

A Review of Environmental Statements

Produced for Offshore Oil and Gas Developments

Report to The Wildlife Trusts / WWF UK

Mick Green January 2000

Introduction:.....	2
Methods:	2
Results:.....	3
Overall Scores:.....	3
Details of each review area:	3
1: Description of the Project:	3
2: Alternatives:	4
3: Description of the Environment:	4
4: Mitigation:	4
5: Effects.....	5
6: Non-technical Summary.....	5
7: Difficulties Compiling Information.....	5
8: General Approach.....	5
Comparison with 'Best Practice'	6
Alternatives:	6
Description of the Environment:	6
Mitigation:	6
Effects:.....	7
Difficulties compiling information:	8
General Approach:.....	8
Conclusions and Recommendations:	8

Introduction:

Environmental Impact Assessment (EIA) became mandatory for companies wishing to receive development consent for offshore oil and gas installations in April 1998. Previous to this date, although the EU Directive requiring EIA for large projects had been passed in 1985 (Directive 85/337/EEC) in the UK this had not been applied to any developments below the mean high water mark. Following lobbying by members of the Joint Links Oil and Gas Environmental Consortium (JLOGEC), who were concerned at the environmental impacts of offshore developments, the Directive was finally applied under the Offshore Petroleum Production and Pipelines (Assessment Of Environmental Effects) regulations 1998 (SI 1998 No. 968).

Since April 1998, any application to the Secretary of State for Trade and Industry for consent to develop licensed acreage (such as test wells, production wells etc) has to be accompanied by an Environmental Statement (ES). Under the Regulations, these statements have to be available to the public for comment. This study looked at a selection of 10 Statements to ascertain the extent to which they were addressing the concerns of The Wildlife Trusts / WWF UK and if they were leading to improved decision making in the consent process.

Methods:

10 Environmental statements produced during the first year of operation (April 1998 – March 1999) of the regulations were reviewed. These were chosen at random from those received by JLOGEC and covered a variety of projects, including exploration and production wells, over a wide area of the UK Continental Shelf (UKCS). They were reviewed using a Checklist¹ produced by the European Commission's Directorate General for Environment, Nuclear safety and Civil Protection (DGXI) to assist reviewer in "*evaluating the completeness and suitability of the information from a technical and decision making viewpoint*".

The review criteria are organised into 8 review areas as follows:

- 1: Description of the project.
- 2: Outline of alternatives.
- 3: Description of the environment.
- 4: Description of mitigation methods.
- 5: Description of effects.
- 6: Non-technical summary.
- 7: Difficulties compiling information.
- 8: General approach.

Within each review area the checklist gives Review Questions which identify, in some detail, the items of information which may need to be provided by the developer. For each question, if it is relevant to the particular development under review, the information provided is assessed as to whether it is:

- Complete: all information relevant to the decision-making process is available; no additional information is required;
- Acceptable: the information presented is not complete, however, the omissions need not prevent the decision-making process proceeding;
- Inadequate: the information presented contains major omissions; additional information is necessary before the decision-making process can proceed.

At the end of the checklist, an overall 'score' under the above criteria, is given to each review area, and an overall Grade given to the statement as a whole. Grades are given as follows:

- Excellent: No gaps in information identified.

- Good: Minor gaps only.
- Satisfactory: Significant omissions, but not so great as to prevent decision-making.
- Inadequate: Major omissions that need to be addressed before decision-making.
- Poor: Information generally far from complete.

In assessing the information presented the nature of the project, and the decisions needed are taken into account.

The process is primarily designed to ascertain if the information contained in the ES meets the requirements of the Directive. It is also useful to analyse the environmental information for a number of projects in order to identify areas for which information is typically complete, acceptable or inadequate. Each review area has been analysed for this purpose, and comments made on any difficulties encountered.

