses the term precautionary principle and precautionary approach interchangeably within this text. However the overriding message to err on the side of caution where there is uncertainty and the safety of the general public is concerned is clear.
- 4) Moreover the Secretary Of State will have to justify his final decision to society. To adopt the precautionary principle in considering the habitat and safety of the birds on the SPA without affording the same concern to the general public would clearly be untenable.

CONSEQUENCE BASED DECISION

- 5) The guidelines are also clear that when consequences are particularly serious (e.g. irreversible, deleterious or could detrimentally affect future generations) and knowledge of the likelihood is very uncertain then the decision should be driven by consequence.
- 6) This should lead to refusal of these planning applications, given the uncertainty in predicting the increased risk of a major nuclear accident² posed by the introduction of large aircraft taking off and landing at LAA ; bearing in mind LAA currently operates light aircraft³ which are unable to generate such an outcome.
- 7) All that can be said with certainty is that airport expansion would produce a step change in the probability of these intolerable consequences, proportional to the increase in hazardous aircraft movements from 220/yr to over 10,000/yr , or 32,000/yr if LAA achieved its master plan.

¹ One quote taken from SAPs as labelled

² Noting NII's confirmation of the potential for a Target 9 accident resulting in over 100 fatalities and long term damage to the surrounding area.

³ 99% of current operations comprises light aircraft

INHERENT SAFETY

- 8) The guidelines also stress the need for 'inherent safety' where the consequences of failure are high. The SAPs guidelines state that *'An inherently safe design is one that **avoids radiological hazards** rather than controlling them. It prevents a specific harm occurring using an approach, design or arrangement that ensures the harm cannot happen'*
- 9) Clearly the 'arrangement' of an aircraft runway pointing in the general direction of a nuclear power station, separated only by a wetland reserve and located under one of the largest migratory bird routes in Southern England is inherently unsafe. It relies on the control of aircraft flight paths, on a human pilot being able to take the appropriate diversionary action, under pressure in an emergency situation, and on hazardous birds being controlled close to the nuclear site.
- 10) Whether the airport has a target of achieving 3 birdstrikes per year is irrelevant to the consideration of inherent safety. The fact that:
- a) The birdstrike hazard has been estimated to be 6 times the UK average⁴.
 - b) It comprises flocks of geese, swans and gulls, the species known to cause the greatest damage to aircraft engines and hulls.
 - c) LAA has no intention or mechanism to control the birds on the conservation areas which lie between the airport and the nuclear site.
 - d) There is no legal or regulatory mechanism to control the activity of local farmers whose planting programmes will affect the flight paths of such hazardous birds in the region.

means that LAA would be constantly fighting to control an inherently unsafe situation but unable to apply the measures in areas which matter most to the protection of the nuclear site.

The plans should, therefore, be refused on grounds that approval would render the situation inherently unsafe.

TRUDY AUTY (SUPPORTING EXTRACTS BELOW)

⁴ LAA 15/F/.1 ESRT April 2010 and October 2010 reports

EXTRACTS FROM HSE'S REDUCTING RISK AND PROTECTING PEOPLE (LAA/15/F1 No 10). Document numbering has been preserved

(Key points emboldened by tja)

PRECAUTION IN THE FACE OF UNCERTAINTY

(HSE's reducing risks and protecting people, LAA/15/F1, No 10)

91) Our policy is that the precautionary principle should be invoked where:

_ there is good reason, based on empirical evidence or plausible causal hypothesis, to believe that serious harm might occur, even if the likelihood of harm is remote; and
_ the scientific information gathered at this stage of consequences and likelihood reveals such uncertainty that it is impossible to evaluate the conjectured outcomes with sufficient confidence to move to the next stages of the risk assessment process.

100) In looking at options we would be particularly interested in examining (top of page 35):

how much uncertainty is attached to the issue under consideration and as a consequence the precautionary approach that should be adopted to ensure that decisions reached are in line with the precautionary principle (see paragraphs 89-94). As we shall see later, though HSE adopts a framework (see paragraph 121-127) for reaching decisions which intrinsically ensures that the treatment of uncertainty is biased towards health and safety to take account of uncertainty, this bias reflects a proper judgement of the degree of caution needed in the circumstances of the decision. The framework achieves this by ensuring that, as the degree of uncertainty increases, and depending on certain other characteristics attached to a particular hazard (eg whether the risk, if realised, could result in consequences that are irreversible or could detrimentally affect future generations), there is an increasing shift towards requiring more stringent measures to mitigate the risks. **Moreover, in cases where the benefits cannot justify the risks, the framework requires that consideration is given to banning the activity, process or practice giving rise to the hazard;**

DECISION BASED UPON CONSEQUENCE ALONE:

