

RR1100 – Evaluation of the DRIFT gas dispersion model version 3.6.4

The Health and Safety Executive (HSE) uses gas dispersion modelling in its assessment of the hazards and risks posed by toxic and flammable substances stored at major hazards sites. To update its dispersion modelling capability, HSE recently commissioned ESR Technology to develop a new version of the gas dispersion model DRIFT (Dispersion of Releases Involving Flammables or Toxics). The new version of the model, DRIFT Version 3 (DRIFT 3), includes a significant number of modelling enhancements over the version of DRIFT previously used within HSE (DRIFT 2.31). These include the extension of the model to treat buoyant plumes and time varying releases. Prior to DRIFT 3 being adopted for use by HSE, it must undergo thorough evaluation and assessment.

This report describes the evaluation of DRIFT version 3.6.4 in accordance with a Model Evaluation Protocol originally developed for the evaluation of liquefied natural gas (LNG) vapour dispersion models. The protocol sets out a method of scientific assessment, verification and validation for heavy gas dispersion models where the results are recorded in a model evaluation report (MER). Overall, the evaluation exercise found DRIFT version 3.6.4 to be fit for purpose.

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