Results:

Overall Scores:

The score for all the ES's reviewed were as follows:

Statement Number	Score in each Review Area:								Overall Grade
	1	2	3	4	5	6	7	8	
1	A	I	I	I	I	A	I	I	I
2	C	I	I	I	I	A	I	I	P
3	C	I	I	A	I	C	I	A	I
4	A	I	I	I	I	A	I	A	I
5	C	I	A	A	A	C	A	A	S
6	A	A	I	I	I	A	I	I	I
7	C	I	A	I	I	C	I	A	S
8	A	I	I	I	I	A	I	I	I
9	C	I	A	A	A	C	A	A	S
10	A	I	I	I	I	A	I	I	I

Scores: C= Complete; A = Acceptable; I = Inadequate. Grades: S = Satisfactory; I = Inadequate; P= Poor.

Overall, three statements were considered satisfactory – there were significant omissions but in the context of the project they were not considered so great as to prevent a decision; six were considered inadequate – there were major omissions that must be addressed before a reasonable decision can be made and one was considered poor, where the information was far from complete. No statements were found to be Excellent or Good.

Details of each review area:

1: Description of the Project:

This was the highest scoring review area – all Statements were found to be either acceptable or complete. The details of each project were reasonably clearly laid out, with supporting diagrams and maps. The technical detail of, for example, the drilling process was described, with explanation for the use of drilling chemicals etc. Associated activities involved in the construction phase were also usually given. The purpose and objectives of the project were not always clearly stated. Some statements put the project in terms of the company's overall strategy, with details of

their long term plans for the area or particular field, listing possible future developments that may result which makes the nature of decisions to be made, and environmental information that may be needed, much clearer. The poorer statements simply informed the reader that the company had been granted a license for the block, this is what they intended to do, but gave no context or possible outcomes. Few plans adequately detailed the nature and status of the decisions for which the environmental information had been prepared, making it more difficult to check if the information was acceptable for decisions to be made.

The information given on residues and emissions was patchier between statements, and some statements were judged inadequate in this area. In general, most statements gave details of proposed emissions of drilling chemicals, but did not always make it clear how these had been calculated, or what the certainty or range of the calculation was. Many stated that it was “not proposed to use synthetic or oil based muds” but made no assessment for scenario’s where such muds may have to be used. Emissions from generation plant were generally assessed. Other emissions such as noise were only raised in one or two statements, and light emissions were not discussed in any.

Supply routes were not acceptably discussed in any statements. A few gave details of supply ship procedures. No statements assessed helicopter flights, although noise, and routing of such flights is an important issue.

2: Alternatives:

All but one of the statements were judged ‘inadequate’ in this area. Alternatives were given mainly as type of rig to be used, and generally presented as a fait accompli based on engineering and rig availability, with some attempts to justify the choice on environmental grounds. Environmental impact was obviously not a criteria used in deciding where or when to drill. No statements gave any geological reasons for choice of drilling site, or whether the geology would allow alternative sites. No statements gave alternatives for the timing of the drilling or discussion as to whether timing could mitigate effects.

3: Description of the Environment:

3 statements were considered ‘acceptable’ while the remaining 7 were ‘inadequate’ in this area. The description of the environment is fundamental to the whole assessment, and it is worrying that so many were inadequate in this area. If the environment that is going to be impacted upon is not properly known, then potential impacts cannot be assessed. In none of the statements had a seabed survey been carried out to inform the decision making process. Two statements referred to surveys that had been carried out but “results were unavailable at the time of preparing the statement”. Several statements used general ‘atlas’ type data for the region, and one used surveys undertaken in neighbouring areas, with results extrapolated for the current block. Those statements that were considered ‘acceptable’ had used existing data, and while no dedicated survey had been undertaken, it was thought that the data provided was sufficient for the scale of the projects being proposed.

