

B.2 LIST OF REVIEW TOPICS

This is a list of hierarchically arranged topics for reviewing the quality of environmental statements submitted in response to UK regulations implementing EC Directive 85/337.

There are four areas for review.

1. Description of the development, the local environment and the baseline conditions.
2. Identification and evaluation of key impacts.
3. Alternatives and mitigation of impacts.
4. Communication of results.

In each of these areas there are several categories of activity which must be completed if the area is to be dealt with in a satisfactory manner. Similarly, each Category contains several Sub-categories. Below is a list of these topics arranged in a hierarchy. Review Areas are designated by a single digit, e.g. 1.; within these are Review Categories, designated by two digits, e.g. 1.1; and within each Review Category are Review Sub-categories, designated by three digits, e.g. 1.1.1.

1. DESCRIPTION OF THE DEVELOPMENT, THE LOCAL ENVIRONMENT AND THE BASELINE CONDITIONS

1.1 Description of the development: The purpose(s) of the development should be described as should the physical characteristics, scale and design. Quantities of materials needed during construction and operation should be included and, where appropriate, a description of the production processes.

- 1.1.1 The purpose(s) and objectives of the development should be explained.
- 1.1.2 The design and size of the development should be described. Diagrams, plans or maps will usually be necessary for this purpose.
- 1.1.3 There should be some indication of the physical presence and appearance of the completed development within the receiving environment.
- 1.1.4 Where appropriate, the nature of the production processes intended to be employed in the completed development should be described and the expected rate of production.
- 1.1.5 The nature and quantities of raw materials needed during both the construction and operational phases should be described.

1.2 Site description: The on site land requirements of the developments should be described and the duration of each land use.

- 1.2.1 The land area taken up by the development site should be defined and its location clearly shown on a map.
- 1.2.2 The uses to which this land will be put should be described and the different land use areas demarcated.
- 1.2.3 The estimated duration of the construction phase, operational phase and, where appropriate, decommissioning phase should be given.
- 1.2.4 The numbers of workers and/or visitors entering the development site during both construction and operation should be estimated. Their access to the site and likely means of transport should be given.
- 1.2.5 The means of transporting raw materials and products to and from the site and the approximate quantities involved, should be described.

1.3 Wastes: The types and quantities of wastes which might be produced should be estimated, and the proposed disposal routes to the environment described.

[NB: Wastes include all residual process materials, effluents and emissions. Waste energy, waste heat, noise etc, should also be considered.]

- 1.3.1 The types and quantities of waste matter, energy and other residual materials, and the rate at which these will be produced, should be estimated.
- 1.3.2 The ways in which it is proposed to handle and/or treat these wastes and residuals should be indicated, together with the routes by which they will eventually be disposed of to the environment.
- 1.3.3 The methods by which the quantities of residuals and wastes were obtained should be indicated. If there is uncertainty this should be acknowledged and ranges of confidence limits given where possible.

1.4 Environment description: The area and location of the environment likely to be affected by the development proposals should be described.

- 1.4.1 The environment expected to be affected by the development should be indicated with the aid of a suitable map of the area.
- 1.4.2 The affected environment should be defined broadly enough to include any potentially significant effects occurring away from the immediate construction site. These may be caused by, for example, the dispersion of pollutants, infrastructural requirements of the project, traffic, etc.

1.5 Baseline conditions: A description of the affected environment as it is currently, and as it could be expected to develop if the project were not to proceed, should be presented.

- 1.5.1 The important components of the affected environments should be identified and described. The methods and investigations undertaken for this purpose should be disclosed and should be appropriate to the size and complexity of the assessment task. Uncertainty should be indicated.
- 1.5.2 Existing data sources should have been searched and, where relevant, utilised. These should include local authority records and studies carried out by, or on behalf of, conservation agencies and/or special interest groups.
- 1.5.3 Local land use plans and policies should be consulted and other data collected as necessary to assist in the determination of the "baseline" conditions, i.e. the probable future state of the environment, in the absence of the project, taking into account natural fluctuations and human activities (often called the "do-nothing" scenario).

