



# final report

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## Environmental Management System- Integrated Red Meat Supply Chain

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## 1. Introduction

### FORWARD

This document has been prepared to fulfil the objectives of Meat and Livestock Australia's project SCB.021b- Environmental Management System- Integrated Red Meat Supply Chain, 2006. This document serves as an instruction manual to develop, implement and maintain an Environmental Management System (EMS) in accordance with the requirements of AS/NZS 14001: 2004 within the scope of the feedlot sector of the red meat supply chain.

### FORMAT OF THE DOCUMENT

The format of each section, related to the clauses of AS/NZS 14001:2004, is as follows:

#### Part 1

The wording of a clause.

#### Part 2

The recommended steps to be taken to achieve the requirements of the clause are given. The sentences highlighted in blue are the actions/requirements to complete the step. It also includes sheets, examples, recommendations, possible linkages to other management systems, references to information and examples of documented procedures and forms in the appendices.

#### Part 3

This part includes an action check list that contains the key actions/ requirements as highlighted in blue.

The organisation is encouraged to think laterally about ways to meet the requirements of each clause or outlined steps/requirements. For example the sheets can be modified to reflect the prevalent forms used by the feedlot. To increase efficiency and effectiveness of EMS, it is recommended to use as much of the present management systems like HACCP, ISO 9002 etc to meet the requirements of the clause or outlined steps. However, this is at the organisation's discretion.

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## 2. Initial Review

### Gap Analysis

In organisations where existing management systems are being operated, it is beneficial to undertake a gap analysis of the existing systems. The gap analysis will identify the amount of work that is required to integrate the EMS into the site's existing system. Specifically, the EMS gap analysis would compare the site's existing management systems against the requirements of AS/NZS 14001: 2004. This process would identify the gaps that need to be bridged in order to develop and implement an EMS at the site in line with AS/NZS 14001: 2004. The gap analysis would aim to build on the existing management systems where they are found to be functioning effectively, and work towards the integration of environmental management. This approach increases the efficiency and effectiveness of the EMS. The gap analysis will also review EMS performance data. Sheet No. 1 provides an example format for undertaking the gap analysis.

#### SHEET NO. 1

#### GAP ANALYSIS- EXAMPLE

ISO 14001: 2004 Clause	Current Status	Actions Required	By Who	By when
4.2 Environmental Policy	Policy does not include a commitment to comply with relevant legislation and regulation	Revise policy to include compliance with legislation and obtain approval from management	Environmental Manager	30 June 06
4.3.2 Legal and other requirements	Procedure exists. Register does not include other requirements including commitments to Greenhouse Challenge	Revise register to ensure that other requirements are included	Environmental Manager	2 Jan 06

## Initial Environmental Review

An initial environmental review (IER) is a useful process for a facility that does not have an EMS. This process will assist such sites to initiate, develop and implement an EMS such as one that is consistent with AS/NZS 14001: 2004. The review should cover the following areas:

- identification of environmental aspects resulting from activities, operations, products and/or services during normal/abnormal/emergency and accidental situations;
- Identification of applicable legal and other requirements to which the feedlot subscribes to;
- Review of environmental procedures and practices, including those associated with procurement and contracting activities; and
- Evaluation of emergency procedures.

Also the IER may also consider the following

- Evaluation of environmental performance against applicable internal criteria, codes, standards etc;
- Opportunities for improving environmental and other performances;
- Views of interested parties; and
- Organisational systems that can enable or impede environmental performance.

### 3. Environmental Policy

Top management shall define the organisation's environmental policy and ensure that, within the defined scope of its environmental management system, it

- a) is appropriate to the nature, scale and environmental impacts of its activities, product and services,
- b) includes a commitment to continual improvement and prevention of pollution,
- c) includes a commitment to comply with applicable legal requirements and with other requirements to which the organisation subscribes which relate to its environmental aspects,
- d) provides the framework for setting and reviewing environmental objectives and targets,
- e) is documented, implemented and maintained,
- f) is communicated to all persons working for or on behalf of the organisation, and
- g) is available to the public.

#### Recommended Steps

##### Step 1

Prepare and document an environmental policy (see examples of environmental policy in Appendix 1) while considering the following.

- The policy needs to incorporate all activities, operations and/or products undertaken by the organisation site(s) for which the Environmental Management System is to be developed. For example, if the site has irrigation of effluent or contains a farm area then the policy may need to cover aspects related to these operations. Similarly, the transport of cattle to and from the site should be considered for inclusion in the policy.
- The environmental policy should include the following:

- A commitment to continual improvement. This commitment implies an understanding of methods that could and will be used in the future to improve the environmental performance and reduce pollution from the site.
- A commitment for meeting all relevant environmental legislation, codes, industry body requirements and other voluntary agreements to which the feedlot subscribes.
- A commitment to the prevention of pollution.
- Provision of a framework for setting and reviewing environmental objectives and targets. Options for this are:
  - identifying key areas the feedlot will focus on (such as water management, land management etc);
  - to state that there will be a process for setting and maintaining environmental objectives; or
  - stating the method or principle to be used for setting objectives and targets (such as Best Practice- A way or method of accomplishing a business function or process that is considered to be superior to all other known methods, Best Available Technique Not Entailing Excessive Cost, As Low As Reasonable Practical etc);

Issues to be considered to assist in developing an environmental policy are given in Appendix 2.

## Step 2

The representative of the [top management should attest the environmental policy](#). This could be the managing director, chief executive officer, corporate representative or the equivalent on the site.

## Step 3

[Communicate the policy to all employees and contractors and make it available to the public](#). The following methods are some methods for communicating the environmental policy to all employees, contractors and the public.

- Verbally communicating the detail of the policy to employees and relevant contractors;
- Handing or sending the policy out to all employees and relevant contractors;

ENVIRONMENTAL POLICY

- Attaching the environmental policy to the purchase order for relevant contractors;
- Displaying the policy in sufficient communal areas in feedlot facilities so as to ensure that all employees are exposed to it on a regular basis. Areas may include administration, workshops and/or lunchrooms; and
- Displaying the policy in public foyers, including in the feedlot’s annual report and/or making it available on public request.
- Displaying the policy on the feedlot’s official website.

Step 4

Update the environmental policy if required on a periodic basis based on some following scenarios:

- Changes to legislation, standards, codes of practice that the organisation subscribes to
- Improved procedures, operational control procedures
- Outcomes of management review meetings
- Audit findings etc.

Action Checklist

No	Action	Status
1	Prepare and document an environmental policy	
2	Top management should attest the environmental policy	
3	Communicate the policy to all employees and contractors and make it available to the public	
4	Update the environmental policy if required	



ENVIRONMENTAL ASPECTS

## 4. Environmental Aspects

The organisation shall establish, implement and maintain a procedure(s)

- a) to identify the environmental aspects of its activities, products and services within the defined scope of the environmental management system that it can control and those that it can influence taking into account planned or new developments, or new or modified activities, products or services, and
- b) to determine those aspects that have or can have significant impact(s) on the environment (i.e. significant environmental aspects).

The organisation shall document this information and keep it up to date.

The organisation shall ensure that the significant environmental aspects are taken into account in establishing, implementing and maintaining its environmental management system.

### Recommended Steps

#### Step 1

Implement and maintain a procedure for identifying environmental aspects and among them the significant ones. Guidelines (which includes a particular type of risk assessment) for facilitating this type of approach is given in Appendix 3. However, the organisation may choose to address the clause through other procedures not involving this or any other type of risk assessment.

If the organisation chooses, the identification of the environmental aspects can be integrated into overall business management systems using appropriate hazard identification and risk assessment processes. For example an extension of the principals of Hazard Analysis and Critical Control Points (HACCP) management can be made into the EMS by identifying Environmental Critical Control Points (ECCP) using a similar process. A documented example of such a procedure is given in Appendix 4. Step 1 in Section 11- Operational Control also demonstrates the integration of HACCP and EMS to manage environmental risks.

An example of a documented procedure to identify significant aspects is given in Appendix 5.

**Step 2**

If the guidelines given in Appendix 3 are followed, then fill Sheet No. 2 (Significant Environmental Aspect Assessment Form) and record it in accordance with the Section 10- Documentation and records- control and requirements. An example of information compiled in Sheet No. 1 is given in Table 3 of Appendix 3.

If other procedures are followed, then records of information which include environmental aspects and among these the significant ones must be kept as per section 10- Documentation and records- control and requirements.

**SHEET NO: 2**

**SIGNIFICANT ENVIRONMENTAL ASPECT ASSESSMENT FORM**

Activity	Sub-Activity	Aspect	Impact	Consequence	Likelihood	Significance

**Step 3**

The procedure should be repeated for reviewing environmental aspects on a periodic basis or whenever:

- There are planned or new developments, or new or modified processes, activities, products or services;
- Changes in contractors and/or suppliers;
- Production throughput changes;
- Land use changes;
- Changes in legislation, standards, codes of practice and standards that the organisation subscribes to; and
- Any other changes which might affect the environmental standing of the feedlot.

ENVIRONMENTAL ASPECTS

Action Checklist

No	Action	Status
1	Implement and maintain a procedure for identifying environmental aspects and among them the significant ones.	
2	Fill and record Sheet No. 2.	
3	The procedure should be repeated on a periodic basis or whenever required.	

## 5. Compliance of Legal and Other Requirements

The organisation shall establish, implement and maintain a procedure(s)

- a) to identify and have access to the applicable legal requirements and other requirements to which the organisation subscribes related to its environmental aspects; and
- b) to determine how these requirements apply to its environmental aspects.

The organisation shall ensure that these applicable legal requirements and other requirements to which the organisation subscribes are taken into account in establishing, implementing and maintaining its environmental management system.

Consistent with its commitment to compliance, the organization shall establish, implement and maintain a procedure(s) for periodically evaluating compliance with applicable legal requirements.

The organization shall keep records of the results of the periodic evaluations.

The organization shall evaluate compliance with other requirements to which it subscribes. The organization may wish to combine this evaluation with the evaluation of legal compliance referred to in 4.5.2.1 (a clause in ISO: 14001 (E)) or to establish a separate procedure(s).

The organization shall keep records of the results of the periodic evaluations.

### Recommended Steps

#### Step 1

Implement and maintain procedures for accessing and identifying legal and other requirements related to the environmental aspects (as identified in Sheet No. 2) to which the organisation subscribes. The information is likely to originate from:

- environmental legislation, including state and federal acts, and regulations;
- Law portals (federal/state resources);
- local council requirements;

COMPLIANCE OF LEGAL AND OTHER REQUIREMENTS

- licences and permits;
- standards and codes of practice;
- industry standards;
- corporate requirements; and
- voluntary agreements.

Refer Appendix 6 for further information. An example of a documented procedure is given in Appendix 8.

Step 2

The information gathered as a result of Step 1 is to be used in compiling Sheet No. 3 (Register- Compliance of legal and other requirements) with consideration to the status of compliance of legal and other requirements. Record Sheet No. 3 in accordance with the section 10- Documentation and records- control and requirements.

**SHEET NO. 3**

**REGISTER- COMPLIANCE OF LEGAL AND OTHER REQUIREMENTS**

Act, Standard or Code of Practice	Regulatory Authority	Key Regulatory Requirements Relevant to	Person(s) Responsible	Compliance Status (Yes/No)	Aspects of Non-Compliance

An example of information compiled in Sheet No. 3 is presented in Appendix 7.

Step 3

Sheet No. 3 is to be updated on a periodic basis (annually suggested) or whenever

- there is a change in the environmental aspects; and/or
- introduction/modification of the following that is applicable to environmental aspects of the feedlot

COMPLIANCE OF LEGAL AND OTHER REQUIREMENTS

- environmental legislation, including state and federal acts, and regulations;
- local council requirements;
- licences and permits;
- standards and codes of practice;
- industry standards;
- corporate requirements; and/or
- voluntary agreements.

Action Checklist

No	Action	Status
1	Implement and maintain procedures for accessing and identifying legal and other requirements	
2	The information gathered as a result of Step 1 is to be used in compiling Sheet No. 3 with consideration to the status of compliance of legal and other requirements	
3	Record Sheet No. 3.	
4	Sheet No. 3 is to be updated on a periodic basis or whenever required.	

OBJECTIVES, TARGETS AND PROGRAMME(S)

## 6. Objectives, Targets and Programme(s)

The organization shall establish, implement and maintain documented environmental objectives and targets, at relevant functions and levels within the organization.

