INTRODUCTION
In Germany, special guidelines according the model implementation and document requirements of atmospheric dispersion studies within licensing procedure have been developed recently. The initial point was a very large variety of approaches, documentation and scientific quality in expert reports, even though the method of dispersion modelling has been defined very precisely in German legislation (Technical Instructions on Air Quality Control, in Germany called “TA Luft”, last update in 2002). In the past, basic information, e.g. meteorological data or the derivation of emission rates, had been omitted and therefore the reports were not comprehensible and not reproducible for governmental controllers. Even if the documentation was complete, way too many different structures of reports complicated the effective understanding of studies. With the guidelines, a harmonisation process in practical dispersion modelling in both structure and quality of reports, has been started. Another very important aim of the implementation of the guideline was to achieve a certain kind of comparable treatment of applicants in licensing procedure.

DEMANDS ACCORDING TO THE TECHNICAL INSTRUCTIONS ON AIR QUALITY CONTROL (2002)
In comparison with the former Technical Instruction on Air Quality Control of 1986, the revised and updated version of 2002 defines considerable lower values for the emission-mass-flows accounted to be of “no-significance”. Likewise, the criteria to evaluate ambient air quality (often called “Immission”, by dispersion modelling) have been more tightened as well. Therefore, the calculation of ambient air quality by means of dispersion modelling is more and more often required in licensing procedures and plants especially of types mentioned in the 4th Ordinance for the Implementation of the Federal Air Quality Control Act. Consequently, authorities and especially the checking officials will be increasingly faced with expertises containing dispersion modelling matters, which are sometimes not easy to understand or comprehensible for “No expert”. But nevertheless such expertises have to be correct, complete, comprehensible, and of a certain standard quality. Even officials with few experience only should be able to check those requirements and the reasonable use of methods fast and easily. Therefore three local governments (1st Baden-Wuerttemberg (2002), 2nd North Rhine-Westphalia (2006) and later 3rd Saxony) developed a guideline which enables authorities and especially the checking officials to perform expertises in suitable time and according to standardized criteria. These more or less comparable local guidelines were brought together in a new VDI Guideline VDI 3783 Part 13. “Quality Control for Dispersion Modelling - Plant–related Dispersion Modelling according to the Technical Instructions on Air Quality Control”. This guideline had been worked out up to now as a draft (so called “Green Print”) and will be officially released (so called “Whiteprint”) probably at the beginning of 2008. This VDI-Guideline will contain a lot of items to be checked and a complete list of details, which are mandatory to be described in dispersion modelling expertises. An example of the coming checklist is given in Figure 1a/b.

Check Points Expertise (headlines only) | False | Worked out | Comprehensible
--- | --- | --- | ---
Description of the task | | | |
Description of local relations | | | |
Description of the facility | | | |
Calculation of stack height | | | |
Description of sources and emissions | | | |
Parameter of modelling (area of inspection) | | | |
Meteorological data | | | |
Regard to topography | | | |
Special cases (e.g. pressure rise in flues) | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |
Meteorological data | | | |
Valuation of expertises on the realisation of studies | | | |
Input data and protocol of dispersion model | | | |
Presentation of results | | | |
Special cases: e.g. prognostic wind field | | | |
Regard to topography | | | |