2. IDENTIFICATION AND EVALUATION OF KEY IMPACTS

2.1 Definition of impacts: Potential impacts of the development on the environment should be investigated and described. Impacts should be broadly defined to cover all potential effects on the environment and should be determined as the predicted deviation from the baseline state.

- 2.1.1 A description should be given of the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project.
- 2.1.2 The above types of effect should be investigated and described with particular regard to identifying effects on or affecting; human beings, flora and fauna, soil, water, air, climate, landscape, material assets, cultural heritage (including architectural and archaeological heritage) and the interactions between these.
- 2.1.3 Consideration should not be limited to events which will occur under design operating conditions. Where appropriate, impacts which might arise from non-standard operating conditions, due to accidents, should also be described.
- 2.1.4 The impacts should be determined as the deviation from baseline conditions, i.e. the difference between the conditions which would obtain if the development were not to proceed and those predicted to prevail as a consequence of it.

2.2 Identification of impacts: Methods should be used which are capable of identifying all significant impacts.

2.2.1 Impacts should be identified using a systematic methodology such as project specific checklists, matrices, panels of experts, consultations, etc. Supplementary methods (e.g. cause-effect or network analyses) may be needed to identify secondary impacts.

2.2.2 A brief description of the impact identification methods should be given as should the rationale for using them.

2.3 Scoping: Not all impacts should be studied in equal depth. Key impacts should be identified, taking into account the views of interested parties, and the main investigation centred on these.

2.3.1 There should be a genuine attempt to contact the general public and special interest groups - clubs, societies, etc. - to appraise them of the project and its implications.

2.3.2 Arrangements should be made to collect the opinions and concerns of relevant public agencies, special interest groups, and the general public. Public meetings, seminars, discussions groups, etc. may be arranged to facilitate this.

2.3.3 Key impacts should be identified and selected for more intense investigation. Impact areas not selected for thorough study should nevertheless be identified and the reasons they require less detailed investigation should be given.

2.4 Prediction of impact magnitude: The likely impacts of the development on the environment should be described in exact terms wherever possible.

2.4.1 The data used to estimate the magnitude of the main impacts should be sufficient for the task and should be clearly described or their sources be clearly identified. Any gaps in the required data should be indicated and the means used to deal with them in the assessment should be explained.

2.4.2 The methods used to predict impact magnitude should be described and be appropriate to the size and importance of the projected impact.

2.4.3 Where possible, predictions of impacts should be expressed in measurable quantities with ranges and/or confidence limits as appropriate. Qualitative descriptions, where these are used, should be as fully defined as possible (e.g. 'insignificant means not perceptible from more than 100m distance').

- 2.5 Assessment of impact significance: The expected significance that the projected impacts will have for society should be estimated. The sources of quality standards, together with the rationale, assumptions and value judgements used in assessing significance, should be fully described.**
- 2.5.1 The significance to the affected community and to society in general should be described and clearly distinguished from impact magnitude. Where mitigating measures are proposed, the significance of any impact remaining after mitigation, should also be described.
- 2.5.2 The significance of an impact should be assessed, taking into account appropriate national and international quality standards where available. Account should also be taken of the magnitude, location and duration of the impact in conjunction with national and local societal values.
- 2.5.3 The choice of standards, assumptions and value systems used to assess significance should be justified and any contrary opinions should be summarised.

3. ALTERNATIVES AND MITIGATION

- 3.1 Alternatives: Feasible alternatives to the proposed project should have been considered. These should be outlined in the Statement, the environmental implications of each presented, and the reasons for their rejection briefly discussed, particularly where the preferred project is likely to have significant, adverse environmental impacts.**
- 3.1.1 Alternative sites should have been considered where these are practicable and available to the developer. The main environmental advantages and disadvantages of these should be discussed and the reasons for the final choice given.
- 3.1.2 Where available, alternative processes, designs and operating conditions should have been considered at an early stage of project planning and the environmental implications of these investigated and reported where the proposed project is likely to have significantly adverse environmental impacts.
- 3.1.3 If unexpectedly severe adverse impacts are identified during the course of the investigation, which are difficult to mitigate, alternatives rejected in the earlier planning phases should be re-appraised.
- 3.2 Scope and effectiveness of mitigation measures: All significant adverse impacts should be considered for mitigation. Evidence should be presented to show that proposed mitigation measures will be effective when implemented.**

