

## INTERIM ADVICE NOTE 183/14

### ENVIRONMENTAL MANAGEMENT PLANS

#### **Summary**

This Interim Advice Note (IAN) provides guidance on the preparation and implementation of Environmental Management Plans for major motorway and trunk road projects in England

#### **Instructions for Use**

This IAN is relevant to projects relating to the construction and improvement of motorways and all purpose trunk roads, and should be used in conjunction with DMRB Volume 10 and DMRB Volume 11.

## 1 Introduction

### 1.1 Background

1.1.1 The preparation and implementation of Environmental Management Plans (EMP) is widely considered to be best practice (by statutory and non-statutory bodies as well as major companies in many sectors) to manage the environmental effects of their projects and to demonstrate compliance with environmental legislation

1.1.2 DMRB Vol 11 Section 2 Part 5 outlines the reason why mitigation needs to be managed throughout the various stages and DMRB Vol 11 Section 2 Part 6 recommends that an Environmental Management Plan is prepared and is part of any environmental assessment whether statutory or non-statutory.

### 1.2 Outline

1.2.1 The scope of this IAN covers environmental management planning throughout the various stages of a Major Project lifecycle from early design through to handover to the maintaining body. Guidance on EMPs required for network maintenance and operation are outside the scope of this document.

1.2.2 The guidance sets out the requirements for recording environmental risks and commitments and for clearly identifying the structures and processes that will be used to manage these aspects. This will provide the necessary framework for the Highways Agency to demonstrate delivery of its environmental responsibilities as part of the improvement of the motorway and all purpose trunk road network. As with all guidance it will need a degree of judgement to ensure that any EMP is relevant and proportionate to the scale and degree of complexity of the project.

1.2.3 The development of the guidance contained within this IAN has taken into consideration best practice guidance produced by Institute of Environmental Management and Assessment (IEMA, 2008) and contained in BS EN ISO 14001 (BSI, 1996, as amended).

1.2.4 An EMP provides the framework for recording environmental risks, commitments and other environmental constraints and clearly identifies the structures and processes that will be used to manage and control these aspects. The EMP also seeks to ensure compliance with relevant environmental legislation, government policy objectives and scheme specific environmental objectives. It also provides the mechanism for monitoring, reviewing and auditing environmental performance and compliance.

1.2.5 Initially the Environmental Management Plan (EMP) will be in outline only. It will be later be refined and expanded into a Construction Environmental Management Plan (CEMP) as more information becomes available and there is more certainty in terms of the proposed project layout, construction methods, programme and the likely environmental effects. Towards the end of the construction period the CEMP will be refined into a Handover Environmental Management Plan (HEMP) which will contain essential environmental information needed by the body responsible for the future maintenance and operation of the asset.

### **1.3 Purpose**

1.3.1 The purpose of this IAN is to bring a degree of consistency to the preparation and implementation of EMPs by providing an indicative scope and framework.

1.3.2 EMPs also provide the mechanism to help ensure that the Highways Agency complies with the projects "development consent", with environmental policies and legislation and implements good practice approaches as part of design, and construction, maintenance and operation activities.

### **1.4 Relationship**

1.4.1 This guidance should be read in conjunction with DMRB Vol 11 Section 2 Part 5 and 6 and the relevant section topic guidance together with the relevant DMRB Vol 10 topic advice on design and management and provisions of IAN 84/10

### **1.5 Implementation**

This guidance contained within this IAN should be used forthwith on all projects in England except where the procurement of works has reached a stage at which, in the opinion of the Highways Agency, its use would result in additional expense or delay progress (in which case the decision should be recorded).

## 2 Environmental Management Plans

### 2.1 Purpose of Environmental Management Plans

2.1.1 Environmental Management Plans should be prepared and implemented for the purpose of managing the environmental effects of a specific project. The key aims are to:

- Act as a continuous link and main reference document for environmental issues between the design, construction and the maintenance and operation stages of a project
- Demonstrate how construction activities and supporting design will properly integrate the requirements of environmental legislation, policy, good practice, and those of the environmental regulatory authorities and third parties;
- Record environmental risks and identify how they will be managed during the construction period;
- Record the objectives, commitments and mitigation measures to be implemented together with programme and date of achievement
- Identify the key staff structures and responsibilities associated with the delivery of the project and environmental control and communication and training requirements as necessary.
- Describe the contractor's proposals for ensuring that the requirements of the environmental design are achieved, or are in the process of being achieved, during the Contract Period;
- Act as a vehicle for transferring key environmental information at handover to the body responsible for operational management. This will include details of the asset, short and long term management requirements and any monitoring or other environmental commitments.
- Provide a review, monitoring and audit mechanism to determine effectiveness of, and compliance with, environmental control measures and how any necessary corrective action will take place.