4: Mitigation:

3 statements were considered ‘acceptable’ while the remaining 7 were ‘inadequate’ in this area. Those that were acceptable had generally put mitigation measures in place as part of the project design, but in some cases this was unclear as to whether this was a deliberate policy, or a ‘happy accident’ that the engineering solution chosen was also the least damaging. The sections on mitigation were poorly presented, and there was little clear analysis of how ‘mitigation’ would reduce environmental impacts. Statements such as “oil based muds will not be discharged” is not

mitigation, but a legal requirement. No monitoring of either the mitigation proposals, or of the overall suggested impacts were proposed in any statement. 'Monitoring' was restricted to monitoring total quantities of discharges etc., rather than monitoring the actual effect on the environment. Some statements stated that a bottom survey with ROV would be made on completion of the drilling, but no commitment was made to using any information gained to test the predictions made in the statement. Also, as no companies had carried out detailed surveys prior to development, a post-development survey will not tell us much.

5: Effects.

2 statements were found 'acceptable' in this area, while 8 were 'inadequate'. This is particularly worrying for this section, as no overall assessment of environmental impacts can be satisfactorily made if the potential impacts are not known. No report made an adequate description of the methods or approaches used to identify impacts, nor the rationale for their use. Many statements were unsubstantiated, particularly on the possible effects of mud discharges. Statement such as 'all chemicals discharged will be in the low HOCNS categories, therefore there will be no significant effects' are inaccurate, as HOCNS testing looks at relative toxicity, not actual environmental effect. No attempt was made to properly quantify impacts, which would be difficult anyway given the lack of information on actual impacts. Possible impacts were not described in terms of the nature and magnitude of the change occurring, and possibly affected receptors were not identified. No statements made mention of possible cumulative impacts, either over the lifetime of the development or in regard to adjacent existing or proposed developments. Some statements did not contain a description of the forecasting methods used to assess effects. No proposals were made in any statement for monitoring the actual impacts occurring during the development or operation of the structures.

6: Non-technical Summary.

6 statements were found 'acceptable', and 4 were found 'complete' in this category, in that the summary presented the main findings of the report, avoiding technical language. The main criticism of this section was that no indication was made of the confidence that could be placed in the findings of the statements, and not all described the overall approach to the assessment.

7: Difficulties Compiling Information.

2 statements were found to be 'acceptable' and 8 'inadequate' in this category. None of the statements acknowledged or explained any difficulties in assembling or analysing data needed to predict impacts, which were obviously present given the lack of any quantitative predictions. Only 2 of the statements indicated any gaps in the data, and then inadequately explained the means used to deal with them.

8: General Approach.

5 statements were found to be 'acceptable' and 5 'Inadequate' in this category. Those judged acceptable generally contained the expected sections and were logically laid out. Those judged inadequate either had expected sections missing and/or were poorly laid out, making assessment difficult. The information given was not always comprehensible and logical links between sections were not always present. Overall though, no statements gave any indication that the assessment process had played any part in the basic decisions made in planning the projects. They all gave the impression that they assessed possible impacts after the location, timing and engineering decisions had been made – they were used to justify decisions already taken. In addition, with many unsubstantiated statements, many assessments did not appear objective. Some statements had undertaken scoping exercises involving consultation with interested parties, but rarely presented the results of this, and did not properly address concerns that had been raised.

Comparison with 'Best Practice'

This section looks at the main concerns raised in the preceding section, and compares these with 'best practice' recommendations from a number of sources.

Alternatives:

As this was the worst scoring section The Wildlife Trusts / WWF UK view the lack of alternatives considered with some concern. It appears to reinforce our concerns that Environmental Statements have been prepared to achieve project approval rather than as part of a decision making process.

The original Directive (85/337/EEC) requires that "where appropriate, an outline of the main alternatives studied by the developer and an indication of the main reasons for choice, taking into account the environmental effects²" are included in statements. The same paragraph is included in the Petroleum regulations that require EIAs for offshore oil and gas developments³. While neither defines 'appropriate' the Guidance⁴ notes on the regulations states that "Where significant Environmental Impacts are identified a more detailed explanation should be given where any alternatives which might have mitigated or avoided these impacts are not being avoided".

The DETR Good Practice guide⁵ goes further, and "highlights the benefits of starting the EA at the stage of site selection, and, where appropriate, process selection". None of the statements reviewed showed any evidence of this, although the Guidelines state clearly that "The environmental impact of the project should be a consideration from its inception and this should be evident from the Environmental Statement".

