

## **Appendix B: Draft Contractors Environmental Management Plan**

**Mount Cass Wind Farm  
Environmental Management Plan  
DRAFT**

Prepared for MainPower

NOV 2008

## QUALITY ASSURANCE STATEMENT

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# MAINPOWER

## Mount Cass Wind Farm

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Appendix A: Appendices

DRAFT

# 1 Introduction

## Purpose of this EMP

This EMP has been prepared in order to

1. meet the requirements of the resource consent conditions
2. meet MainPower’s expectations regarding environmental compliance
3. meet the contractors expectations regarding environmental compliance
4. demonstrate how such compliance will be achieved.

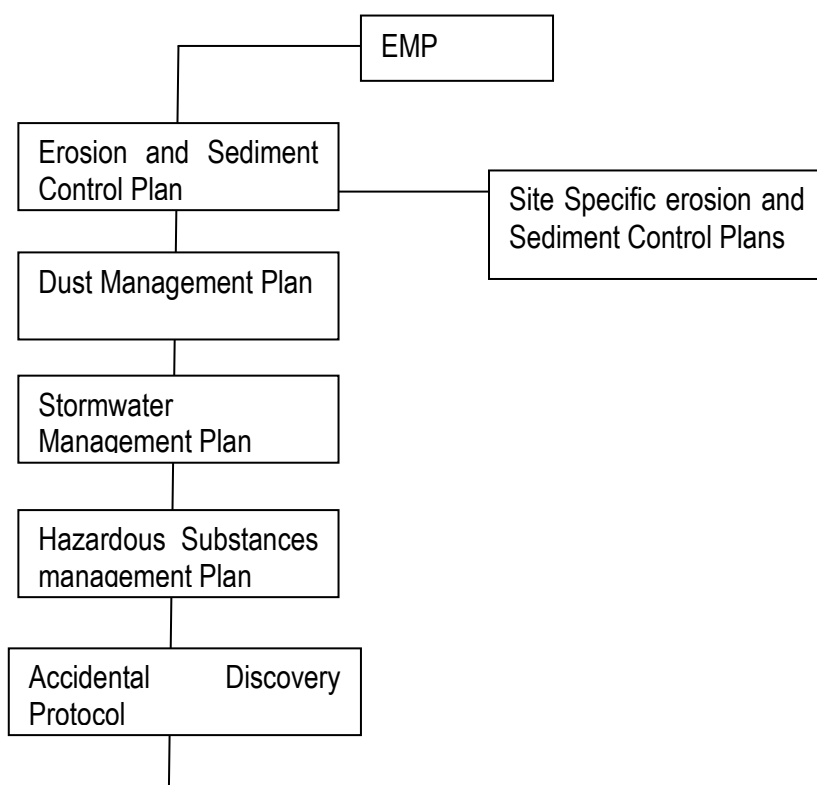
## Project Environmental Objectives

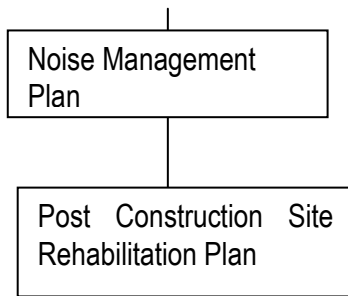
The proposed environmental objectives are

1. comply fully with all resource consent conditions
2. minimise the effects of construction on the environment
3. integrate environmental management into all aspects of the works
4. promote and high level of environmental awareness in all the contractors project staff
5. compliance with the environmental policies of MainPower and the Contractor

# 2 Scope of the EMP

This EMP forms an integral part of both the projects and the contractor’s management documents that are to be used to manage all aspects of the construction.