The objectives and targets shall be measurable, where practicable, and consistent with the environmental policy, including the commitments to prevention of pollution, to compliance with applicable legal requirements and with other requirements to which the organization subscribes, and to continual improvement.

When establishing and reviewing its objectives and targets, an organization shall take into account the legal requirements and other requirements to which the organization subscribes, and its significant environmental aspects. It shall also consider its technological options, its financial, operational and business requirements, and the views of interested parties.

The organization shall establish, implement and maintain a programme(s) for achieving its objectives and targets. Programme(s) shall include

- a) designation of responsibility for achieving objectives and targets at relevant functions and levels of organization, and
- b) the means and time-frame by which they are to be achieved.

### Recommended steps

#### Step 1

Develop objectives and targets and related management programs to address significant environmental aspects as identified in Sheet No. 2 (refer section 4- Environmental Aspects). Objectives, targets and management programs may be developed using the guidelines given in Appendix 9.

#### Step 2

If the guidelines given in Appendix 9 are employed, then fill Sheet No. 4, record it (as per section 10- Documentation and records- control and requirements) and communicate it to related personnel. Sheet No. 4 may refer to objectives, targets and programmes undertaken in other management systems.

OBJECTIVES, TARGETS AND PROGRAMME(S)

**SHEET NO. 4**

**OBJECTIVES, TARGETS AND PROGRAMMES**

<b>Objective</b>	<b>Priority/ Source</b>	<b>Targets</b>	<b>Action</b>	<b>Responsibility</b>	<b>Resources</b>	<b>Deadline</b>	<b>Estimated Cost</b>



OBJECTIVES, TARGETS AND PROGRAMME(S)

Action checklist

No	Action	Status
1	Develop objectives and targets and related management programs to address significant environmental aspects.	
2	Fill and record Sheet No. 4.	

## 7. Resources, roles, responsibility and authorities

Management shall ensure the availability of resources essential to establish, implement, maintain and improve the environmental management system. Resources include human resources and specialized skills, organisational infrastructure, technology and financial resources.

Roles, responsibilities and authorities shall be defined, documented and communicated in order to facilitate effective environmental management.

The organisations top management shall appoint a specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for

- a) ensuring that an EMS is established, implemented and maintained in accordance with the requirements of this International Standard,
- b) reporting to top management on performance of the EMS for review, including recommendations for improvement.

### Recommended steps

#### Step 1

**Appoint a Management Representative** who, in addition to other responsibilities, shall have the responsibility and authority:

- to ensure that an EMS is established, implemented and maintained in accordance with the requirements of this standard; and
- to suggest recommendations for improvement during the management review meetings or any other forum.

This requires that the Management Representative must have sufficient support, resources (such as finance, human, technology, training, organisational infrastructure etc) and authority from top management.

#### Step 2

Fill **Sheet No. 5** for roles, responsibility and authority for each personnel involved in the implementation, maintenance and improvement of the EMS. This may also

be used to outline the general environmental responsibilities for all employees to encourage ownership of the system.

### SHEET NO. 5

#### ROLES, RESPONSIBILITIES AND AUTHORITY

<b>Designation:</b>	
<b>Department:</b>	<b>Reports to:</b>
<b>Scope:</b>	
<b>Environmental Role</b>	
<b>Responsibilities</b>	
1	
2	
3	
<b>Authority</b>	

An example of information compiled in the above Sheet is given in Appendix 10.

The outcomes of this step as stated above may be fulfilled by other documents of the feedlot. For example, job descriptions with key performance indicators are a common way to define the roles, responsibilities and authority of an employee. Other documents may include procedures, matrix etc. It is suggested to prepare an organisational chart/matrices that states role(s), responsibilities and authority(ies). For further reading, refer Appendix 11 and 12.

### Step 3

Record Sheet No. 5 as per section 10- Documentation and records- control and requirements and communicate it to all related personnel (for further reading, refer Appendix 12).

Action checklist

No	Action	Status
1	Appoint a Management Representative.	
2	Fill Sheet No. 5.	
3	Record Sheet No. 5 and communicate it to all related personnel.	

## 8. Competence, training and awareness

The organisation shall ensure that any person(s) performing tasks for it or on its behalf that have the potential to cause a significant environmental impacts(s) identified by the organisation is (are) competent on the basis of appropriate education, training or experience, and shall retain associated records.

The organisation shall identify training needs associated with its environmental aspects and its environmental management system. It shall provide training or take other action to meet these needs, and shall retain associated records.

The organisation shall establish, implement and maintain procedure(s) to make persons working for it or on its behalf aware of

- a) importance of conformity with the environmental policy and procedures and with the requirements of the environmental management system,
- b) the significant environmental aspects and related actual or potential impacts associated with their work, and the environmental benefits of improved personnel performance,
- c) their roles and responsibilities in achieving conformity with the requirements of the environmental management system, and
- d) the potential consequences of departure from specified procedures.

### Recommended steps

#### Step 1

Maintain records of the environmental education, training and experience of all persons (employees, contractors etc) of the feedlot that have the potential to cause significant environmental impacts(s) (as identified in Sheet No. 2, section 4- Environmental Aspects). This may include

- General managers;
- Operations manager;
- Employees with environmental control related tasks;

- General employees; and
- Management Representative.

### Step 2

Fill Sheet No. 6 based on Step 1 for all relevant employees and contractors.

#### SHEET NO: 6

#### EMPLOYEE/CONTRACTOR COMPETENCE AND TRAINING NEED ASSESSMENT

Role	Roles Competence Requirements	Name of the person	Record	Training Need

Update and record the above sheet on a periodic basis or whenever a new employee(s) or contractor(s) is/are employed. Guidelines for filling the above sheet is given in Appendix 13 and example of information compiled in the above Sheet are given in Appendix 14.

An example of a procedure for employee/contractor competence and training need assessment is given in Appendix 15.

### Step 3

Implement, maintain and record a structured training program to address training needs of employees. Depending on their training requirements, the program may focus on:

- meeting training need requirements as identified in Sheet No. 6.
- imparting general awareness of:
  - feedlot's environmental policy and procedures;
  - requirements of environmental management system;
  - significant environmental aspects;

COMPETENCE, TRAINING AND AWARENESS

- objectives and targets;
- EMS organisational structure;
- overview of the roles, responsibility and authority of key personnel;
- emergency procedures;
- relevant EMS procedures (like communication, system document, control of documents etc); and
- any other topic that will enhance the knowledge and performance of employees in terms of the environmental management system.

Guidelines on training program are given in Appendix 16.

Step 4

If applicable, implement and maintain procedures to ensure that the training needs of contractors are met.

Action checklist

No	Action	Status
1	Maintain records of the environmental education, training and experience of all persons (employees, contractors etc)	
2	Fill and record Sheet No. 6 and update it to a periodic basis or as required	
3	Implement and maintain a structured training program to meet the requirements of all employee(s) and contractor(s)	

COMMUNICATION

## 9. Communication

With regard to its environmental aspects and environmental management system, the organization shall establish, implement and maintain a procedure(s) for

- a) internal communication among the various levels and functions of the organization,
- b) receiving, documenting and responding to relevant communication from external interested parties.

The organization shall decide whether to communicate externally about its significant environmental aspects, and shall document its decision is to communicate, the organization shall establish and implement a method for this external communication.

### Recommended steps

#### Step 1

Examine and, if required, improve and establish an internal communication system at relevant levels and functions within the feedlot to ensure the implementation and maintenance of the relevant steps outlined in this document particularly and for facilitating an effective and ever improving EMS generally. Some of the issues requiring communication between relevant levels and functions are:

- Environmental policy.
- Objectives and targets.
- Roles, responsibilities and authority.
- Training needs.
- Operational control procedures.
- Emergency preparedness and response procedures.
- Corrective and preventive actions for non-conformances.
- Internal audit.
- Management review.

Further reading on internal communication is given in Appendix 17.



## Step 2

Implement and maintain systems for communicating aspects of Environmental Management to relevant external parties, which may include the following:

- Government authorities such as the State Agriculture Department, the State Environmental Department, Local Councils or Local Water Authority.
- Environmental groups such as local concerned residents, community groups or animal right groups.
- Media reporters.
- Neighbours.
- Community groups such as schools, local business communities and progress associations.

An example of a communication system is publishing environmental monitoring results on the organisation's official web site.

Record all documents related to external communication (e.g. letters received from external parties, feedlot's response etc).

Examples of procedures are given in Appendix 18 and 19.

Further reading on the following types of external reporting is given in Appendix 20.

- Proactive reporting;
- Reactive reporting; and
- Project planning reporting to relevant authorities.

## Step 4

The organisation should decide as to whether it will communicate its significant aspects externally and document this decision. This decision is appropriate at the level of top management and can be reflected in documentation like environmental policy, procedures for communication, records of communication etc.

## Step 5

All communications should be accurate and traceable.

## COMMUNICATION

## Action checklist

No	Action	Status
1	Examine and, if required, improve and establish internal communication system at relevant levels and functions within the feedlot to ensure the implementation and maintenance of the relevant steps outlined in this document	
2	Implement and maintain systems for communicating aspects of Environmental Management to relevant external parties	
3	Record all documents related to external communication	
4	The organisation should decide as to whether it will communicate its significant aspects externally and document this decision.	
5	All communications should be accurate and traceable	

## 10. Documentation and records- control and requirements

The environmental management system documentation shall include

- a) the environmental policy, objectives and targets,
- b) description of the scope of the environmental management system,
- c) description of the main elements of the environmental management system and their interaction, and reference to related documents,
- d) documents, including records, required by this International Standard, and
- e) documents, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to its significant environmental aspects.

Documents required by the environmental management system and by this International Standard shall be controlled. Records are a special type of document and shall be controlled in accordance with the requirements given in 4.5.4 (clause in AS/NZS 14001:2004 (E)).

The organization shall establish, implement and maintain a procedure(s) to

- a) approve documents for adequacy prior to issue,
- b) review and update as necessary and re-approve documents,
- c) ensure that changes and the current revision status of documents are identified,
- d) ensure that relevant versions of applicable documents are available at points of use,
- e) ensure that documents remain legible and readily identifiable,
- f) ensure the documents of external origin determined by the organization to be necessary for the planning and operation of the environmental management system are identified and their distribution controlled, and
- g) prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.

The organization shall establish and maintain records as necessary to demonstrate conformity to the requirements of its environmental management system and of this International Standard, and the results achieved.

The organization shall establish, implement and maintain a procedure(s) for the identification, storage, protection, retrieval, retention and disposal of records.

Records shall be and remain legible, identifiable and traceable.

### Step 1

Implement and maintain procedures for ensuring the following with regard to documents (including documents of external origin) related to the EMS.

- All documents are periodically reviewed, revised and approved for adequacy by authorised personnel;
- The current versions are used;
- History of all versions till current versions are identified with dates and responsible personnel's attestation;
- Documents are legible and identifiable (e.g. the documents have an identification number etc);
- All documents stored in a way that they easily traceable and available at the point of use;
- All documents are dated;
- All documents are retained for a specified period;
- Obsolete documents are removed. If retained, they should be easily identifiable; and
- Individuals have allocated responsibility for creating and modifying documents.

Also, the above attributes are applicable for records related to the following;

- Significant environmental aspects;
- Legal and other requirements;
- System procedures;

DOCUMENTATION AND RECORDS- CONTROL AND REQUIREMENTS

- Objectives, targets and programs;
- Resources, roles, responsibilities and authority; and
- External communication.

The above attributes can be achieved through the use of information systems or print. Information for framing a documented procedure is given in Appendix 21.

## Step 2

Document an EMS manual to describe its essential elements and their interaction and reference to related documents. It may include information on the following aspects of EMS as required for the information of employees, relevant contractors and interested external parties.

- Feedlot activities, operations and products.
- Need for an EMS and its scope.
- Environmental Policy.
- Legal and other requirements applicable to its EMS.
- Significant environmental aspects.
- Objectives and targets.
- ECCP's (as relevant), operational control procedures and monitoring.
- Document control information like.
  - Identification of the documents (this may include documents already present as a result of other management system)
  - Location of the document
  - Person responsible for retaining the document if applicable
- Communication systems.
- Non-conformity, corrective and preventive action.
- Internal audit (e.g. audit schedules, audit team members etc).
- Management review.

If the organisation chooses, its system manual for other management systems (like ISO 9002) may be modified to include the above requirements and information.

Step 3

Implement and maintain a procedure to ensure the following with regard to all records identified in this document. Other records like licences and permits, waste management certificates etc should also be recorded to demonstrate due diligence.