We acknowledge, as does the Good Practice Guide, that in many developments the choice of drilling sites will be limited by the geology. If this is the case it should be made clear in the Statement. However, other alternatives that may mitigate effects can be looked at such as timing of the development, type of rig, type of sub-sea structure, methods of disposal of muds or cuttings to name but a few.

Description of the Environment:

Knowledge of the environment that is to be impacted upon is vital before any assessment of scale of impacts can be made. Likewise, knowledge of the actual impacts of the processes used in the development is also needed. We therefore viewed with concern that none of the statements had carried out dedicated surveys to inform the preparation of statements. The Directive is rather vague on this point, merely listing a number of broad generic areas that should be looked at. This list is transposed into the regulations, and the Guidance notes are similarly unhelpful on this point. The DETR Good Practice Guide does recommend that "a comparison of the details of the development proposal with what is known about the environmental conditions of the site and it's surroundings should identify the nature of the baseline studies required". This was not done in any of the statements reviewed. Instead, a broad-brush picture of the environment was generally presented, often using wide-ranging atlas type data. This does not allow for a proper analysis of effects to be made (see below). If such an approach was made for terrestrial developments, it is unlikely that permission would be given. A filed survey of some sort is usually required.

Mitigation:

There was no evidence in the statements reviewed that any mitigation measures had been put into place as a result of the assessment process. In most statements 'mitigation' was used to justify type of rig chosen, or to describe processes which were a legal requirement. The Directive

requires a statement to contain “A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment”, and this is transposed directly into the regulations. The DETR Good Practice Guide reminds us the “a fundamental aim of using Environmental Assessment procedures as an integral part of the design process is to ensure that potentially damaging effects are avoided or minimised”. There is no evidence from the statements reviewed that they were part of the overall project planning process and therefore they cannot have been used for the best practice methods of mitigation. According to the DETR “the most satisfactory form of mitigation is to avoid environmental damage at the source through re-design. Reduction involves lessening the severity of an impact which cannot be avoided entirely”. DETR go on to state that “An Environmental Statement should make clear which elements of the developments have been introduced to mitigate potential adverse effects”.

Effects:

The Directive requires that the statement contains “a description of the likely significant effects of the proposed project on the environment resulting from the existence of the project; the use of natural resources; the emission of pollutants, the creation of nuisances and the elimination of waste; and the description by the developer of the forecasting methods used to assess the effects on the environment. The description should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the project”. Again, this is transposed more or less directly into the Regulations.

The DETR Good Practice guide contains much advice on this area. It recommends a logical approach looking at, in sequence: potential impacts; the existing baseline conditions; predicted impacts, giving a measure of their nature, extent and magnitude; the scope for mitigation and a statement evaluating the significance of unavoidable impacts. When assessing the nature and magnitude of impacts it recommends identifying the source and/or cause of the potential problem; the receptor of the impact; the way in which the effect is transferred from source to receptor and the potential consequences.

We were concerned about the amount of unsubstantiated statements in this section. As described above, chemical classifications were misinterpreted and no quantification of impacts was attempted. No mention was made of possible chronic effects from discharges, or long-term cumulative effects. Significant effects have been found in several studies around well-established development⁶ yet none of the statements referred to these. Although not directly required in the Directive or Regulations, the cumulative effects of adjacent developments is required to be taken into account⁷. This was not done in any statement, even those assessing additions to existing developments. It would be very difficult for any of the statements to accurately identify the receptors of impacts as no baseline site surveys were carried out. If you do not know what species are present you cannot predict what impact you are going to have.

The Wildlife Trusts / WWF UK are particularly worried that none of the statements contained any plans to monitor the actual effects against the predicted ones. This is a vital part of the assessment process, and the lack of monitoring reinforces our view that there is a fundamental lack of appreciation within the industry of EIA as a process rather than a report to be produced as part of the development approval. The guidelines specifically state that there should be an Environmental Management System (EMS) in place and this should “include provision for monitoring the actual impact of the project on the environment and for auditing the systems effectiveness”. While the majority of the statements contained details of, or at least commitment to, an EMS, monitoring was rarely mentioned. Where it was it was proposed simply to monitor the amount of each discharge and not the environmental effects of those discharges.