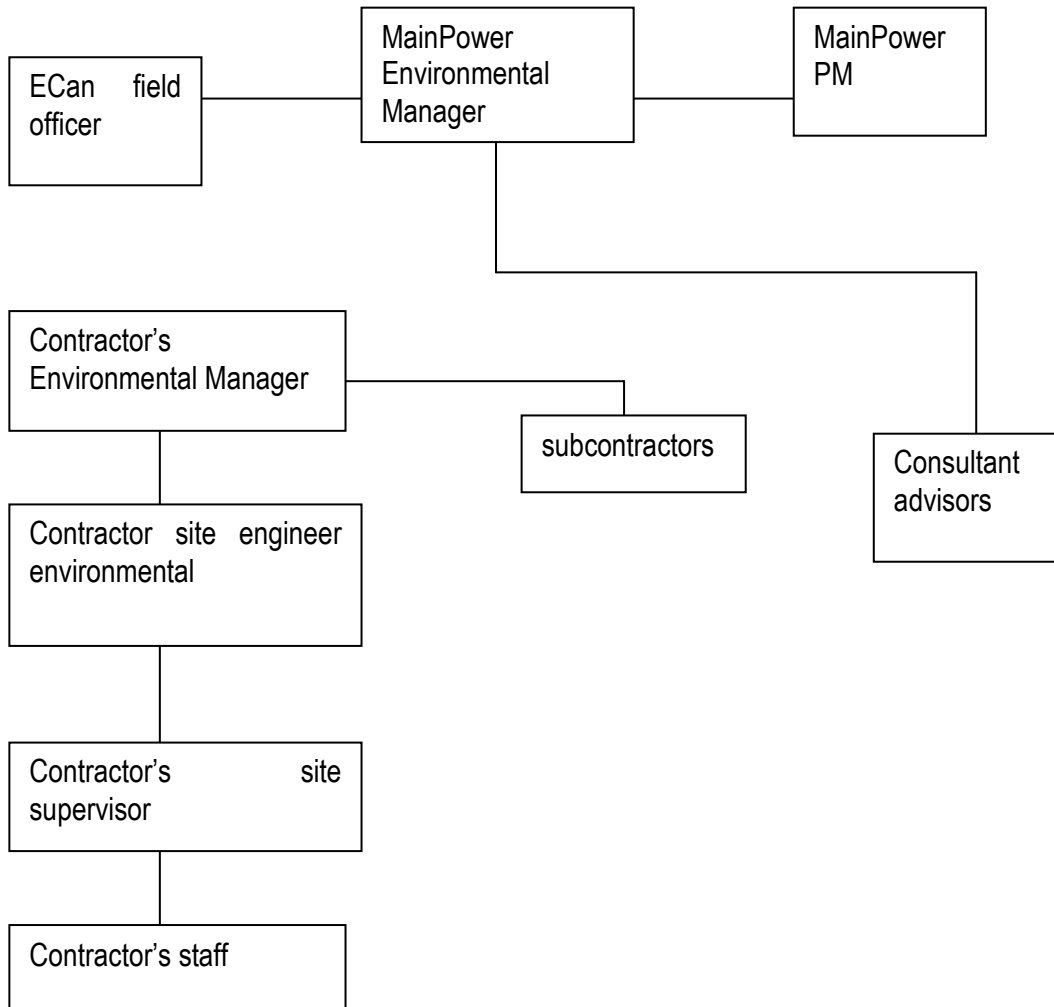
The scope of the EMP covers only the construction phase and the immediate site rehabilitation phase of the work. Longer term site restoration is covered elsewhere.

### 3 Environmental Personnel

#### 3.1 Team Structure and Contact Details

Role	Personnel	Contact Number	Phone	Email
MainPower Project Manger				
MainPower Environmental Manager				
ECan field officer				
Contractors PM				
Contractors Environmental Manager				
Consultant PM				
Consultant Environmental advisor 1				
Consultant Environmental advisor 2				
Community liaison				
Project Archaeologist				

### 3.2 Environmental responsibilities



#### MainPower Project Manager

- Has ultimate responsibility for compliance with the specification and resource consent conditions;
- Reports to MainPower senior management on environmental compliance

#### MainPower Environmental Manager

- Develops, implements and reviews environmental management systems and plans
- Provides leadership to ensure all staff comply with environmental management systems;
- Co-ordinates environmental management interfaces with external agencies and stakeholders;
- Notifies the consent authorities of any non compliance;
- Responsible for reporting major defects and non compliances and arranging appropriate corrective actions;

- Trains staff in environmental objectives and procedures;
- Primary contact for environmental complaints and enquiries.

**ECan field officer**

- Undertakes compliance inspections as necessary
- Attends early meeting to contribute to development of EMP
- Attends environmental review meetings

**Contractors PM**

- Ensures staff are adequately inducted and trained in site environmental procedures including emergency procedures.