### 2.2 Scope of Environmental Management Plans

2.2.1 The basic scope of any EMP should consider the following subject areas as appropriate for the project:

- Water
- Air Quality
- Noise and Vibration
- Materials
- Geology & Soils
- Landscape
- Nature Conservation
- Cultural Heritage
- People & Communities

2.2.2 Bearing in mind the purpose of any EMP is to set out how the design of the project is to be managed to control environmental effects, it is clear the scope of any plan should cover not only the management of residual mitigation but also the management of issues throughout the life of the project. In the early stages of a projects when there is a degree of uncertainty the process will be more about mapping and describing how the risks are to be managed acknowledging the degree of uncertainty. Later on when issues become more certain the scope of the plan will focus more on how these will be dealt with.

### 2.3 Developing and implementing Environmental Management Plans

2.3.1 The development of an EMP should commence during the early stages of a project. It should be a live document that is regularly updated and revised to take account of new information, changing external factors and feedback from review. The EMP should evolve through the life of a project containing the information and level of detail that is relevant to a particular PCF stage.

2.3.2 Initially the EMP will be in the form of an outline Environmental Management Plan which will be closely aligned with the design and assessment process of preferred option development. It is likely that the EMP will be referenced in the Environmental Assessment Report or Environmental Statement as a component of the environmental mitigation strategy.

2.3.3 The EMP should be refined into a more detailed Construction Environmental Management Plan (CEMP) as design and construction plans are finalised and more detailed information on environmental effects becomes available. Prior to the commencement of construction it should be fully comprehensive. It should be revised during the construction period to take account of any changes in design and changes in external factors such as regulations and standards. It should take account of any unforeseen circumstances as they arise such as new protected species or new archaeological finds. It should also be amended to reflect any failings in environmental performance arising from routine inspections and audits.

2.3.4 Towards the end of the construction period the EMP should be developed as Handover Environmental Management Plan (HEMP) which is the main vehicle for passing essential environmental information to the client and crucially to the body responsible for the future maintenance and operation of the asset.

2.3.5 The party responsible for the preparation of the EMP is likely to change over the life of a project. Figure 1 shows the different stages of project delivery, the corresponding stages of an EMP and identifies the likely responsibilities for the preparation and implementation.

Project Stage (traditional PCF)	EMP Stage	Responsibility
Strategy, Shaping and Prioritisation (PCF Stage 0)	None – but consider high level environmental objectives through Client Scheme Requirements	Client
Option Identification (PCF Stage 1)		
Option Selection (PCF Stage 2)	EMP (Outline)	Designer
Preliminary Design (PCF Stage 3)		
Statutory Procedures and Powers (PCF Stage 4)	CEMP	Contractor
Construction Preparation (PCF Stage 5)		
Construction Commissioning and Handover (PCF Stage 6)		
Close out (PCF Stage 7)	HEMP	Contractor

Figure 1 – Project Control Framework stages and EMP stages

2.3.6 The overall responsibility for coordinating and managing the EMP ensuring its implementation should be clearly assigned to a suitably qualified and experienced person within the relevant organisation at each stage, typically this is the environmental manager or coordinator. This person will also be responsible for editing, revising and updating the EMP throughout the delivery of a project or contract term or as knowledge increases. The EMP will identify the project management structure and clearly identify the roles and responsibilities with regard to managing and reporting on the construction phase environmental aspects.

### **Environmental Management Plan (EMP)**

2.3.7 The first iteration of the plan is the outline EMP which will normally be developed during the preparation of the preferred option. To prepare the EMP before this point would be too onerous as there may be no options or several options under consideration. However during the pre options and options stage there may well be information available from project risk registers which will help to identify some of the issues the outline EMP should address.

2.3.8 The EMP has the purpose of capturing and collating all available information on scheme specific environmental objectives, environmental risks, proposed mitigation and commitments that will need to be addressed prior to receiving “development consent” and transposing these requirements into a series of clear environmental actions to ensure that each action is fully considered during the following stages. To facilitate this, the EMP should contain a Register of Environmental Actions and Commitments (REAC) as outlined in section 3.