- Records are safely stored.
- Records are legible and traceable (e.g. indexing, filing etc).
- Records are identifiable and retained or disposed of in accordance with a predetermined period.

Fill and record Sheet No. 7 as per above requirements.

**SHEET NO. 7**

**INFORMATION ON RECORDS**

<b>Record name</b>	<b>Location</b>	<b>Retention time</b>	<b>Responsible Person</b>

## Action checklist

No	Action	Status
1	Implement and maintain procedures for ensuring the following with regard to documents (including documents of external origin).	
2	Document an EMS manual to describe its essential elements and their interaction.	
3	Implement and maintain procedure to ensure that requirements stated in Step 3 with regard to all records identified in this document.	
4	Fill and record Sheet No. 7.	

OPERATIONAL CONTROL

## 11. Operational control

The organization shall identify and plan those operations that are associated with the identified significant environmental aspects consistent with its environmental policy, objectives and targets, in order to ensure that they are carried out under specified conditions, by

- a) establishing, implementing and maintaining a documented procedure(s) to control situations where their absence could lead to deviation from the environmental policy, objectives and targets, and
- b) stipulating the operating criteria in the procedure(s), and
- c) establishing, implementing and maintaining procedures related to the identified significant environmental aspects of goods and services used by the organization and communicating applicable procedures and requirements to suppliers, including contractors.

### Recommended steps

#### Step 1

Document, implement and maintain operational control procedures that are associated with management of some identified significant environmental aspects and as required by objectives and targets. These documents may be required to ensure compliance with legal and other requirements to which the organisation subscribes and reduce environmental risks.

These procedures may already be implemented as a requirement of other prevalent management system. For example, the feedlot may have the following documented Quality Procedures

- Standard Work Instruction (SWIs).
- Standard Operating Procedures (SOPs).
- Standard Work Procedures (SWPs).
- Work Instruction (WIs).
- Checklists.

An example of how HACCP can be integrated with EMS is presented in Appendix 22.



## Step 2

The operational control procedures should have operating criteria and the monitoring and measurement requirements (see Section 12- Monitoring and measurement). For example, the operational control procedure related to the effluent treatment will need to specify quality of treated effluent prior to irrigation and irrigation conditions.

It is recommended that the operational control procedures should be proactive rather than reactive so that risks associated with an activity are reduced through preventive measures. For example consider a situation in a feedlot where there is a significant risk of feed spillage by tractor impact. The operational control procedure would need to control a number of aspects of the operations such as:

- the competency of the tractor driver;
- the pre inspection of tractors in each shift;
- tractor speeds;
- routing of the tractors;
- barriers around the storage areas; and
- other storage specifications (from storage procedures).

More than one procedure may be required to cover all the factors involved in such a situation.

For feedlots, depending on where the significant risk are identified, written operational controls are likely to be needed for

- Effluent treatment;
- Effluent irrigation;
- Pen maintenance;
- Waste disposal and contractor management;

Examples of operational control procedures are given in Appendix 23.

## Action checklist

No	Action	Status
1	Document, implement and maintain operational control procedures that are associated with management of some identified significant aspects and as required by objectives and targets	
2	The operational control procedures should have operating criteria and the monitoring and measurement requirements.	

## 12. Monitoring and measurement

The organization shall establish, implement and maintain a procedure(s) to monitor and measure, on a regular basis, the key characteristics of its operations that can have a significant environmental impact. The procedure(s) shall include the documenting of information to monitor performance, applicable operational controls and conformity with the organisation's environmental objectives and targets.

The organization shall ensure that calibrated or verified monitoring and measurement equipment is used and maintained and shall retain associated records.

### Recommended steps

#### Step 1

Document, implement and maintain procedures to monitor:

- Key characteristics of operational control, especially operational criteria. This will help in determining deviations, trends and excursions from pre-determined operating parameters.
- Environmental performance. For example, this can entail
  - tracking measures for meeting the environmental policy.
  - developing information to improve identification of significant aspects.
- Progress in meeting objectives and targets e.g. consumption of water, energy etc.
- Parameters as per legislative requirements. These may be stipulated and enforced by the DPI (or equivalent), EPA (or equivalent in the state), local council or the local water authority etc.
- Parameters as per requirements of standards, voluntary agreements etc to which the organisation subscribes.

Monitoring can be in the form of observations, measurements using (calibrated instruments) etc. Measurements can either qualitative or quantitative. Where appropriate, monitoring results should be compared against appropriate criteria.

Monitoring should:

- Be conducted by qualified personnel.
- Consider quality control requirements as stated by legislative and other requirements (industry codes, practices etc) that the organisation subscribes.
- Be conducted by calibrated or verified monitoring and measurement equipment.

In order to develop monitoring procedures, the following may be considered:

- Identify what needs to be measured. This is defined as the key characteristics of the operations that have significant aspects associated with them as well as legislative requirements, due diligence or monitoring in problematic areas.
- Identify a method for conducting monitoring.
- Implementing the monitoring.
- Record the results of the monitoring.
- Use the results to substantiate compliance with legal requirements, corporate policies and other benchmarks.

### Step 2

Record information resulting from monitoring procedures and comparisons with applicable criteria as per section 10 – Documentation and records- control and requirements.

### Step 3

Record information related to calibration or verified monitoring and measurement equipment as per section 10 – Documentation and records- control and requirements.

## MONITORING AND MEASUREMENT

## Action checklist

No	Action	Status
1	Document, implement and maintain procedures to monitor parameters as given in Step 1.	
2	Record information resulting from monitoring procedures and comparisons with applicable criteria.	
3	Record information related to calibration or verified monitoring and measurement equipment.	

### 13. Emergency preparedness and response

The organization shall establish, implement and maintain a procedure(s) to identify potential emergency situations and potential accidents that can have an impact(s) on the environment and how it will respond to them.

The organisation shall respond to actual emergency situations and accidents and prevent or mitigate associated adverse environmental impacts.

The organisation shall periodically review and, where necessary, revise its emergency preparedness and response procedures, in particular, after the occurrence of accidents or emergency situations.

The organization shall also periodically test such procedures where practicable.

#### Recommended steps

##### Step 1

Develop and document emergency preparedness and response procedures for management of significant aspects as a result of emergency situations as identified in Section 4- Environmental Aspects to reduce or eliminate environmental risks. The potential for emergency situations from neighbouring activities may also be considered.

Guidelines for development of emergency preparedness and response procedures are given in Appendix 24.

Most facilities will already have emergency preparedness and response procedures. To cover the requirements as stated above in this section, the procedures may need to be modified.

##### Step 2

Where appropriate, periodically test the emergency preparedness and response procedure.

##### Step 3

If required to reduce risk of environmental harm, review and revise the emergency preparedness and response procedures after accidents or emergency situations or in

response to relevant actions raised in Sheet No. 8 in section 14- Nonconformity, corrective action and preventive action.

### Action checklist

No	Action	Status
1	Develop and document emergency preparedness and response procedures for management of significant aspects as a result of emergency situations	
2	Where appropriate, periodically test the emergency preparedness and response procedures.	
3	Review and revise the emergency preparedness and response procedures after accidents or emergency situations or in response to relevant actions raised in Sheet No. 8 in Section 14- Nonconformity, corrective action and preventive action.	

## 14. Nonconformity, corrective action and preventive action

The organization shall establish, implement and maintain a procedure(s) for dealing with actual and potential nonconformity(ies) and for taking corrective action and preventive action. The procedure(s) shall define requirements for

- a) identifying and correcting nonconformity(ies) and taking action(s) to mitigate their environmental impacts,
- b) investigating nonconformity(ies), determining their cause(s) and taking actions in order to avoid their recurrence,
- c) evaluating the need for action(s) to prevent nonconformity(ies) and implementing appropriate actions designed to avoid their occurrence,
- d) recording the results of corrective action(s) and preventive action(s) taken, and
- e) reviewing the effectiveness of corrective action(s) and preventive action(s) taken.

Actions taken shall be appropriate to the magnitude of the problems and the environmental impacts encountered.

The organization shall ensure that any necessary changes are made to environmental management system documentation.

### Recommended steps

#### Step 1

Whenever any employee/EMS related contractor identifies actual or potential non-conformity with the organization's EMS, Sheet No.8 must be filled in by relevant persons for:

- identifying the non-conformities or potential (near misses) non-conformities;
- taking actions on the spot to mitigate their environmental impacts;
- taking actions to prevent non-conformities as a result of investigations and determining their cause(s). Actions and their timings to be taken must be appropriate to the scale of the non-conformity; and
- reviewing the effectiveness of actions taken.



Examples of non-conformity are:

- System performance.
  - Failure to establish environmental objectives and targets.
  - Failure to define responsibilities such as responsibilities for achieving objectives and targets or carrying out monitoring with calibrated instruments.
  - Failure to periodically evaluate compliance with legal requirements.
  - Lack of communication of important environmental information to relevant people.
  
- Environmental performance
  - Missed water reduction targets (an established environmental objective driven target).
  - Maintenance is not performed as per established schedule.
  - Operating criteria for operational control procedures are not met.

Refer Appendix 25 for further reading. Examples of procedures related to non-conformances are given in Appendix 26 and 27.

## Step 2

Communicate Sheet No. 8 to relevant personnel (in particular roles mentioned in the sheet).

## Step 3

Record Sheet No. 8 as per section 10- Documentation and records- control and requirements.

**SHEET NO. 8**

**PREVENTION AND CORRECTION ACTION FORM**

Description	Reported by: _____ Date: _____ Reported to: _____ time: _____ Location: _____	
	Significance:      High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	
	Actions Taken at scene:	
Immediate Response	Brief Description	
Corrective Action	Actions needed to prevent recurrence:	Responsible person
Corrective Action	Sign off actions taken:	
	All actions taken-sign off:	
	Review of effectiveness of actions taken:	

## Action checklist

No	Action	Status
1	Whenever any employee/EMS related contractor identifies actual or potential non-conformity with the organization's EMS, Sheet No 8. must be filled in by relevant persons as applicable.	
2	Communicate Sheet No. 8 to relevant personnel (including personnel mentioned in the Sheet).	
3	Record Sheet No. 8.	

## 15. Internal audit

The organization shall ensure that internal audits of the environmental management system are conducted at planned intervals to

- a) determine whether the environmental management system
  - 1) conforms to planned arrangements for environmental management including the requirements of this International Standard, and
  - 2) has been properly implemented and is maintained, and
- b) provide information on the results of audits to management.

Audit programme(s) shall be planned, established, implemented and maintained by the organization, taking into consideration the environmental importance of the operation(s) concerned and the results of previous audits.

Audit procedure(s) shall be established, implemented and maintained that address

- the responsibilities and requirements for planning and conducting audits, reporting results and retaining associated records,
- The determination of audit criteria, scope, frequency and methods.

Selection of auditors and conduct of audits shall ensure objectivity and the impartiality of the audit process.

### Recommended steps

#### Step 1

To determine the adequacy and effectiveness of the implementation and maintenance of EMS as planned, **implement and maintain procedures to achieve the following;**

- Form a group of auditors for participating in implementation of audit schedule based on their experience in the feedlot industry and environmental knowledge; and

- Implement, maintain and record (as per Section 10- Documentation and records- control and requirements) Internal Audit Schedules. The internal audit schedules should have information regarding schedule of departments of the feedlot, facilities of the feedlot and/or EMS elements to be audited while considering the environmental importance and results of previous audit. It shall also contain names of the auditor assigned the responsibility for internal auditing. It is recommended to assign auditors who are not from the same department that they are auditing to ensure objectivity and impartiality.

Refer Appendix 30 for guidelines on the internal auditing (which include the need to include audit criteria in audit checklist) and types of audit. Examples of procedures for internal auditing are given in Appendix 28 and 29.

The audit requirements as mentioned in this step can be integrated with those of other management systems like ISO 9002. For example, EMS and quality audits can be undertaken by the auditor at the same time to increase efficiency.

### Step 2

[Record the findings of the audit](#) as per section 10- Documentation and records- control and requirements.

### Step 3

[For the non-conformances identified during the internal auditing, follow section 14 11- Nonconformity, corrective action and preventive action](#)

### Action checklist

No	Action	Status
1	Implement and maintain procedures to achieve requirements in Step 1.	
2	Record the findings of the audit.	
3	For the non-conformances identified during the internal auditing, follow section 14- Nonconformity, corrective action and preventive action.	

## 16. Management review

Top management shall review the organization's environmental management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes to the environmental management system, including the environmental policy and environmental objectives and targets. Records of the management reviews shall be retained.