40) However, depending on the situation and degree of knowledge, the relative importance of likelihood and consequence in determining control measures may vary. HSE, for example, might attach a different weighting to the likelihood that harm will occur from the weighting attached to the consequences. **In some circumstances, particularly where the consequences are particular serious or knowledge of the likelihood is very uncertain, we may choose to concentrate solely on the consequences so that, in effect, we are concerned only with the hazard.**

42) *The implication of this interpretation is that successful management of risk in the*

workplace must satisfy the premise that anything present in an undertaking which 'presents the possibility of danger' is properly addressed. Conceptually, HSE will regard anything presenting the possibility of danger as a 'hazard'. As we shall see later, the processes and criteria described in Part 3, which include the use of risk assessment to determine the required control measures, meet this important condition. **For example, they ensure that for hazards surmised to have consequences that may be irreversible and deleterious, there is an overriding need to introduce control measures to address the hazards. This is true when, or perhaps especially when, there is considerable uncertainty about the nature of the hazards and the likelihood of them causing harm.**

85) An implicit presumption underlying the hierarchy is that it is not the case that any activity can be pursued simply because measures are available to control the risks it entails. **This would be particularly true for activities where there are considerable uncertainties in the estimates of the risks attached to them. Indeed, in line with our earlier discussion on the meaning of risk at paragraphs 37-42, the regulation of health and safety is replete with examples where the potential severity of the consequences, rather than the probability of them occurring, is the dominant consideration.**

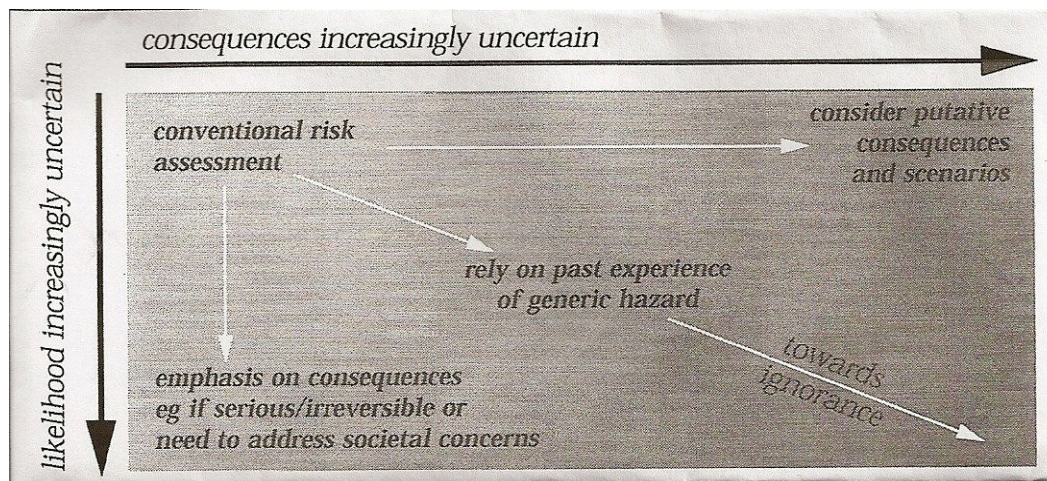
Procedures for handling uncertainty

(Reducing Risks, Protecting People, Appendix 1)

10 The procedures adopted for handling uncertainty are illustrated in Figure 2. The vertical axis represents increasing uncertainty in the likelihood that the harmful consequences of a particular event will be realised, while the horizontal axis represents increasing uncertainty in the consequences attached to the particular event.

11 At the upper left hand corner, a risk assessment can be undertaken with assumptions whose robustness can be tested by a variety of methods. However, as one moves along the axes increasingly assumptions are made that are precautionary in nature and which cannot be tested.

12 For example, at the bottom of the vertical axis where there is a high degree of uncertainty about likelihood, it is assumed that the event will be realised by focusing solely on the consequences, while on the far right of the horizontal axis, where there is a high degree of uncertainty surrounding the consequences, putative consequences are deliberately assigned to the hazard.

CHART TAKEN FROM FIG 2:**INHERENT SAFETY**

Safety Assessment Principles (LAA/F/1 No 5) paragraph 136:

An 'inherently' safe design is one that avoids radiological hazards rather than controlling them. It prevents a specific harm occurring using an approach, design, or arrangement that ensures the harm cannot happen. Inherent safety is not the same as passive safety

Reducing Risk, Protecting People. (LAA/f/1 No 10) Second part of paragraph 85:

85) Inherently Safer Design:

Adoption of the principles of inherently safer design is particularly important where the consequences of plant or system failure are high. HSE will press for the incorporation of inherently safer design features where these are possible, to reduce the reliance on engineered safety systems or operational procedures to control risk

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