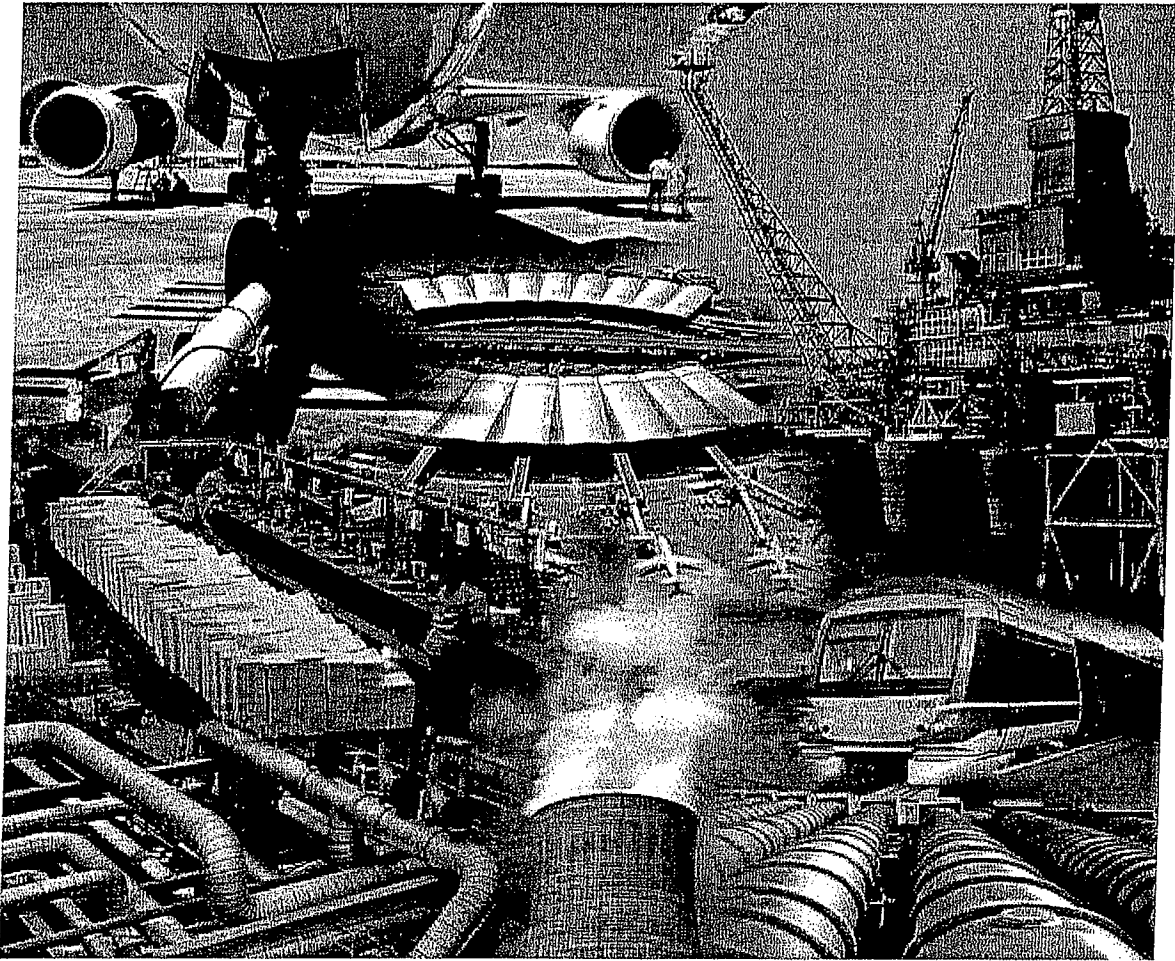


LAAG/117.



## Review of Aircraft Crash Rates for the UK up to 2006

ESR/D1000646/001/Issue 1

A Report prepared for British Energy  
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 **ESR Technology**  
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These four models, the AEA model, the NATS model, the DNV Technica model and the NLR model, differ in detail in some respects but they are all based largely on the same empirical data and generally provide broadly similar risk estimates for any given type of operation. Another model [Ref 32] has been developed more recently by GfL in Germany (Gesellschaft für Luftverkehrsforschung, the German institute for aerospace research) which gives broadly similar risk estimates. We identify some limitations in each of the models and would therefore not recommend adoption of any one of the more recently developed models in preference to the AEA model.

Having regard to the developments in crash location modelling identified above, we conclude overall that there is scope for significant enhancement of the approach to estimation of aircraft crash risk in the vicinity of airports. Revision of the AEA distribution functions, based on recent UK accident data, will not make a significant difference to the risk estimates made using that model and is not recommended. A revised model, based on a wider recent international accident data set, would be of more potential value. However, if any significant effort were to be directed towards improving the crash location model, there are some other aspects of the modelling approach that would deserve attention also. Key issues to be addressed, as discussed above, are as follows:

- The over-concentration of crash locations on the extended runway centreline due to the lack of accurate reporting of accident location.
- The inclusion of the dependence of the lateral distribution function on the lateral distance from the runway threshold.
- The modelling of flight paths that deviate from the runway extended centreline.

Figure 5.1: Landing Accidents: Empirical Lateral Distributions

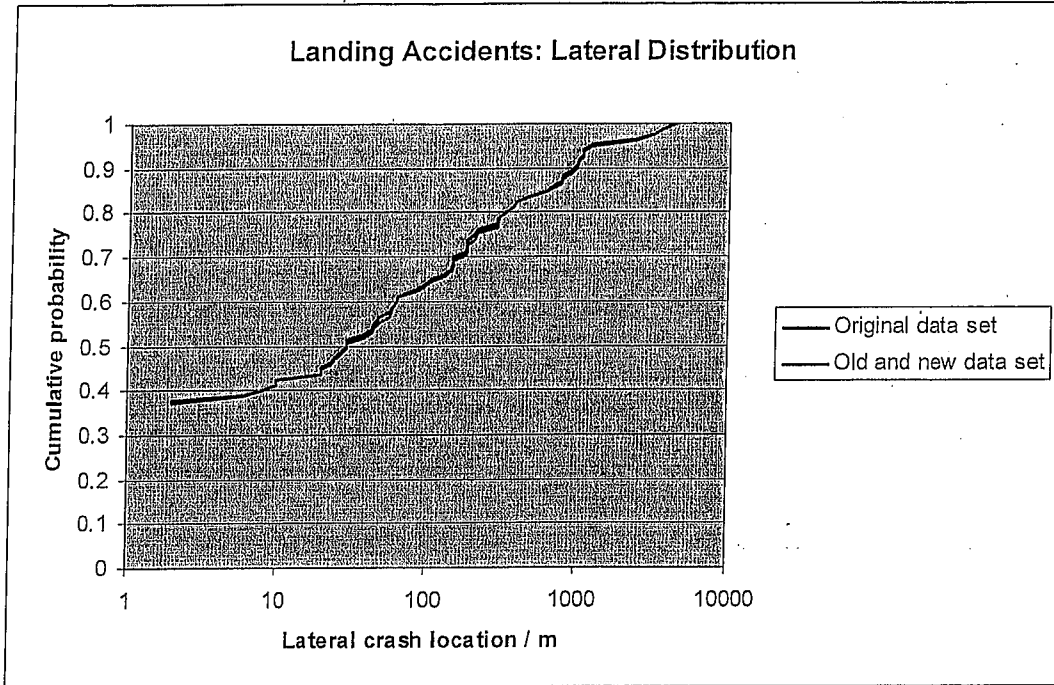


Figure 5.2: Landing Accidents: Empirical Longitudinal Distributions