Input to management reviews shall include

- a) results of internal audits and evaluations of compliance with legal requirements and with other requirements to which the organization subscribes,
- b) communication(s) from external interested parties, including complaints,
- c) the environmental performance of the organization,
- d) the extent to which objectives and targets have been met,
- e) status of corrective and preventive actions,
- f) follow-up actions from previous management reviews,
- g) changing circumstances, including developments in legal and other requirements related to its environmental aspects, and
- h) recommendations for improvement.

The outputs from management reviews shall include any decisions and actions related to possible changes to environmental policy, objectives, targets and other elements of the environmental management system, consistent with the commitment to continual improvement.

## Recommended steps

### Step 1

Implement, maintain and record (as per section 10- Documentation and records-control and requirements) **schedule for management review meetings which should be attended by the top management**. It is recommended that the schedule be developed by the management representative. Further, it is recommended that management review meetings be held at least annually.

The intent of the management review meetings should be to investigate;

- the continuing suitability of the EMS for the activities and operations occurring at the facility i.e. is the system still suitable for current operation/activities, products and/or services?;
- the adequacy of the EMS i.e. does the system cover all environmental issues within its scope?; and
- the effectiveness of the EMS i.e. is the system properly implemented and maintained.

### Step 2

Ensure the following are considered as a minimum during the management review meeting;

- results of internal audits;
- evaluations of compliance with legal requirements and with other requirements to which the feedlot subscribes;
- communication(s) from external parties, including complaints;
- the environmental performance of the feedlot;
- status of completion of objectives and targets;
- progress of preventive and corrective actions;
- minutes of meeting from previous management review meeting;
- foreseeable changes in legislation and other requirements applicable to the EMS;
- monitoring results (technical monitoring, monitoring against improvement goals etc.

MANAGEMENT REVIEW

To increase efficiency, the agenda of the management review meetings can be a part of other meetings involving top management.

Step 3

Record the minutes of meeting as per section 10- Documentation and records-control and requirements. Actions arising from the meeting may be dealt with using Section – Nonconformity, preventive and corrective actions.

Action checklist

No	Action	Status
1	Implement, maintain and record schedule for management review meetings which should be attended by the top management.	
2	Ensure the issues mentioned in Step 2 are considered as a minimum during the management review meeting.	
3	Record the minutes of meeting. Actions arising from the meeting may be dealt with using section 14– Nonconformity, preventive and corrective actions.	



# **Appendix 1-**

# **Examples of Environmental Policy**

**Example:**

Our aim is profitable continuity of business to provide an acceptable return on investment to shareholders. The principal business provides high quality cattle for meat processing facilities all over New South Wales.

We strive for the highest standards in all our operations, motivated by an acute awareness of best international practice. We integrate environmental considerations into our business making decisions. We have an overriding commitment to our industry and sensitivity to the needs and interests of our suppliers and customers. Our Policy also recognizes the financial consequences of non-compliance with environmental legislation on the Company and the individuals involved.

To sustain and protect the environment we will:

- Conduct environmental audits of all our operations to ensure that pollution is avoided and waste minimized
- Manage our environmental issues in a systematic fashion using a structured EMS in line with ISO 14001 guidelines
- Anticipate and address environmental issues and ensure that appropriate actions are taken to properly safeguard the environment in the most prudent and economical manner
- 
- Co-operate with the appropriate authorities and technical organizations to develop responsible and effective environmental laws, regulations and standards, and the means of compliance
- Promote and undertake training programs and discussion on environmental issues for employees, suppliers, customers and the community at large
- Senior Management at each physical location will regularly consider environmental issues and take a lead in raising initiatives, problems and resolutions on a Company wide basis
- Comply with all applicable environmental laws, regulations and guidelines, and employ appropriate internal standards where necessary to conform with the above policy
- Ensure all employees are able to understand, promote and assist in the implementation of this Policy
- Embrace the concept of sustainable development
- Take full responsibility for the treatment and disposal of all wastes generated

Signed ..... Date .....  
Plant Manager

**Example:**

<name of the company> is situated 380 kilometres south west of Sydney at the township of Young.

<name of the company> employs some 200 people making it the largest single employer within the town. Our close proximity to the township is a big factor involved with our concern for environmental control.

Due to the nature of the business, environmental issues with particular concern to liquid and solid wastes and their associated problems is high priority to us as well as many regulatory authorities.

It is this company's intention to, wherever possible, consult and inform the local residents with regard to environmental issues and as a minimum to comply with legislation.

Our endeavour is primarily to control our liquid and solid waste effluents to wherever possible reduce them and thereby reduce odour and uncontrolled run exiting the site.

With planned an systemic action, we will endeavour to minimize our impact on the environment by minimizing our wastes through improved technologies, reduction programs for operations, and training, recycling and general good work practices. These procedures provide the framework for setting and reviewing environmental objectives and targets. It is also this company's intention to continually improve practices and provide the community with a commitment to manage the EMS in a sound stable way.

Signed .....

Managing Director  
<Date>

# **Appendix 2-**

## **Issues to be considered for framing the Environmental Policy**

**The environmental policy can include** details of the scope of the environmental issues and specific areas of the feedlot operation. In particular, the physical boundaries of the operation should be included. For example, the EMS may cover impacts from cattle pick up from farms as well as cattle delivery to the abattoirs.

There are many types of issues (as given below) that can be considered for inclusion in the Environmental Policy:

- Liquid waste minimization – reduction, recycling, reuse of liquid wastes;
- Solid waste minimization – reduction, recycling, reuse of solid wastes;
- Consumption of raw materials and natural resources – water, materials, fuels, energy;
- Generation of pollutant discharges – reduce or eliminate;
- Purchasing – identify impacts of purchased products;
- Planning and development – minimize adverse impacts of expansion;
- Ecologically sustainable development;
- Regulatory compliance and compliance with other requirements including customer specifications.
- Performance evaluation criteria and procedures;
- Education and training;
- Emergency procedures;
- Improved technology transfer; and
- Community communications/relations.

Environmental Policy is likely to

- be developed, actively supported and implemented by the Board of Directors (if one exists), the General Manager and the Division Managers;
- be formatted usually to fit on one piece of A4 paper;
- be dated and signed by the Chief Executive Officer or the equivalent on site;
- not commit the company to objectives or actions which the company is not reasonably able to achieve or which require resources that cannot or will not be made available. Over commitment will result in loss of credibility with employees, customers and external interested parties;
- be consistent with existing corporate policies, such as the quality policy;

- include a clear statement of intent to comply with all applicable legislative and regulatory requirements and with external and internal standards and codes of practice adopted by the company from time to time;
- commit the Company to provide the resources necessary to achieve the stated objective/s. Such resources may be human, financial, or physical; and
- be made available for public distribution. It could be included in each annual report or the organisation's website and copies made available to customers and to the public on request. It should be provided to suppliers as a demonstration of the company approach to management of environmental issues.

## **Appendix 3-**

# **Systematic identification of environmental aspects with significant impacts.**

There are many ways of identifying significant environmental aspects. One of the procedures to identify significant environmental aspects with reference to feedlot operations is mentioned below. It is important to remember that the risk assessment employed in this procedure is a high level one that allows objective assessment of the relative importance of all environmental issues. There is no need to conduct a detailed risk assessment of each piece of equipment. Reference to the examples provided in this appendix should help to decide the level to which the risk assessment is to be pitched.

### **Step 1: Assemble a Knowledgeable Team**

The first step in identifying your environmental risks is to assemble a knowledgeable team for generating invaluable inputs to the process of identifying risks. This may comprise of

- Senior management;
- Operational personnel;
- Safety personnel;
- Maintenance personnel;
- Quality system personnel; and
- External Parties.

Senior management will know about director liability and due diligence. They are also likely to have been involved with complaints or problem resolution with the regulatory bodies.

The operational personnel will know about issues such as stormwater control, effluent treatment problems, waste disposal facilities and issues, odour, irrigation, etc.

Safety professionals will know where different chemicals and other hazardous substances are used or stored. They may also have experience with the process of identifying hazards.

Personnel involved with quality systems may be familiar with the operations sufficiently to provide invaluable information regarding the development of process flow diagrams or procedures, control points, operating parameters etc. and how existing systems work in the company culture. This is very important although it should be remembered that the EMS has different goals from the quality management systems and will require different emphasis.

External parties such as pollution control officers from the local council, the State agricultural officer (or equivalent), the local EPA officer (or equivalent in your state), local community(ies) members and/or consultants may be included if desired.

Anyone who may be able to contribute to the process can be included.



## **Step 2: Describe the Processes**

The second step is to describe the operations/processes, activities and/or products conducted on site within the scope of the EMS for the team's knowledge. There will be a difference in the description of the operations/processes and activities for the EMS than was developed for HACCP if relevant to the feedlot facility. The HACCP assessment would have only considered those operations where the product was involved. The description of the process may include waste disposal operations, transport operations, irrigation and effluent treatment operations, past site usage that could have resulted in contamination of the ground and livestock transport to and from the site. Effectively the assessment should consider all inputs and outputs from all operations/processes, activities and/or products bound by the scope of the EMS.

All above information may be illustrated in documented form like flow diagrams or as written descriptions. Flow diagrams are a good format for the operations/processes, activities and/or products description. For example, a portion of the flow diagrams may describe all the steps taken from livestock delivery to the site through to livestock transport from the site including waste streams produced along the way. The actual extent of the flow diagrams will be dependent on the scope of the EMS. However, it is important to consider the following issues:

- “static” processes e.g. storage of fuel or electric transformers;
- physical aspects of the site, e.g. stormwater drainage and collection systems and building materials;
- processes or activities carried out by outsiders on the site, e.g. unloading of chemicals, filling of diesel tanks or transport of livestock to and from the site; and
- non-routine processes such as maintenance.

Verification of the flow diagrams should be conducted by walking through the site.

## **Step 3: Identification of Environmental issues**

During the course of developing the flow diagrams, it is likely that the team will also identify the environmental issues associated with the feedlot. Many of the environmental issues facing the feedlot will be those associated with the traditional view of pollution. The issues are likely to include:

- Discharges to surface water;
- Discharges to ground water;
- Nuisance to neighbours;
- Disposal to land;
- Raw material usage (intermediate products and utilities such as water and energy); and
- Emissions to air;

It is also likely that there are other environmental issues. These may include:

- Sustainable soil management;
- Land management and pasture improvement;
- Noxious weeds;
- Native flora and fauna habitats;
- Heritage;
- Transportation; and
- Efficient use of resources.

The above list is not meant to be exhaustive and thus other issues may need to be considered. It may be useful to break these issues down further, for example, discharges to surface water could be broken down into:

- Discharges from the stormwater system; and
- Discharges from the effluent treatment plant/ponds.

The importance of defining the scope of the EMS is critical in deciding what issues should be considered. An EMS focusing purely on compliance may not consider use of resources. Similarly, such an EMS may not focus on some environmental issues that are clearly linked to the financial performance of the site. Broadening the scope of the EMS does allow it to be a vehicle for better environmental and business performance.

#### **Step 4: Linking Environmental Issues to Site Processes**

The next step is linking the normal operations/processes, activities and/or products identified to the environmental aspects as shown in the following example

Emissions to air                   - effluent treatment ponds (odour)  
  - traffic (dust)

Sustainable soil management- effluent irrigation  
  - crop rotation

The environmental aspects should be identified by thinking about each operation as existing in the following four distinct phases:

- Normal – a desired, everyday, controlled activity;

- Abnormal – a desired, low frequency, controlled activity. This may include non-routine activities like maintenance, start-up, shutdown, wash-down and equipment malfunction may be considered;
- Accidental – a non desired, infrequent, uncontrolled activity. For example, the organisation may consider spills, leaks, severe storms, drought and bushfires as it may have control on the cause and environmental consequences that follows. For example, circumstances which lead to accidents like leaks and spills may be avoided or managed. During the initial assessment of environmental risks it is likely that certain processes will be grouped together when factoring in accidents like spills, e.g. all areas on the site used for clean storage can be grouped together when considering spills; and
- Those operations that occurred in the past resulting in environmental impact. These environmental issues usually relate to the potential for past disposal to land, which may have led to soil and/or ground water contamination.

### **Step 5: Consequences Associated with Environmental Risks**

The term consequence can be viewed from a compliance/regulatory consideration, e.g. non-compliance, a notice to act, court case, fines or jail of directors. The consequences can also be considered with respect to the impact on the surrounding environment, e.g. short-term local negative impact, catastrophic impact on endangered species or long term, global impact issues. AS/NZS4360:2004 *Risk Management* can be used to identify a risk assessment process.