- 3.2.1 The mitigation of all significant adverse impacts should be considered and, where practicable, specific mitigation measures should be put forward. Any residual or unmitigated impacts should be indicated and justification offered as to why these impacts should not be mitigated.
- 3.2.2 Mitigation methods considered should include modification of the project, compensation and the provision of alternative facilities as well as pollution control.
- 3.2.3 It should be clear to what extent the mitigation methods will be effective when implemented. Where the effectiveness is uncertain or depends on assumptions about operating procedures, climatic conditions, etc., data should be introduced to justify the acceptance of these assumptions.

3.3 Commitment to mitigation: Developers should be committed to, and capable of, carrying out the mitigation measures and should present plans of how they propose to do so.

- 3.3.1 There should be a clear record of the commitment of the developer to the mitigation measures presented in the Statement. Details of how the mitigation measures will be implemented and function over the time span for which they are necessary should also be given.
- 3.3.2 Monitoring arrangements should be proposed to check the environmental impacts resulting from the implementation of the project and their conformity with the predictions within the Statement. Provision should be made to adjust mitigating measures where unexpected adverse impacts occur. The scale of these monitoring arrangements should correspond to the likely scale and significance of deviations from expected impacts.

4. COMMUNICATION OF RESULTS

4.1 Layout: The layout of the Statement should enable the reader to find and assimilate data easily and quickly. External data sources should be acknowledged.

- 4.1.1 There should be an introduction briefly describing the project, the aims of the environmental assessment and how those aims are to be achieved.
- 4.1.2 Information should be logically arranged in sections or chapters and the whereabouts of important data should be signalled in a table of contents or index.
- 4.1.3 Unless the chapters themselves are very short, there should be chapter summaries outlining the main findings of each phase of the investigation.

- 4.1.4 When data, conclusions or quality standards from external sources are introduced, the original source should be acknowledged at that point in the text. A full reference should also be included either with the acknowledgement, at the bottom of the page, or in a list of references.
- 4.2 **Presentation: Care should be taken in the presentation of information to make sure that it is accessible to the non-specialist.**
 - 4.2.1 Information should be presented so as to be comprehensible to the non-specialist. Tables, graphs and other devices should be used as appropriate. Unnecessarily technical or obscure language should be avoided.
 - 4.2.2 Technical terms, acronyms and initials should be defined, either when first introduced into the text or in a glossary. Important data should be presented and discussed in the main text.
 - 4.2.3 The Statement should be presented as an integrated whole. Summaries of data presented in separately bound appendices should be introduced in the main body of the text.
- 4.3 **Emphasis: Information should be presented without bias and receive the emphasis appropriate to its importance in the context of the ES.**
 - 4.3.1 Prominence and emphasis should be given to potentially severe adverse impacts as well as to potentially substantial favourable environmental impacts. The Statement should avoid according space disproportionately to impacts which have been well investigated or are beneficial.
 - 4.3.2 The Statement should be unbiased; it should not lobby for any particular point of view. Adverse impacts should not be disguised by euphemisms or platitudes.
- 4.4 **Non-technical summary: There should be a clearly written non-technical summary of the main findings of the study and how they were reached.**
 - 4.4.1 There should be a non-technical summary of the main findings and conclusions of the study. Technical terms, lists of data and detailed explanations of scientific reasoning should be avoided.
 - 4.4.2 The summary should cover all main issues discussed in the Statement and contain at least a brief description of the project and the environment, an account of the main mitigation measures to be undertaken by the developer, and a description of any significant residual impacts. A brief explanation of the methods by which these data were obtained, and an indication of the confidence which can be placed in them, should also be included.