This large gap in the EIA process is by no means unique to the offshore oil and gas industry. Elsewhere, it has been noted that “The emphasis on EIA has all too long been on the pre-decision stages and on preparation of the EIS, using EIA purely to achieve development consent rather than as a tool for sound environmental management” and that “very little attention is paid to the

environmental effects that actually result from the development”⁸. The Wildlife Trusts / WWF UK believe that this has been a huge missed opportunity. It has been pointed out before⁹ that despite the 30 plus year history of the Britain offshore industry, no attempt has been made to study, monitor or quantify effects of developments, particularly discharges. Actual effects should be monitored and compared with predicted effects. This information should inform day to day practices on structures, with changes being made if effects are shown to be greater than predicted. Results of monitoring should also be published to allow them to inform and improve future assessments.

Difficulties compiling information:

Both the Directive and the Regulations require that “An indication of any difficulties” found during the assessment in compiling the information required should be shown. The Guidelines further state that “Where there are gaps in data or understanding of environmental processes these should be explained and provision made to act on these”. In the two statements which acknowledged some lack of information, no provision was made to remedy this. Given that none of the statements included specific dedicated surveys there are obviously large gaps in knowledge of species involved, and therefore of receptors of any effects. Our lack of knowledge about actual effects, referred to above, shows further gaps that should have been addressed in individual statements.

General Approach:

The Wildlife Trusts / WWF UK are concerned that, as stated above, none of the statements gave any indication that the assessment process had played any part in the basic decisions made in planning the projects. They all gave the impression that they assessed possible impacts after the location, timing and engineering decisions had been made – they were used to justify decisions already taken rather than informing the process from the start. In addition, with many unsubstantiated statements, many assessments did not appear objective. Although half the statements reviewed were considered acceptable in their general approach, they still have significant flaws in areas of detail. It has been noted elsewhere¹⁰ that this is by no means a unique problem with offshore statements and that assessments are seen as a hurdle to overcome in obtaining development consent, rather than as a process to continue in a ‘cradle to grave’ approach to the development. The Wildlife Trusts / WWF UK are also concerned to note that development consent has been given to some of the developments whose statements were reviewed as inadequate or poor overall. The DTI seems to be ignoring its own best practice guidelines when reviewing the statements produced. Reviews of terrestrial statements have also shown authorities are not taking the role of the environmental assessment process as central to decision making. One study showed that nearly half of the planning officers involved in a series of case studies stated that they felt the environmental statement made no difference to their decisions¹¹.

Conclusions and Recommendations:

Whilst welcoming the increased attention to environmental issues, and the increased public accountability, that the EIA regulations have brought, The Wildlife Trusts / WWF UK are nonetheless concerned at the poor quality of many statements. Many of the problems found in the statements stem from the fact that insufficient data has been collected, there is a lack of quantitative work in assessing possible effects and the assessment process has started too late in the development process, with no post-auditing. We are also concerned that decisions have been made by the DTI as regulator on the basis of poor or inadequate statements. These problems are by no means unique to this study. A review of 170 EIAs for tourist developments in Australia¹² came to similar conclusions, namely:

The scientific quality was very poor;
Methods were inadequately specified;
Sampling was inadequately replicated in space or time;
Impact predictions were rarely quantitative or testable and frequently are inadequate;
Monitoring programmes are inadequate to detect likely impacts

This study concluded that, as a tool in public decision-making EIA needs to involve much better applied science. It has already been noted above that another study¹³ noted that the Environmental statement, rather than being part of an overall process was used “purely to achieve development consent rather than as a tool for sound environmental management and protection”. The authors go on to point out that the phrase ‘tokenism’ has been applied and that the paradox of EIA is that very little attention is paid to the environmental effects which actually result from the developments.

