

Atmospheric Dispersion Modelling For The Purposes of Nuclear Site Safety Case Assessment

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In the United Kingdom, the nuclear site licensees are required to produce a safety case for all operations on their site that may affect safety. The nuclear regulator, the Nuclear Installations Inspectorate(NII), has produced and published a set of Safety Assessment Principles(SAP's) that it uses for assessing the adequacy of these nuclear site safety cases.

One of the important components of a nuclear site safety case is the assessment of the radiological consequences of any identified plant fault sequences, particularly, the consequences of an accidental release of radioactive material to the atmosphere. Consequently the dispersion modelling of these postulated accidental atmospheric releases forms a significant part of the radiological consequence assessment process.

Some of the NII SAP's relate specifically to radiological consequence assessment methodology, including atmospheric dispersion. This presentation will describe the current thinking in NII toward modelling the dispersion of accidental atmospheric releases for the purposes of producing nuclear site safety cases.