2.3.9 It will normally be this outline EMP that supports the Environmental Statement or Environmental Assessment Report (EAR) as required by DMRB Vol 11.

2.3.10 The preparation of the EMP should ideally be commenced during the early stage of preliminary design. This should include any environmental commitments and objectives, project specific requirements and risks either previously identified or arising during the design and assessment process. At this stage the plan should be prepared by the party responsible for project design. The indicative contents of the outline EMP are shown in Annex A.

2.3.11 The EMP is a key part of the environmental mitigation measures and is also required to inform the environmental assessment and reporting process. It should record how environmental commitments and actions will be implemented, risks managed and how policy and legislation will be complied with. It should include the project management structure and clearly identify roles and responsibilities in respect of managing and reporting on construction phase environmental aspects.

### **Construction Environmental Management Plan**

2.3.12 This will be an expanded and more detailed version of the earlier EMP and should contain all the information required for the appropriate management of environmental effects during construction of the project. The CEMP should be prepared by the project contractor supported by the designer and the environmental coordinator, as appropriate. It should be used as the main reference document to ensure and record the successful completion of the previously identified Environmental Actions.

2.3.13 The indicative contents of the CEMP are shown in Annex B. It should build upon the environmental actions identified in the REAC of the outline EMP by updating existing, or identifying new actions in light of information available at the construction phase. This may include environmental commitments made during the construction phase, risks and other information such as time constraints. It should describe the way these will be controlled and dealt with to comply with legislation and policy requirements and how adverse effects will be mitigated and managed during construction.

2.3.14 Important new sections to be included in the CEMP should be details of project team roles and responsibilities along with Induction and training procedures, together with the use of method statements to be used during the construction stage of a project to control the work that is being undertaken and ensure that all the environmental actions are implemented and the risks managed.

2.3.15 Communication and training are key elements in the success of EMPs and the following elements are required in the CEMP prior to construction:

- A programme for briefing of all operatives on the information and requirements of the CEMP
- A programme for induction and regular tool box talks for all operatives on scheme specific environmental issues

2.3.16 Procedure to record any changes during construction which may affect implementation of agreed actions, including a system to ensure relevant persons assess the changes and propose or approve methods to complete actions, and a method for recording the outcome within a revision of the CEMP

2.3.17 Procedures should be included for monitoring and reviewing compliance with the CEMP (when the project is of sufficient size, to be agreed by Overseeing Organisation): e.g. daily/weekly/monthly inspection/audit reports and procedures for rectification of failings.

### **Handover Environmental Management Plan (HEMP)**

2.3.18 This is the package of information that needs to be handed over to those responsible for the future management and operation of the asset. The HEMP is also a key document for those undertaking Post Opening Project Evaluation (POPE). It should be prepared during the construction phase. It should be developed by the contractor but in consultation with the organisation that will be responsible for future management and operation to ensure that its requirements are clear and meet their needs. It is important that it is substantially completed while environmental specialists responsible for key aspects of design and implementation such as archaeologists, ecologists and drainage specialists are still actively involved in the project and before any establishment maintenance period commences.

2.3.19 The HEMP should provide the relevant information on existing and future environmental commitments and objectives that need to be honoured, ongoing actions and risks that need to continue to be managed. The indicative contents of the HEMP are shown in Annex A. It should focus on the future management requirements, ongoing commitments and risk management requirements. It should include as built information and other details in a form that can be utilised by the body responsible for long term management so they can update their environmental management plans for the operational phase. Within the Asset Maintenance and Operational Requirements (AMOR) for the new Asset Support contracts an EMP for soft estate maintenance is identified. However guidance on the content of operational EMPs is outside the scope of this document.

### 3. Register of Environmental Actions and Commitments

3.1 The identification of Environmental Actions and population of a Register of Environmental Actions and Commitments (REAC) is critical to the success of an EMP and subsequently the environmental performance of a project. Depending on the scale of the project there may be many sources of information from which Environmental Actions must be identified, such as an Environmental Statement or Environmental Assessment Report, Ecological Surveys, Heritage or Tree Reports, Contaminated Land or Flood Risk Assessments, Public Inquiry Commitments or standard requirements such as EA consent.