The Wildlife Trusts / WWF UK therefore conclude that there needs to be significant changes in the environmental assessment process, from both the industry and Government, before the process meets the spirit, or in some cases the letter, of the 1985 Directive. We appreciate there have been minor changes in the regulations since the coming into force of the 1997 amending Directive (97/11/EC), but these do not address most of the concerns raised in this study.

The Wildlife Trusts / WWF UK recommend the following:

- More emphasis should be placed on Environmental Impact Assessment as a process to be included in a ‘cradle to grave’ approach to developments. Government should refuse to accept statements that do not show clearly that this process is taking place. At a minimum, statements that do not follow the Good Practice guidelines (which should be revised to take account of the concerns aired in this report) should be rejected.
- Industry and Government should ensure that training is available to those involved in both the production and assessment of statements to ensure best practice continues to improve.
- As part of the ‘cradle to grave’ approach post-auditing of actual effects against predicted should be mandatory. Results of this monitoring should be publicly available, and used to inform subsequent assessments.
- Statements should contain much better descriptions of alternatives considered, and details of why the proposed approach has been chosen.
- In the majority of cases dedicated surveys of the area must be carried out. Effects cannot be predicted without knowledge of the species and habitats to be impacted upon. Use of ‘atlas’ type data and extrapolation from other sites is unacceptable.
- Mitigation measures must be described in all cases where environmental effects have been predicted. These must be genuine efforts to avoid, reduce or remedy the predicted effect. Where no mitigation is considered possible this should be clearly stated.
- Predicted effects should be based on sound science. Where no information is available as to the actual effect of an operation on the species and habitats likely to be impacted this should be clearly stated. The regulator should take a precautionary approach where effects cannot be quantified, especially where protected and/or sensitive species or habitats are concerned. Reliance on the relative toxicity testing scheme of the HOCNS to predict effects is unacceptable. As post-auditing is brought in, prediction of effects will become easier as data sets increase. Consideration of effects should be comprehensive, and include noise, light, supply routes etc. Seismic survey should also be subject to assessment.

-
- ¹ European Commission, Directorate-general – Environment, Nuclear Safety and Civil Protection. 1994. Environmental Impact Assessment --Review Checklist. EC Brussels.
- ² Council Directive 85/337/EEC. Annexe III, paragraph 2.
- ³ Offshore Petroleum Production and Pipelines (Assessment Of Environmental Effects) regulations 1998 (SI 1998 No. 968).
- ⁴ Guidance Notes on the Offshore Petroleum Production and Pipe-Lines (Assessment of Environmental Effects) Regulations 1998. Oil and Gas Directorate, DTI. April 1998.
- ⁵ DETR. 1998. Preparation of Environmental Statements for planning projects that require Environmental Assessment – A Good Practice Guide. Second Impression. HMSO.
- ⁶ JLOGEC. 1996 "Polluting The offshore Environment" – The practices and environmental effects of Britains offshore oil and gas industry.
- ⁷ Written Question E-0176/96 to the European Commission. Answer given by Mrs Bjerregaard on the cumulative effects of developments subject to EIAs. Answered 11-3-96.
- ⁸ Dipper, B, Jones,C, and Wood, C. 1998. Monitoring and Post-Auditing in Environmental Impact Assessment : A review. Journal of Environmental Planning and Management. 41(6).
- ⁹ JLOGEC. 1996 "Polluting The offshore Environment" – The practices and environmental effects of Britains offshore oil and gas industry.
- ¹⁰ Dipper, B, Jones,C, and Wood, C. 1998. Monitoring and Post-Auditing in Environmental Impact Assessment : A review. Journal of Environmental Planning and Management. 41(6).
- ¹¹ Jones, C. 1995. The Effect of Environmental Assessment on Planning Decisions. Report. October 1995.
- ¹² Warnken, J & Bucklry, R. 1998. Scientific quality of tourism impact assessment. Journal of Applied Ecology. 35.
- ¹³ Dipper, B, Jones,C, and Wood, C. 1998. Monitoring and Post-Auditing in Environmental Impact Assessment : A review. Journal of Environmental Planning and Management. 41(6).