The consequences can also be considered in terms of community perception, e.g. does it result in a bad relationship with neighbours or significant negative press at a local, state or national level.

Finally, consequences can be seen from a business financial perspective and can be expressed in terms of loss of revenue.

Also, the consequence assessment must reflect the commitments made in the environmental policy.

In accordance with the consequence described in the following step, consequence may be defined as high, medium or low.

### **Step 6: Consequence Categories and Criteria**

The consequence criteria established for your operations/processes, activities and/or products should reflect the overall objectives and focus of the EMS. The following provides some example consequence criteria that could be used to categorise the risks into high, medium and low based on the rationale as given below.

#### **High:**

H1: incident resulting in the servicing of a prohibition notice;

H2: business interruption;

H3: the potential to cause a high level of impact at a local level; and

H4: a cost of over \$25000 for disposal/usage in any year.

**Medium**

M1: continuous emission/discharge in excess of authorized limits resulting in an enforcement notice or finable offence;

M2: incident resulting in a clean up operation or finable offence;

M3: a cost of between \$15000 and \$25000 for disposal/usage in any year;

M4: discharge with potential to impact local watercourses;

M5; potential to cause medium level of impact at a local level; and

M6: complaints from neighbours.

**Low:**

L1: incident with minor on-site clean up i.e. potential for groundwater/soil contamination;

L2: incident resulting in a complaint e.g. from the local community;

L3: a cost of less than \$15000 for disposal/usage in any year; and

L4: could cause public concern.

The number of categories of consequence criteria and the rationale is at the organisation's discretion.

**Step 7: Likelihood Criteria**

The other consideration in environmental risk is likelihood, that is, how likely the identified issue may occur. For example, routine activities may happen once per day, maintenance once per week, major storms once per year, drought once every 10 years and a major spill every one hundred years. When assessing the likelihood of accidents and other loss producing events one should assess the probability of the event occurring given an operating scenario. AS/NZS4360:2004 *Risk Management* can be used to identify a risk assessment process.

The following provides some example likelihood criteria.

**High:**

Event that could or does occur once per week;

**Medium:**

Event that could or does occur once per month; and

**Low:**

Event that could or does occur once per year.

Again, the exact number of criteria is at the organisation's discretion.

The following table could be used to record the consequence and likelihood criteria for your assessment of environmental risk.

**TABLE 1**  
**RECORD OF CONSEQUENCE AND LIKELIHOOD CRITERIA**

	Consequence Criteria	Likelihood Criteria
<b>High</b>		
<b>Medium</b>		
<b>Low</b>		

**Step 8: Assessment of Significance**

The next step is to combine the consequence and likelihood criteria that you have assigned to each environmental issue to determine whether it is a significant environmental risk. The following table (example only) could be used to assess significance.

**TABLE 2**  
**SIGNIFICANCE ASSESSMENT TABLE**

Likelihood Level	Consequence Level		
	<b>High</b>	<b>Medium</b>	<b>Low</b>
<b>High</b>	Significance 1	Significance 2	Significance 5
<b>Medium</b>	Significance 2	Significance 4	Significance 6
<b>Low</b>	Significance 3	Significance 5	Significance 7

**Significance:** 1 = High Priority 2-4 = medium-high priority 5-7 Medium priority

However, determination of the level of significance is at the organisations discretion.

For this example, it is suggested that the issues falling into the risk category levels ‘Significance 1’ and ‘Significance 2’ should be identified as ‘Significant’.

The significance assessment process should be documented for future reference and revision. An example performa is provided in Table 3 given below for recording the findings of your significance assessment.

Once the consequence and likelihood of each scenario has been identified, then Table 2 should be used to assess the overall significance of the risk. Where the cut off point for significance is drawn is up to the company. It is however recommended that a reasonable number of ‘significant issues’ be identified. It is thought that 20 to 30 significant issues and risks will be appropriate for a first evaluation at a feedlot facility.

The emphasis of the environmental risk assessment process should be on the identification of events and scenarios that are reasonably likely to cause unacceptable loss in the eyes of the company, regulators, customers, employees and other important stakeholders.

**TABLE 3**

**SIGNIFICANT ENVIRONMENTAL ASPECT ASSESSMENT FORM**

<b>Activity</b>	<b>Sub-Activity</b>	<b>Aspect</b>	<b>Impact</b>	<b>Consequence</b>	<b>Likelihood</b>	<b>Significance</b>
Cattle Transport	Truck Movements	Manure Spillage	Nuisance to neighbours along the transport route	M5	M	Significance 4

## **Appendix 4-**

# **Example of procedure to identify environmental risks through ECCP**

### **Purpose**

To identify the risks and develop control strategies for those risks. This is the same principal as HACCP for the feedlot facility, but is adapted to suit the requirements for Environmental Management.

### **Responsibilities**

It is the responsibility of the Environment Manager and his team to identify the risks and develop the strategies. It is also their responsibility to ensure that this procedure is carried out.

### **Procedure**

- (i) Develop flow diagrams.
- (ii) Develop consequence and Likelihood Criteria to meet company standards and ensure all risks can be categorized.
- (iii) Develop a Significance Assessment Table and rate all risks to their correct allocations.
- (iv) Develop a Significance Assessment Form to correlate risks against Consequence and Likelihood to determine that particular risk “significance”.
- (v) Develop ECCP Determination Table to determine if a risk is an ECCP or not and allocate a number.
- (vi) Complete the Environmental Risks and Control Strategies Table.

### **Records**

- (i) Process Flow Diagrams.
- (ii) Record of Consequence and Frequency Criteria.
- (iii) Significance Assessment Table.
- (iv) ECCP Determination Table.
- (v) Environmental Risks & Control Strategies Table.



## **Appendix 5-**

**Example of procedure to identify significance of environmental risks in a section of feedlot facility.**

**Purpose**

To rank and determine the significance of environmental risks associated with the farm.

**Scope**

To consider the environmental issues associated with the processes and events identified in the flow diagram. This procedure is carried out by a team of area experts identified by the management team.

**Definitions**

Consequence	Criteria of the seriousness of an actual incidence occurring.
Likelihood	Criteria of the exposure to the identified incident, how often an incident occurs.
Significance	Relates the likelihood and consequence to provide a measure of the significance.

**Procedure**

1. Using the Environmental Risk Significance Assessment Form (refer Table 3 in Appendix 3), list the “Location”, “Activity” and “Issue” for a particular environmental consequence.
2. Identify the Consequence and list the “Rank”, obtained from Step 6 in Appendix 3.
3. Identify the Likelihood and list the “Rank”, obtained from Step 7 in Appendix 3.
4. Use Table 2- Significance Assessment Table- in Step 8 of Appendix 3 to fill out Environmental Risk Significance Assessment Form
5. Return to Step 1 and work across the table for the next environmental aspect.

# **Appendix 6-**

## **Information on legal and other requirements**

The Register- compliance of legal and other requirements should include the following:

### **1. General Environmental Legislation**

General legislative requirements need to be identified for the feedlot. The register will specify environmental laws and regulations that apply to the feedlot and the specific requirements for the feedlot under the legislation, including licence and permit requirements.

In this register, the “person responsible” must identify changes of any particular Act or Code and ensures that the consequences of the changes are communicated and understood by people within the organisation and where appropriate the register kept up to date.

### **2. Licences and Permits**

For the majority of farm facilities, specific site requirements will be detailed in some form of licence, permit, consent condition or other regulatory tool. These may have discharge limits, concentration limits, requirements for monitoring etc. In addition, regulatory authorities may have also developed policy and guidelines. It is important that these requirements are known and understood by relevant site personnel.

The site specific requirements would be included in the legal register and would need to be based on the licences and permits, but written in a user friendly way for feedlot employees to be able to understand easily. For every licence/permit/approval/consent a summary of compliance requirements must be prepared (as given in an example in Appendix 7).

### **3. Standards and Code of Practice**

Standards and Codes of Practice relevant to feedlot’s operations need to be included as part of the legal requirements. To do this requires:

- Identification of Australian Standards and Codes of Practice which relate to environmental issues;
- To have the requirements of the standards and codes written in a plain language interpretation relevant to facility operations;
- Establishment of a library of applicable Standards and Codes of Practice; and
- Ensuring that all required employees with environmental responsibilities have access to information contained in these Standards and Codes of Practice.

Examples of Standards and Codes that may be retained at each location are the Australian Standard AS 1940: The storage and Handling of Flammable and Combustible Liquids; AS 1596 Storage and Handling of LP Gas, and the Australian Dangerous Goods Code.

**4. Other requirements:** There are other requirements that may be incorporated into the register are:

- **Voluntary agreements:** If the facility has signed onto particular voluntary agreements such as the Federal Government's Greenhouse Challenge program, commitments under these agreements need to be managed;
- **Corporate Requirements:** If the facility is part of a larger company with corporate management, there may exist a number of company initiatives, standards, guidelines, codes of practice and policies that could have specific requirements that need to be incorporated into your EMS. In defining the design of your management system, you should identify and incorporate these requirements and included them in the legal register; and
- **Industry Benchmarks:** If the facility subscribes to a meat industry benchmark and is relevant to its environmental aspects, then it should be included in the register.

For the feedlot, a useful preliminary source of information is the on environmental legislation is "The Primary producers' legal guide" (Queensland law Society 2001). This text covers relevant environmental legislation, summarises the legislation, and details how the legislation is relevant to primary producers.

Other sources of legislative information for feedlot include subscriptions from legal publication companies who publish environmental legislation and send updates to its subscribers about new laws (Acts) are gazetted. Also, the state government have websites with information on the latest legislation.

Legislative information related to feedlot sector include subscriptions from legal publication companies such as CCH Australia Limited and Butterworths who publish Environmental Legislation and send updates out as new laws (Acts) are gazetted. Many companies now offer legislation on CD-ROM, which allows for search facilities.

Licenses and permits will be issued and enforced through local or state authorities, so correspondence with these organisations is required to keep up to date on their requirements.

Industry standards are variable and can be obtained through Industry affiliations and other related bodies.

# **Appendix 7-**

## **Example of legal register**

TABLE 4

## REGISTER- COMPLIANCE OF LEGAL AND OTHER REQUIREMENTS

Act, Standard or Code of Practice	Regulatory Authority	Key Regulatory Requirements Relevant to	Person(s) Responsible	Compliance Status (Yes/No)	Aspects of Non-Compliance
Contaminated Land Act 1994	Department of Environment	Is obliged under our Environmental Licence conditions to treat all waste products in such a way so as to prevent contaminating the land.	Plant Manager	Yes	
	Local Council	All effluent and waste water on processing site is to be treated through a series of effluent treatment ponds, anaerobic and aerobic, and irrigated back to pasture land.	Engineering/ Environment Manager	Yes	
		Weekly monitoring on the final pond is carried out to monitor Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), pH level and Conductivity.	OH&S/ Environment Officer	Yes	

**REGISTER- COMPLIANCE OF LEGAL AND OTHER REQUIREMENTS**

<b>Act, Standard or Code of Practice</b>	<b>Regulatory Authority</b>	<b>Key Regulatory Requirements Relevant to</b>	<b>Person(s) Responsible</b>	<b>Compliance Status (Yes/No)</b>	<b>Aspects of Non-Compliance</b>
Soil Conservation Act. 1986	Department of Environment	To prevent contamination, surface soils are to be periodically tested for contaminants or build up such as salt.	Engineering/ Environment Manager. OH & S/ Environment Officer	Yes	



# **Appendix 8-**

## **Procedure to develop a register of legal and other requirements**

**Purpose:**

A legal register of Acts, Standards, Codes and Practice etc. will be developed as part of our EMS. With the use of Industry Specialists, MLA and other consultants, legal & other requirements will be researched and sourced wherever possible. The purpose being to ensure that we are aware of our rights and responsibilities with regard to Environmental legislation.

**Responsibilities**

The Environment Manager will assemble a list of legal & other documents pertaining to Environmental Legislation etc. and in conjunction with the General Manager and Managing Director will develop a register of such documents, highlighting the key requirements.

**Procedure:**

- (i) Obtain a copy of literature pertaining to regulatory and other requirements applicable to the feedlot sector.
- (ii) Compile a list of all the necessary documents including the subscription to a provider of legal updates for a feedlot sector and obtain copies.
- (iii) From the documents compiled, interpret this information into a plain English edition and record in a manner that highlights the direct emphasis this legislation has to feedlot.
- (iv) Ensure the information relates directly to the company.
- (v) Include any licences that we are obliged to hold that result from this legislation.
- (vi) Include information as to who is responsible and the company's responsibility and ensure the Register- Compliance of legal and other requirements is duly understood.
- (vii) Access the compliance status of the legal and other requirements.