3.2 The REAC should be in a table format with headings allowing for:

- Clear and specific description of the Action;
- The objective of the Action;
- How the Action is to be implemented/achieved;
- The source of the Action, including references for source documentation;
- Naming of the person responsible for the Action i.e. Principal Contractor or Environmental Manager;
- Achievement criteria and reporting requirements;
- The project stage or date of implementation and/or achievement;
- Details of any monitoring required, what should be monitored and how results should be used to effect necessary action;
- Date and signature for completion of Action.

3.3 Where it is required that an Action must be monitored to determine success the details of monitoring, success criteria, reporting requirements and trigger level for remedial works should be clearly defined.

#### **4 Communication and Training**

It is important that all individuals involved in the construction of the project are aware of the environmental risks associated with their activities and their responsibilities in respect of avoiding environmental damage. They should be aware of the procedures and processes within the CEMP that are relevant to their specific activities. This applies to all staff, sub contractors and visitors to the site such as suppliers who have the potential to cause environmental damage. As with health and safety management it is important that communication, training and briefing plans take account of these needs.

## 5 Additional information

5.1 **Feedback** should be provided through the email address below to help improve the performance of standards.

**StandardsFeedback&Enquiries@highways.gsi.gov.uk**

**SUPPERS EDED**

## 6. References

British Standards Institution, 1996, as amended). *BS EN ISO 14001. Environmental Management Systems – specification with guidance for use.*

Institute of Environmental Management and Assessment (IEMA), 2008. *Environmental Management Plans. Practitioner Best Practice Series, Volume 12.*

**SUPERSEDED**

## 7. Glossary

**AMOR:** the outcome based Asset Maintenance and Operational Requirements which are a key component of the new Asset Support Contracts for network management.

**CEMP:** Construction Environmental Management Plan,

**EMP:** Environmental Management Plan

**Environmental coordinator:** the individual responsible for coordinating all environmental parts of a project

**Environmental Management Plan:** a practical tool for managing the environmental effects of a specific project, forming a structured plan for ensuring environmental commitments and actions are accurately recorded and implemented effectively on the ground.

**Environmental Management System:** a structured framework for managing an organisations environmental impacts, e.g. in compliance with ISO140001.

**PCF- Project Control Framework** - Identifies stages of project development and delivery including the processes to be followed and products required

**PCF Stage 0 –Strategy, Shaping and Prioritisation:** the pre-project initiation stage where a problem is investigated and the potential for project is assessed, evaluated and prioritised.

**PCF Stage 1 - Option Identification:** the stage when the options to respond to the problem are identified for public consultation.

**PCF Stage 2 - Option Selection:** the stage when the preferred option to be implemented to resolve the problem is selected.

**PCF Stage 3 - Preliminary Design:** the preliminary design of the chosen option that most successfully achieves the project objectives.

**PCF Stage 4 – Statutory Procedures and Powers:** The stage at which the acceptance of the draft development consent order and application and environmental assessment are published and considered, culminating in Secretary of State's decision or equivalent.

**PCF Stage 5 Construction Preparation:** the stage when the detailed design work is undertaken and advance works are undertaken prior to construction (if required)

**PCF Stage 6 Construction, Commissioning and Handover:** the construction stage through to completion and handover into operation and maintenance

**PCF Stage 7 Closeout:** the stage at which any outstanding works are completed, the final account is agreed and the review of project delivery is completed.

**REAC:** Register of Environmental Actions and Commitments

**SWMP:** Site Waste Management Plan

## Annex A: Indicative contents of an outline EMP

The indicative contents outlined below show what would be contained within a fully comprehensive EMP. The contents of an EMP should be proportionate to the size, scale and sensitivity of the project and should not contain information that is in excess of requirements. The Highways Agency should be contacted for further guidance as required.

### Outline EMP

- Introduction & background: giving a brief summary of the project, any relevant strategy or programme context and the purpose of the EMP
- Environmental risk assessments: detailing the environmental risks associated with all activities on the project, the mitigation measures to remove or reduce the risks and assigned responsibilities for the risks
- Description of proposed design and proposed management of that design identifying individuals responsible.
- Environmental Actions and Commitments Register REAC: a record of the project specific environmental actions and commitments to be implemented and managed through all stages of the project (see Section 3 for more detail).