**Project Archaeologist**

- Available to advise the project team on any discovery

**Contractors Environmental Manager**

- Develops, implements and reviews environmental management systems and plans
- Provides leadership to ensure all contractor's staff comply with environmental management systems;
- Works with Erosion and Sediment Control Designer / Site Engineer to develop appropriate ESCP's which comply with ESCG.2007 design guideline standards;
- Provides leadership to ensure all contractor's staff comply with environmental management systems;
- Notifies the MainPower Environmental Manager of any non compliance;
- Responsible for reporting major defects and non compliances and arranging appropriate corrective actions;
- Trains contractor's staff in environmental objectives and procedures;

**Contractors site engineer environmental**

- Designs site specific erosion and sediment controls in conjunction with Contractor's Environmental Manager,
- Site Engineer and earthworks subcontractor;
- Initiates and coordinates monitoring and auditing and maintains relevant records;
- Monitors the effectiveness of erosion and sediment control systems and measures during rain storms;
- Monitors and carries out routine maintenance of erosion and sediment control facilities and the various management measures required to ensure their on going effectiveness;
- Ensures staff onsite are aware of environmental requirements at all times.
- Conducts daily / weekly site inspections of erosion and sediment control devices and co-ordinates maintenance where necessary;
- Monitors effectiveness of erosion and sediment controls.
- Monitors compliance with resource consent conditions and the requirements of ESCP

**Contractor's environmental construction team**

- A crew / small team employed most likely by the earthworks subcontractor responsible for implementing specialist environmental control measures e.g. erosion and sediment detention soakage pits, topsoil bunding, silt fences, pond maintenance etc

**Consultant advisors**

- Provide input to MainPower Environmental Manger regarding aspects of the EMP
- Participate in monitoring and audits of the contractors compliance with the EMP
- Provide ongoing advice to address environmental issues raised during construction.

**Contractor's site supervisor**

- Ensures Environmental, erosion and sediment control works are implemented and maintained;
- Leads the emergency response crew with advice from the Environmental Manager ;
- Reviews and authorizes the closure of Site Access Points to reduce the risk of dirt on roads ;
- Reviews the need to use a water cart to control dust.

**Contractor's staff**

- Responsible for reporting incidents, defects and other problem areas to senior site staff as they arise on site. OFI forms will be used for all incident reporting;
- Carry out routine maintenance and emergency work when directed;
- Care for all environmental works;
- Ensure the site is kept tidy and litter is placed in bins;
- Act in an environmentally responsible manner at all times to reflect the contractor's commitment to environmentally responsible environmental practices.

**3.3 Community Liaison Group**

The objectives of the Community Liaison Group are

- Maintain effective working relationships and mutual trust between the local community and MainPower
- To provide a forum for communication between the local community, MainPower, the contractors and the Consent Authority
- Oversee a community complaints procedure
- Respond to matters which may arise.

**4 Resource Consent Conditions**

*Summary of resource consent conditions.....*

## 5 Work Method Statements

Work Method Statements will be developed for all aspects of the works so that field personnel understand how the works will be constructed as well as the environmental measures that need to be included in the works. These work method statements will be simple, clear, and concise so that they are readily understood.

## 6 Individual Environmental Management Sub-Plans

### 6.1 Erosion and Sediment Control Plan

*Full details of relevant Sub-Plan*

### 6.2 Dust Management Plan

*Full details of relevant Sub-Plan*

### 6.3 Stormwater Management Plan

*Full details of relevant Sub-Plan*

### 6.4 Hazardous Substances Management Plan

*Full details of relevant Sub-Plan*

### 6.5 Accidental Discovery protocol

*Full details of relevant Sub-Plan*

### 6.6 Noise Management Plan

*Full details of relevant Sub-Plan*

### 6.7 Traffic Management Plan

*Full details of relevant Sub-Plan. Note this Plan to control on site movement of traffic, including those on My Cass Road from the lower lay down area to the Access Road.*

### 6.8 Post Construction Site Rehabilitation Plan

*Full details of relevant Sub-Plan*

## 7 Training and Induction

*Possible training and induction routines, etc are described below but note that these need to be developed jointly by the contractor and the MainPower Environmental team.*

### 7.1 General

It is essential to the success of environmental management that personnel have received the appropriate training to effectively undertake their duties and to raise their awareness of environmental issues on the project. Training and awareness tools methods will include:

- Inductions
- Formal skill training
- On the job training and experience
- Tail gate meetings and discussions
- Training and Awareness literature e.g. posters and leaflets.

An environmental induction will be provided to all staff and subcontractors prior to starting work on site. The induction will include information our environment commitment and obligations as well as the requirements of all aspects of the EMP.

Environmental issues will form a regular part of toolbox meetings to ensure all workers are aware of the key environmental issues. Opportunities will also be made available for key staff members to attend ECAN training courses.