**Records**

- (i) Register- Compliance of legal and other requirements.
- (ii) Environmental Law Update.
- (iii) Pollution and Environmental Law.

# **Appendix 9-**

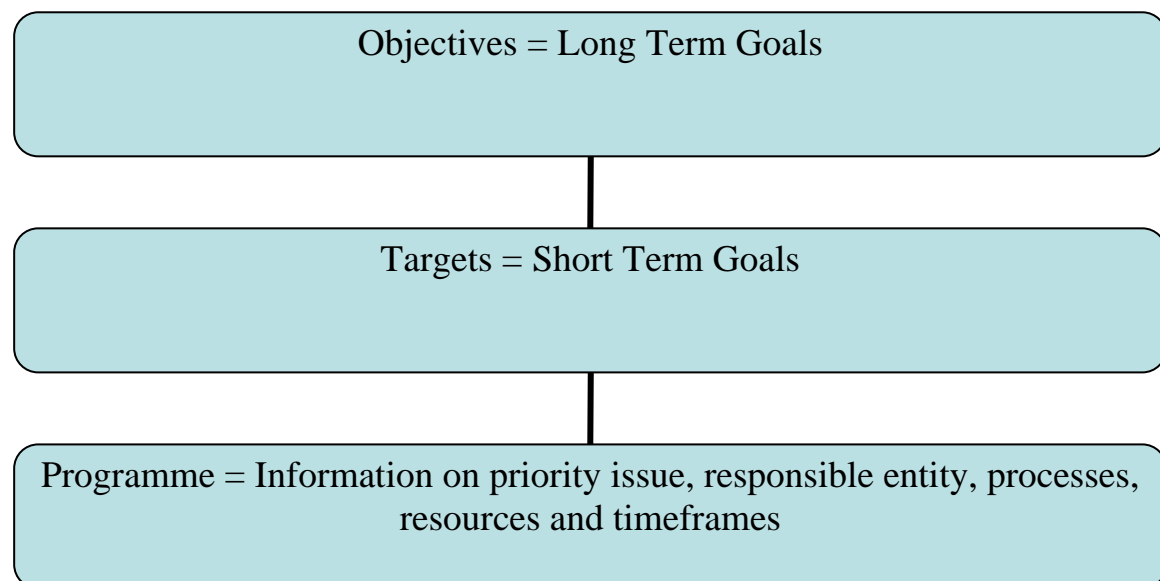
## **Guidelines for setting objectives, targets and Programmes**

One of the key goals of an EMS consistent with AS/NZS 14001: 2004 is to allow for and provide a structured process for continual improvement. The rate and extent are determined by the company in view of the site specific needs and issues.

To this end, a process needs to be developed as part of the EMS, which will manage the extent to which the feedlot improves its environmental performance. This improvement will be different for each feedlot depending on the issues facing the feedlot and the pressure it is under with regard to environmental interests.

As a minimum the EMS should incorporate basic project management principals. To that end, goals are defined, milestones to achieve the final results are identified and the actions necessary to reach the milestones are communicated to the relevant employees.

The following hierarchy should be applied to the setting of your improvement goals:



Implementing an EMS and/or any significant operational changes to meet environmental requirements will often require substantial investment of both time and money. This investment should be planned.

Project management information related to meeting objectives and targets to manage the significant issues as identified in Sheet No. 2 (section 4: Environmental Aspects) can be compiled in Table No. 5.

Apart from significant environmental issues, objectives and targets can be based on the following:

- The environmental policy;
- Issues associated with implementing the system;
- Issues associated with the organisation's legal and other requirements;
- Views of interested parties;
- Technological options and feasibility;
- Findings of audits and environmental reviews; and
- Other organisational goals

The number of targets needed to meet an objective is up to the company's decision. However, the more long term or large goals is broken down, the easier it will be to manage the implementation of the necessary actions.

The other important part of setting objectives and targets is to ensure that they are assigned to the relevant personnel and that the nominated EMS representative does not get assigned as the responsible person for all of the environmental objectives and targets.

Also, for each target, a number of actions may be required. These actions can be broken down to the detail of specifying the action as required. The SMART principals given below will help in setting the objectives and targets:

- Specific
- Measurable
- Achievable
- Realistic; and
- Traceable.

A typical objective an organisation may set is 'To reduce waste'. The following demonstrates the use of smart principal for this objective:

**Make the objective specific:**

What type of waste are you going to target? The more specific you can be the more likely you are to have a successful outcome both in terms of achieving the goal at the end of the day but also ensuring staff understand what they have to do.

**Make the objective measurable:**

How much are you going to reduce the production of the specific type of waste by and against what benchmark and against what criteria? Is it feasible to measure these criteria – do you need to rethink the units?

**Make the objective achievable:**

This is taken to mean achievable within the confines of your operation i.e. the financial and operating constraints you may have as a business in a competitive market.

**Make the objective realistic:**

This is taken to mean ensuring that it is technically feasible for the goal to be met. For example, a goal of zero waste may not be technically possible.

**Make the objective traceable:**

It is important in setting objectives and targets that the overall goals are traceable throughout the company. For example a goal of reducing paper waste may well affect several departments; the targets for each department should reflect the overall objective for the company.

Therefore, a SMART objective may be to:

'Reduce the phosphate loading in effluent discharged as irrigation water to Xmg/L per head of throughput by the year 2000'

Or

'Reduce the phosphate loading in effluent discharged as irrigation water by 35% by the year 2000 based on 1990 levels.'

**TABLE 5**

**OBJECTIVES, TARGETS AND PROGRAMS**

<b>Objective</b>	<b>Priority</b>	<b>Targets</b>	<b>Actions</b>	<b>Responsible Person</b>	<b>Deadline</b>	<b>Estimated Cost (\$)</b>
Reduce stormwater contamination	High / Record No. E302	1. Contain stormwater runoff from feedlotting area and treat	A) Install sedimentation pond system			
			B) Irrigate treated effluent on site			
		2. Contain leaks from fuel the fuel store	A) Conduct regular (yearly) integrity inspections of all tanks			
			B) Install bunding around the fuel store			
		3. Reduce suspended solids from receiving waters	A) Revegetate disturbed soil areas to reduce sediment movement			
			B) Install grass swales upstream of receiving waters to capture suspended sediment			

# **Appendix 10-**

## **Example of role, responsibility and authority**



<b>Designation: Plant Manager</b>	
<b>Department:</b> All	<b>Reports to:</b> Operations Manager
<p><b>Scope:</b> The Plant Manager is responsible for providing necessary support and resources to the quality management system. General quality responsibilities within this overall charter include: <i>Assuming the responsibility of the Livestock Coordinator in his absence</i></p>	
<b>Environmental Role</b>	<ul style="list-style-type: none"> <li>• Identify resources required and justify to Head office.</li> <li>• Ensure commitments in environmental policy are met.</li> <li>• Ensure personnel are aware of the Environmental Management.</li> </ul>
<b>System and its procedures</b>	<ul style="list-style-type: none"> <li>• Signs-environmental policy.</li> <li>• Ensure adequate training.</li> <li>• Ensure steering committee meet quarterly.</li> </ul>
<b>Responsibilities</b>	
1	To Ensure that quality vision is met.
2	To support and participate in management reviews.
3	Ensure personnel are aware of the Environmental Management.
<b>Authority</b>	The plant manager has overall authority in all day to day matters.

<b>Designation: Owner/Manager and EMS Manager</b>	
<b>Department:</b> All	<b>Reports to:</b> N/A
<b>Scope:</b> The Owner/Manager and EMS Manager has the ultimate responsibility for the total business	
<b>Environmental Role</b>	<p>Carry out majority of and manual work and establishing, implementing, maintaining and continually improving the EMS is accordance with AS/NZS 14001: 2004.</p> <p>Responsible for all staff.</p> <p>Provide training to new staff in area of livestock management, agriculture management, natural resource management, and workplace health and safety.</p> <p>Providing training to staff in environmental awareness and management.</p> <p>Responsible for the husbandry practices conducted on the property , such as mustering , branding , supplementary feeding , mating, weaning and supervision of animal welfare.</p> <p>Responsible for ensuring proper use and administration of veterinary chemicals, including drenching, vaccination, and treatment of external parasites.</p>
<b>Responsibilities</b>	
1	To Ensure that quality vision is met.
2	To support and participate in management reviews
3	Ensure personnel are aware of the Environmental Management.
<b>Authority</b>	The plant manager has overall authority in all day to day matters.

**Appendix 11-**

**Example of general  
environmental roles within  
feedlot facility**

The details of the general roles and specific employee requirements within feedlots are detailed in Table 6.

**TABLE 6**

**ROLES AND RESPONSIBILITIES IN ENVIRONMENTAL MANAGEMENT**

<b>Level of Management</b>	<b>Roles</b>	<b>Specific Employee Requirements for Environmental Management</b>
<b>General Manager or Managing Director</b>	<ul style="list-style-type: none"> <li>• Responsible for effective management of environmental issues and for the Implementation of the Environmental Policy;</li> <li>• Delegates authority to implement the EMS to the Environmental Management Representative;</li> <li>• Make available resources essential to the implementation and control of the management system. These resources include human resources and specialized skills, technology and financial resources; and</li> <li>• Approves Environmental Policy.</li> </ul>	<ul style="list-style-type: none"> <li>• Commitment to the EMS process;</li> <li>• Understanding of liabilities associated with environmental impacts; and</li> <li>• Understanding of the legal implications of breaches (both corporate and individual liability).</li> </ul>
<b>Environmental Management Representative</b>	<ul style="list-style-type: none"> <li>• Ensuring the Environmental Management requirements are established, implemented and maintained in accordance with AS/NZS 14001:2004;</li> <li>• Responsible for the day to day management of the EMS;</li> <li>• Designation and delegation of responsibilities for developing procedures relating to Environmental Management to other personnel;</li> <li>• Reporting on the performance of EMS to top management for review and continued improvement;</li> <li>• Making sure managers and supervisors have the knowledge to fulfil their responsibilities. e.g.</li> </ul>	<ul style="list-style-type: none"> <li>• Awareness of the organisation’s significant environmental issues and why they are deemed significant;</li> <li>• Understanding of techniques that might be applicable in controlling in these issues;</li> <li>• Knowledge of trends in the development of significance, eg. legislation, community expectations, and their relevance to business development;</li> <li>• Understanding of techniques to communicate and set the agenda for environmental issues within the organization;</li> <li>• Knowledge of relevant techniques for environmental management as defined by industry codes and</li> </ul>

<b>Level of Management</b>	<b>Roles</b>	<b>Specific Employee Requirements for Environmental Management</b>
	<p>train the trainer programs; and</p> <ul style="list-style-type: none"> <li>• Identifying compliance requirements.</li> </ul>	<p>affiliations;</p> <ul style="list-style-type: none"> <li>• Knowledge of designing and implementing EMSs; and</li> <li>• Understanding of the legal implications of breaches (both corporate and individual liability).</li> </ul>
<b>Operations Manager</b>	<ul style="list-style-type: none"> <li>• Responsible for effective implementation of the procedures for Environmental Management within their overall areas of operation (or as required by the Environmental Management Representative);</li> <li>• Accountable for employees working under them;</li> <li>• Ensuring personnel in their area are aware of EMS procedures and work instructions;</li> <li>• Identifying the resources that they require and justifying those requirements to senior management;</li> <li>• Ensure the commitments in the Environmental Policy are maintained;</li> <li>• Ensuring employees of the manager’s area are made aware of procedures, Environmental Critical Control Points and other aspects that relate to the Environmental Management; and</li> <li>• Specific responsibilities are to be identified and formally assigned.</li> </ul>	<ul style="list-style-type: none"> <li>• Understands which environmental issues affect the business</li> <li>• Understands legal implications of breaches (both corporate and individual liability);</li> <li>• Has knowledge of how to incorporate environmental considerations into business planning and decision-making;</li> <li>• The identification of opportunities for improvement;</li> <li>• An understanding of liabilities associated with environmental impacts;</li> <li>• An understanding of the significant environmental effects of the activities they manage, the reason these aspects are significant and the available means for controlling these effects;</li> <li>• The roles of individuals they manage in ensuring environmental protection and the skills these individuals require to be effective in these roles;</li> <li>• An understanding of the environmental significance of decisions they make; and</li> <li>• An understanding of the EMS and</li> </ul>

Level of Management	Roles	Specific Employee Requirements for Environmental Management
<p><b>Employees with specific environmentally related tasks</b></p>	<ul style="list-style-type: none"> <li>• Undertaking their work as described in the EMS procedures and Standard Operating procedures;</li> <li>• Reporting non-conformances;</li> <li>• Responsible for environmental performance within the scope of their activities;</li> <li>• Identify areas for improvement; and</li> <li>• Showing initiatives in Environmental Management</li> </ul>	<p>their roles and responsibilities.</p> <ul style="list-style-type: none"> <li>• Knowledge of what is required in normal and abnormal operating conditions and why;</li> <li>• Understanding of the importance to the organisation and environment of any failure to undertake their tasks properly;</li> <li>• The legal implications of breaches (both corporate and individual liability);</li> <li>• Understanding of how their tasks fit into the wider activities of the organisation, its policy and objectives;</li> <li>• An understanding of how their responsibilities with respect to Environmental Management; and</li> <li>• The identification of opportunities for improvement.</li> </ul>
<p><b>General Workforce</b></p>	<ul style="list-style-type: none"> <li>• Undertaking their work as described in the EMS procedures and Standard Operating procedures;</li> <li>• Reporting Non-Conformances; and</li> <li>• Responsible for environmental performance within the scope of their activities.</li> </ul>	<ul style="list-style-type: none"> <li>• An understanding of how processors performed by the operator can impact the environment;</li> <li>• Knowledge of stops they can take to minimize these impacts;</li> <li>• The legal implications of breaches (both corporate and individual liability);</li> <li>• An understanding of responsibilities within the EMS</li> <li>• The identification of opportunities for improvement; and</li> <li>• An understanding of relevant procedures detailed in the</li> </ul>

<b>Level of Management</b>	<b>Roles</b>	<b>Specific Employee Requirements for Environmental Management</b>
		Environmental Management procedures.