## ANNEX B: Indicative contents of CEMP

- Introduction & background: giving a brief summary of the project, any relevant strategy or programme context and the purpose of the CEMP.
- Project team roles and responsibilities: particularly important where there are multiple organisations involved in a project, e.g. several sub-contractors. This section should also detail where queries should be directed within the team (including contact details), and escalated up to technical specialists as required
- Induction, training and briefing procedures for construction staff: detailing procedures to ensure construction staff receive an adequate introduction to the environmental aspects of the project, a site induction and training (if this information is contained in other documents, an appropriate cross reference should be provided, rather than replication of information)
- Environmental Actions and Commitments Register REAC: see requirements in Section 3.
- Consents, commitments and permissions: this should provide a record of the consents and permissions from Statutory Bodies and other stakeholders and any commitments made to them.
- Key environmental legislation. This should not be an exhaustive list but relevant information only. Where a project follows from a high level strategy or plan these requirements should also be listed.
- Protection of sensitive areas: detailing how sensitive areas within, adjacent to, and off the site are to be protected during the design, construction and maintenance of works
- Environmental risk assessments: detailing the environmental risks associated with all activities on the project, the mitigation measures to remove or reduce the risks and assigned responsibilities for the risks
- Environmentally significant changes: detailing procedures to be followed if any significant changes are encountered once a project commences and the grounds which would result in a change to the CEMP, e.g. the use of alternative construction methods or design. This should also detail who has responsibility for overseeing and assessing the environmental and compliance implications of changes and managing any changes to existing agreements or commitments
- Environmental monitoring requirements: setting out what monitoring needs to be undertaken, by who and the associated reporting requirements
- Procedures for monitoring and reviewing compliance with the CEMP: e.g. daily/weekly/monthly inspection/audit reports and procedures for rectification of failings.
- Summary of procedures: to be followed in the event of an environmental emergency or breaching of EMP measures

- Annexes: there should be a number of annexes including: (or cross references to other documents where relevant information is held)
  - Site Waste Management Plans, Landscape Management Plans and any other management plans relating to the works
  - References to other relevant information, such as the construction programme, project completion report, design drawings, details of consultation and communication, meeting minutes, reports, technical notes etc.
  - Record of management actions undertaken during construction and implementation and the outcomes
  - Environmental method statements:
  - Record of environmental monitoring undertaken during construction
  - Record of environmental incidents

## ANNEX C: Indicative contents of HEMP

- Cover sheet: to record project title, issue number and date etc.
- Glossary and abbreviations
- Contents page
- Introduction & background: giving a brief summary of the project, any relevant strategy or programme context and the purpose of the EMP.
- All previous records contained in the Register of Environmental Actions and Commitments REAC along with current status and details of revisions made to environmental commitments and actions during the construction and establishment Period. This should include future maintenance and operation requirements: a record of the environmental commitments and actions to be implemented and managed in the future.
- Consents, commitments and permissions: this should provide a record of the consents and permissions from statutory bodies and other stakeholders and the commitments made.
- Cross references to environmental assessment documentation: e.g. Environmental Statement, environmental assessment reports, project correspondence, results of site monitoring, baseline studies etc.
- As Built Drawings and access arrangements
- Environmental asset data in accordance with requirements of IAN 84/10. Importantly this should include details of all relevant ongoing commitments identified in bullets 5 and 6 above.
- Details of maintenance activities (e.g. routine grass cutting) undertaken by the contractor during the Establishment Period: should also include any problems encountered and recommendations for remediation
- Environmental risk assessments: detailing the environmental risks associated with all activities on the project, the mitigation measures to remove or reduce the risks and assigned responsibilities for the risks
- Environmental monitoring requirements: setting out what monitoring needs to be undertaken, by who and when to report on the performance of the design, achievement of environmental objectives and delivery of commitments

- Annexes:
  - Site Waste Management Plans, Drainage Management Plans and other management plans relating to the works (or cross references to these documents)
  - References to other relevant information, such as project completion reports, Environmental Proposal Plan, details of consultation and communication, meeting minutes, reports, technical notes etc.
  - Record of management actions undertaken during construction and implementation and the outcomes
  - Final environmental investigation reports for example those relating to protected species/ habitats and cultural heritage investigations. It is most important that the final academic reports relating to archaeological investigations are completed promptly and their production clearly included within the development of the HEMP.
  - Record of environmental monitoring undertaken, together with reports confirming the findings and where appropriate recommendations for future action.
  - Record of relevant environmental incidents