### 7.2 Subcontractor Management

Subcontractors will be required by a condition of their subcontract with the main contractor to actively manage environmental issues associated with their subcontract works and comply fully with the Resource Management Act, project resource consents, all applicable statutory regulations and the main contractor's environmental management plans. For significant aspects of work such as earthworks, the contractor may require subcontractors to provide their own Environmental Plan for review by the Contractor's Environmental Manager.

All subcontract staff will be required to attend a project induction that includes a section on environmental issues.

### 7.3 Complaints Management

A complaints and queries register be kept on site and managed by the Contractor's Environmental Manager. Complainants will be contacted where possible to ascertain the nature, time, frequency and severity of the problem. Each complaint will be investigated to determine the likely source of the problems.

Following completion of the investigation, each complainant will be advised of the findings, and any remedial actions taken to minimize the likelihood of a reoccurrence.

Significant complaints will be referred to MainPower within four hours of receipt. If a complaint is outside

of the scope of the contract, the details will be noted, and the complaint forwarded to the MainPower within 24 hours.

## **8 Environmental Monitoring, Auditing and Reporting**

*Possible inspection routines, non conformance procedures etc are described below but note that these need to be developed jointly by the contractor and the MainPower Environmental team.*

### **8.1 Monitoring**

Each environmental sub-plan will include a programme to monitor the effectiveness of the environmental control or mitigation measures.

### **8.2 Site Inspections**

Site inspection requirements specific to individual sub-plans are described in the sub-plans, such as the Dust Management Plan. Daily and weekly inspections will be carried out to cover all aspects of environmental management of the site.

#### **8.2.1 Daily Site Inspection**

The purpose of the daily inspection is to identify any environmental issues and rectify them without delay (for example dust generation, fixing broken silt fences, removing dirt from the road, etc). Any environmental issues identified will be recorded in a site diary.

Daily site inspections of specific work areas will be carried out by the Contractor's Site Engineer, until he / she has sufficient confidence that the controls will be maintained to acceptable standards by the project engineers and their teams. These daily inspections will then be carried out by the project or site engineers, as appropriate.

#### **8.2.2 Weekly Inspections**

The weekly inspections will be undertaken to verify that the daily inspections are identifying any maintenance requirements and that these requirements are being completed in an appropriate time frame.

Aspects that will be considered during the inspection include:

- Weather conditions (current and predicted);
- Work areas and sensitive receiving areas clearly defined;
- Perimeter controls (e.g. bunds, cut-off drains, flumes, diversions) in place and maintained;
- Sediment control devices (e.g. sediment soakage pits, silt fences, decanting bunds, stormwater inlet protection) in place and maintained;
- Dust management controls;
- Sediment on carriageways (local roads );
- Observations of spills and cleanup actions; location and contents of spill kits;
- Chemical storage areas;
- Condition of plant items onsite;
- Site tidiness (litter, materials, sediment tracking);

- Conditions of the receiving environment;

Those environmental aspects requiring action will be noted in the Weekly Environmental Inspection Report and communicated to the appropriate site staff for action. The weekly inspections will also provide an opportunity to fine tune and improve the efficiencies of existing controls. Future work areas will be investigated during these inspections to determine appropriate erosion and sediment controls measures to allow preparation of the SSESCP's.

The weekly inspection will be undertaken by the Contractor's Site Engineer. When available and appropriate the inspection will also be attended by MainPower's Environmental Manager, the main contractors site management staff and their specialist advisors. A weekly Environmental Compliance Report will be produced following each inspection and will incorporate any actions identified during any ECAN or HDC inspections. The report will summarize the status of the site's compliance, and include photographic records if appropriate.

### **8.3 Non-conformance, Corrective Action and Preventative Action**

Where near misses, non conformances with the requirements of this EMP or areas for improvement are identified an Opportunity for Improvement (OFI) form will be completed by the appropriate team member and will be signed off by the Project Environment Manager.

The Environment Manager will review all environmental OFI's raised to ensure close out in the timescales specified. Corrective actions will include provisions to ensure preventative action is taken to avoid a re-occurrence of any incidents or non conformances.

### **8.4 Meetings**

Environmental Compliance meetings will be held when required to discuss certain work activities and attendees may include representatives from ECAN, HDC, MainPower, Subcontractors' Representatives and the contractor.

The purpose of the meetings will be to review the effectiveness of the environmental measures, environmental successes, non-compliances and enhancements, and to consider future environmental requirements.

### **8.5 Environmental System Reviews**

The MainPower Environmental Manager will, as a minimum, initiate 3 monthly reviews of the EMP in order to identify any required amendments. A review will also be undertaken in the event of significant changes to activities on site or in response to certain incidents.