## **Appendix 12-**

# **Methods for documenting and communicating roles, responsibilities, authority**



## **Recording and Communicating Responsibilities**

Roles and responsibilities within the EMS need to be documented and communicated to relevant employees so that there is understanding amongst managers and employees of what is expected of them and what is expected of fellow employees. In addition, documented responsibilities allow for new employees or third parties to quickly understand the roles of employees in the EMS, and provides a record that assists in the demonstration of due diligence.

In order to define environmental responsibilities within your management structure, a useful tool is an organizational chart that states what the environmental roles are according to the existing structure. This can be used to ensure that those with environmental management responsibilities have the authority to carry out their roles.

There are a number of ways to document and communicate responsibilities. These include:

- Job descriptions;
- Key performance Indicators (KPI's);
- Procedures; and
- Matrices.

### **1. Job Descriptions**

Job descriptions are a common way to define the responsibilities of an employee that holds a particular position. They would normally describe job-related activities such as expected work requirements and specific job tasks. In the same way as for most task related work, requirements and roles with respect to environmental management could also be integrated into these position descriptions.

### **2. Key Performance Indicators**

Responsibilities may be written in terms of achieving set performance targets. These may be stated in job descriptions.

### **3. Procedures**

A number of procedures will be required to be developed as part of any EMS. These procedures should contain roles for those responsible for any part of the procedure. The procedures as set out in Section 5.5: Operational Control and Monitoring Procedures detail these requirements.

### **4. Matrices**

Matrices can be used to describe employee responsibilities in a summary form for quick reference.

**Appendix 13-**  
**Guidelines for filling Sheet**  
**No. 6 (Section 8-**  
**competence, training and**  
**awareness)**

### **Roles**

In this column the role of a particular employee at the facility is listed. The roles are for anyone that has an input to environmental management or has tasks associated with significant environmental issues. The requirement is to list all roles as considered appropriate for the facility.

### **Role Competence requirements**

In this column, the competency criteria for each of the roles are established. Levels of competency may be identified through individual qualifications, acknowledged skills or years of experience in a particular position or field.

For example, an Environmental Management Representative may need to be trained in EMSs Auditing and have had 5 years experience in the livestock industry to be able to demonstrate competence in their role.

### **Name of the person**

This column records name of the person who is in or has been nominated for the role as described in Column 1.

### **Record**

In this column, records that demonstrate the training and experience of personnel are listed. This should be regularly updated to demonstrate that all personnel have sufficient training to be competent in their roles. These records will assist in the demonstration of due diligence.

AS/NZS 14001:2004 requires that all people who perform tasks that can cause significant environmental impacts will need to demonstrate that they are competent to perform these tasks. Methods to do this include the passing of a test following a training course, certification with third party bodies, proven experience in the field or similar measures. These details should be included in the records of the needs analysis.

Training needs must be identified for contractors or suppliers who are employed at the property. Contractors who work on activities linked to significant environmental risks or impacts at the company should undertake induction training.

### **Training Needs**

For each employee, the training needs are determined by assessing what training and/or experience is required for each employee to bring them up to the competence required for their position. This will depend on the existing level of training and competency of the individual. Training courses that are available internally and externally will need to be identified to meet training needs.

## **Appendix 14-**

### **Example of Sheet No. 6**

TABLE 7

**EMPLOYEE/CONTRACTOR COMPETENCE AND TRAINING NEED  
ASSESSMENT**

<b>Role</b>	<b>Roles Competence Requirements</b>	<b>Name of the person</b>	<b>Record</b>	<b>Training Need</b>
EMS Auditor	Trained in management systems auditing	Fred Dunn	Completed EMS Auditor Certification Course (QSA Certified) and passes the exam. (Record No. )	Undertake 5 day EMS auditor training course
	Aware of the site EMS		Involved in the development of the EMS (Record No. )	
	Has had 5 years experience in livestock industry		Has 10 years in the livestock industry (Record No. )	
General Manager	Has livestock industry experience	Joe Smith	Worked as livestock coordinator at XYZ feedlot (Record No. )	
	Has had 3 years experience in environmental management		Environmental management at XYZ feedlot for 3 years (Record No. )	
	Understands environmental law and its application to the feedlot		Completed course in Environmental Law by correspondence with Griffith University (Record No. )	
	Agriculture chemical safety certificate			Undertake course from ChemSafe Training

Role	Roles Competence Requirements	Name of the person	Record	Training Need
				Queensland
	Veterinary chemical safety certificate		(Record No. )	

## **Appendix 15-**

# **Example of procedure for employee/contractor competence and training need assessment**

**Purpose:** To ensure that any employee(s) and/or contractors having the potential to cause significant environmental impacts are competent in performing their responsibilities.

**Scope:** All employees and contractors identified to have potential to cause significant environmental impacts

**References:** AS/NZS ISO 14001:2004 EMS

**Records:**

- Structured Training Programs
- Records as per sheet no.

**Responsibility:** EMS Manager

**Procedures:**

- (a) Complete and record Table No. 8 for all relevant employees by considering the following
  - Identify the training and/or experience requirements for each role related to the environmentally significant issue outlined in significant aspects (relevant column title to be filled: Role)
  - Identify the training and experience that employees currently have against the role requirements. (relevant column title to be filled: Role Competence Requirements)
  - Cross reference prior training and experience of each employee to that of the position they are currently occupying (relevant column title to be filled: Record)
  - Identify the deficiencies in terms of education, training and experience (relevant column title to be filled: Training Need)
- (b) Contractors shall complete Table No. 8
- (c) Ensure that the training needs of employees and/or contractors are met through a structured training program.
- (d) Implement this procedure to include new employees and /or contractors or on a yearly basis, whichever is earlier.



**TABLE 8**

**EMPLOYEE/CONTRACTOR COMPETENCE AND TRAINING NEED ASSESSMENT**

<b>Role</b>	<b>Roles Competence Requirements</b>	<b>Name of the person</b>	<b>Record</b>	<b>Training Need</b>

# **Appendix 16-**

## **Guidelines on training program**

## **1. Environmental Training Program**

Once the training needs have been assessed for personnel at the facility, an Environmental Training Program to progressively meet the requirements of the needs analysis (to achieve the required level of competency, qualifications or skills for personnel) will need to be developed.

The Training Program will define training to be undertaken by all personnel with environmental management responsibilities. The training, will be vary depending on the findings of the training needs analysis, hence different levels of personnel will get different levels of training.

A list of some typical environmental training courses available is detailed in Table 11.

In order that the training requirements are kept up to date, there should be a mechanism for periodic review of the training needs, the available programs, and the implementations of the training plan.

## **2. Contractors**

For contractors who may operate on your site, especially if their tasks relate to operations that are linked to significant impacts, training requirements should be identified and provided. The level of training may depend on their own company's environmental training, or the extent to which they operate at your site. At a minimum, induction training is considered essential. This should cover:

- Training on the emergency procedures for the site;
- Safety equipment required in certain areas;
- Significant environmental issues at the site;
- Environmental issues that people will be involved/responsible for; and
- Records should be kept of training requirements and training undertaken for contractors.

**TABLE 9****TYPES OF TRAINING COURSES FOR EMPLOYEES AND CONTRACTORS AND THEIR EXPECTED OUTCOMES**

<b>Type of Training</b>	<b>Training Outcomes</b>	<b>Suggested Audience</b>
1. Environmental Compliance Training	<p>Identification and awareness of legislative responsibilities.</p> <p>Awareness of due diligence liabilities.</p> <p>Updates on new and planned legislation.</p>	General Manager
2. Induction Training	<p>Awareness of site and environmental issues at the site</p> <p>Awareness of the Environmental Management System and specific responsibilities for Environmental Management.</p> <p>Awareness of Environmental Emergency requirements specific to relevant personnel.</p>	All new personnel and contractors
3. Environmental Issues and Awareness Training (this should be tailored to cover site specific and company specific issues, as well as an introduction to regulatory issues)	<p>Identifies environmental issues that people may not have understood or known of, therefore increases sense of commitment and environmental responsibility for their work activities.</p> <p>Instils a sense of environmental responsibility</p> <p>Promotes involvement in environmental management.</p> <p>Provides baseline of knowledge for all to work from.</p> <p>Can provide a line of communication of environmental policy, requirements under the policy and corporate objectives to all employees, and thence achieve some level of commitment to these.</p> <p>Facilitates understanding of the organisation's intent in environmental management.</p>	All personnel
4. Specific Training for procedures	<p>Acceptance of procedures</p> <p>Assurance that procedures are understood</p>	Staff who are required to perform specific duties in

Type of Training	Training Outcomes	Suggested Audience
	<p>by all relevant personnel.</p> <p>Compliance with procedures.</p> <p>Increased awareness of the EMS and its objectives.</p>	<p>environmental management, especially those covered by specific procedures.</p>
<p>5. EMS Training</p>	<p>Increased sense of ownership of an involvement in the system.</p> <p>Awareness of the structure and elements of the system.</p> <p>Awareness of all significant roles and responsibilities in Environmental Management.</p> <p>Awareness of program for EMS implementation, achievement of objectives and targets etc.</p> <p>Awareness of documentation required for the system.</p>	<p>All personnel</p>
<p>6. Emergency Procedures Training</p>	<p>Continued awareness of emergency response procedures.</p> <p>Awareness of evacuation procedures.</p>	<p>All personnel</p>
<p>7. Environmental Compliance Auditor Training</p>	<p>Further consolidates environmental awareness and compliance training.</p> <p>Provides an in-house resource for identifying environmental issues, impacts and aspects.</p> <p>Reduces the requirement for use of external consultants.</p> <p>Establishes a core group of internal auditors that can conduct audits thereby keeping knowledge in-house.</p>	<p>Specific staff targeted to conduct environmental audits, to be involved in the audit process, or to be involved in developing impacts and aspects register</p>
<p>8. EMS Auditor Training</p>	<p>Provides an understanding of the potential problems and pitfalls of EMS.</p> <p>Detailed understanding of the EMS.</p> <p>Identifies what to look out for in EMS implementation and auditing.</p>	<p>Key personnel responsible for the development and implementation of EMS and personnel requiring detailed understanding of the system.</p>

## **Appendix 17-**

# **Further reading on internal communication**

## **Internal Communication and reporting**

The internal communication and reporting of specific elements of any system for environmental management is crucial to the ongoing success of environmental management at the facility. This communication needs to address all employees at the facility who have environmental tasks or undertake tasks that have been identified to be associated with significant impacts.

Detailed below are some methods the organisation may want to consider to effectively communicate internally.

### **a. Team Meetings**

Many companies implementing environmental management strategies initiate the formation of a central group to provide a focus for decision making on environmental issues for the facility. This group is often called an environmental team or an environmental committee.

It is important that the team contains people with management authority, and as such it follows that the team would comprise management and others with key environmental management responsibilities. The team may even be formed from an existing management team. The team would typically meet on a monthly basis and discuss any issues relating to environmental management that have arisen. The meeting may comprise part of existing business or other management type meetings. Minutes of the meetings are generally developed and can be written up and put in public areas for all personnel to have access to them.

### **b. Performance Evaluation**

Most companies have some sort of performance evaluation of employees against criteria specific to the tasks required of the person. These criteria can include environmental performance criteria.

**c Training:** Trainings is an effective way to communicate many aspects of environmental control to all levels of employees.

**d. Ideas for Environmental Initiatives and Complaints** It is important that all employees have a means to provide input, either positive or negative, to environmental management. So that employees feel comfortable in providing this input, a forum for all employees to report on environmental management at the facility should be developed. This could cover:

- Suggestions for improvements in environmental management and systems management;
- Environmental initiatives for the facility or employees;
- Environmental incidents, complaints and other issues at the facility that need to be developed;
- The forum may be monthly, quarterly or weekly meetings and may be coupled with Quality or OH&S Meetings.

### **e. Environmental Coordination:**

Communications systems between the Environmental Management Committee (if one is developed, which normally comprises managers and others with environmental management responsibilities) environmental coordinator, senior management can be distributed effectively amongst the facility. Methods for this includes company newsletters, notice boards,

information sheets and the like. As a minimum, methods of communication between the following personnel should be developed:

- General Management to all personnel;
- The Environmental Manager to the General Manager
- The Environmental Manager to all personnel: and
- The Environmental Management Committee to all personnel.

**f. Corporate Communications:**

Where the corporate headquarters are located separately from the site, methods to communicate aspects of environmental management at the site to corporate headquarters, and from the headquarters to site, should be set up.



## **Appendix 18–**

# **Example of procedure for external communication**

## **Purpose**

The purpose of this procedure is to:

- (i) Inform External parties such as neighbours and the township, as well Government Authorities such as the N.S.W. E.P.A. as to what actions and practices the organisation is operating to. Although it is a requirement by Law to provide the N.S.W. E.P.A. information regarding our monitoring of effluent and work practices, we see it necessary to continue communication further and extend our relationship so as to build a healthy respect for all parties.
- (ii) Ensure that all correspondence coming in is documented and filed and responded to for such correspondence regarding environmental performance.

## **Responsibilities**

It is the responsibility of the Environmental Manager to ensure that all necessary information is passed on to the appropriate parties.

## **Procedures:**

- (i) Liaise directly with the N.S.W. E.P.A. regional office. The major correspondence should be the Environmental Management Report and the Certificate of Compliance.
- (ii) Liaise directly with .... Shire Council's Environmental/Health department.
- (iii) Liaise with and report back to any complainants who may have registered a complaint regarding environmental issues. These must be documented.
- (iv) Liaise with ..... proprietor who is licensed by the E.P.A. to use our effluent water.
- (v) Supply all mandatory reports and monitoring information to the appropriate regulatory authorities.
- (vi) All external complaints are to be recorded on the Non-conformance report form.

## **Records:**

- (i) Correspondence with N.S.W. E.P.A.
- (ii) Annual Environment Management Report.
- (iii) Certificate of Compliance.
- (iv) Pollution Complaint/Non Conformance Report.
- (v) General correspondence with any concerned parties.

# **Appendix 19–**

## **Example of procedure to handle external complaints**

**Purpose**

To control the receive all of complaints, giving all the personal details of the complainant, including a response (at the time of the complaint), the designated follow-up person, together with the actions taken and the signature of the follow-up person.

**Scope**

A copy of this “Environmental Complaint Logging Form” will be kept in the “Environmental Complaint” folder in the main office. This ensures easy access for completion via the telephone when required.

**Procedure**

- Fill in the appropriate information when complaint received or as soon as practicable afterwards.
- Take immediate preventative action to minimise impact.
- Report the complaint to the supervisor notifying them of actions that have been carried out.

**Key responsibilities**

To be completed at the time of the complaint, and overseen by the manager.

**References**

Environmental Complaint Logging Form

**TABLE 10**  
**COMPLAINTS LOG**

<b>Date &amp; Time</b>	<b>Person &amp; Contact details</b>	<b>Detail of Complaint</b>	<b>Response</b>	<b>Employee Initials</b>
30/3/99 5:00pm	Mrs Brown Ph (07) xxxx xxxx	Odour complaint	Irrigation of waste water ceased until the wind stops	DB
2/4/99 3:00pm	David Parker Greenpeace (02) xxxx xxxx	General complaint about our facilities environmental performance	Sent a copy of our environmental representative to call see letter reference xxxx	DB

# **Appendix 20-**

## **Types of external communication**

## 1. Proactive Communications

Proactive communication is initiated by the facility, and can be used to raise awareness of the environmental management initiatives at the facility. It has many potential benefits, the least of which could be the maintenance of a transparent and cooperative relationship with external stakeholders such as neighbours and government enforcing agents.

Examples of proactive communication includes:

- **Environmental Performance Reporting:** Detailing environmental performance in a report generated for the public or any other stakeholder. This reporting is aimed at making business more transparent to the general public. Many companies have developed these reports. Environment Australia recently released 'Triple Bottom Line Reporting in Australia – A Guide to Reporting Against Environmental Indicator' (June 2003).
- **Community Handouts/Newsletters:** Communication regarding issues that may impact on neighbours, such as potential odour issues.
- **Reporting to Government Authorities:** This includes regular reporting to government authorities outside of regulatory requirements such as stated in licence or permit conditions (discussed further below). Regular reporting to such authorities may help to engender a more positive relationship with the authorities than maintaining a level of communication.

In addition to the reporting requirements above, consideration should be given to internal assessment of planning, so that while not only the best result for the Regulatory agencies is gained, the facility can incorporate benefits from the lessons learned at other developments.

## 2. Reactive Communication and Handling Complaints

Reactive communication covers responses to requirements of regulatory authorities, Local Council as well as responses to Community Groups, neighbours or anyone from the public. Typical communications include reporting of compliance with licence or permit conditions, response to external complaints, or general environmental issues.

In the case of legal action where it may be important that due diligence can be demonstrated, it may be important that procedures are developed to manage the record these communications effectively.

Examples of external reporting of a reactive nature, where procedures may be required to ensure that effective management and recording of the communications can be demonstrated include:

- Reporting monitoring results and other material to demonstrate compliance with site licences;
- Responding to complaints from the general public or community groups; and
- Responding to questions or issues raised by government authorities.

An example of complaints log is given in Table 11. Procedures for dealing with complaints could be done in accordance with section 14: Nonconformity, preventive actions and corrective actions.

TABLE 11

## TYPICAL COMPLAINTS LOG

Date & Time	Person & Contact details	Detail of Complaint	Response	Employee Initials
30/3/99 5:00pm	Mrs Brown Ph (07) xxxx xxxx	Odour complaint	Irrigation of waste water ceased until the wind stops	DB
2/4/99 3:00pm	David Parker Greenpeace (02) xxxx xxxx	General complaint about our facilities environmental performance	Sent a copy of our environmental representative to call see letter reference xxxx	DB

### 3. Communications in a Project Planning Process

There are a number of considerations in a project planning process that should be communicated to relevant authorities, in order that planned developments are designed and constructed in a way that is consistent with the requirements of these authorities.

Many companies have gone through the process of design and construction, only to find that the operation of the structures, plant or equipment did not meet requirements of a government authority. It is important to ensure that all current and likely future requirements of authorities are identified and documented early in the design phase, in order that they can be incorporated with little cost. Retrofitting is normally more expensive option.

To prevent this, communications need to be set up between the facility and local authorities for the planning phase of work that may have an associated significant risk or impact. In addition, external contact should be made with suppliers and other users of similar structures or equipment in order that the most suitable is used in all situations. The facility should solicit response from these parties proactively, such that the ultimate design is the best for a given situation.

A checklist of typical project planning actions is given below:

- Identification of environmental issues for the development;
- Noise limits from the State Agricultural Department, Environmental Department or local council;
- Wastewater effluent limits from State Agricultural Department, Environmental Department or local council;
- Dangerous goods storage requirements from WorkCover or equivalent;
- Future development plans by Council for the given area and its surrounds, eg potential for change in landuse around the site that may limit site's operations;
- Stormwater management issues from State Agricultural Department, Environmental Department and/or Council; and
- Initiatives for waste reduction programs required by Council or the State Environmental Department.

## **Appendix 21-**

# **Information on document control and requirements for documentation**



There are many ways to control documents as described in Step 1 of section 10: Documentation and records- control and requirements. One of them is to fill and record table in an EMS manual.

**TABLE 12**  
**CONTROL OF DOCUMENTS**

<b>Documents ID</b>	<b>Amendment No</b>	<b>Date of Issue</b>	<b>Personnel responsible</b>	<b>Signature</b>

With regard to documented procedures, the following information may be included:

- Information of the history of the versions of the documented procedures- current and obsolete- and attested by the responsible person;
- Purpose of the documented procedure;
- Scope of the documented procedure;
- Responsibility to implement the documented procedure;
- Steps of the procedure required to fulfil its purpose;
- Procedure related records and their location; and
- References to other procedures if required.

The following information regarding procedure currency, traceability and accountability may be included on each page of the documented procedure

<b>Documents ID</b>	<b>Approved By</b>	<b>Revision No.</b>	<b>Issued On</b>	<b>Amendment No.</b>	<b>Page no.</b>

**Appendix 22-**

**Identification of ECCP  
and associated control  
strategies**

**1. Identifying Environmental Critical Control Points**

Environmental Critical Control Points are defined as ‘A point, stop or procedure in the process of which control (technological or managerial) can be applied and, as a result a significant environmental aspect can be prevented, eliminated or reduced to acceptable levels’. It is worth noting therefore that the process of establishing Environmental Critical Control Points is essential for those operations that have already been identified as ‘significant’.

To determine whether a point, stop or procedure is an Environmental Critical Control Point by answering the following questions:

1. Do preventative measures currently exist for this stop in the process to control the identified risk?  
 If ‘Yes’ you should move to Question 2  
 If ‘No’ you should move to Question 3
2. Do these risk reduction measures fully control the risk within acceptable levels?  
 If ‘Yes’ this process stop is an ECCP  
 If ‘No’ you should move to Question 3
3. Is risk control needed at this stop of the process to control the risk?  
 If ‘Yes’ then this process stop is an ECCP  
 If ‘No’ then this process stop is not an ECCP

An example proforma for identification of Environmental Critical Control Points is provided in Table 13. It is suggested that you use the proforma to structure and record your decision-making and to allocate a reference number.

**TABLE 13**

**ECCP DETERMINATION TABLE**

Step	Associated Environmental risk:	Q1: Do preventative measures currently exist for this stop in the process to control the identified risk	Q2: Do these risk reduction measures fully control the risk within acceptable Levels?	Q3: Is risk control needed at this stop of the process to control the risk?	ECCP number
	Significant Risk	If yes – go to Q2 If No – go to Q3	If Yes – ECCP If No – go to Q3	If Yes – ECCP If no – not an ECCP	Allocate a number to the ECCP for future reference in other parts of the EMS

The number of ECCP’s will vary depending on the complexity of your feedlot operations and the way that you have conducted your risk assessment and ECCP determination.

## **2. Environmental Risk and Control Strategies**

Table 14 can be used to record all the details necessary and/or it can be used as a high level reference system which will provide much of the linkage necessary to demonstrate how each part of the EMS relates to the others.

The table also details the relevant operational procedure reference that relates to the particular ECCP.

**TABLE 14**

**ENVIRONMENTAL RISK AND CONTROL STRATEGIES TABLE**

Significant Process Steps/ ECCP	ECCP No.	Technical Performance Parameters	Managerial Performance Parameters	Operational Procedure Reference	Monitoring Procedures	Calibration/ Maintenance Requirements  (Actions and frequency)	Corrective Actions & Responsibility	Records	Verification Procedures
Effluent treatment	4	BOD, suspended solids, pH, Total Nitrates.	Implementing OP 1 by the operator.	OP1	Monitor BOD, suspended solids, pH, Total nitrates	Calibrate relevant equipment used for monitoring.	If the levels of BOD, suspended solids, pH, Total Nitrates are above the license limits, follow instruction in OP1.	Record monitoring results in <reference>	

# **Appendix 23-**

## **Examples of operational control procedure**

### **WORK INSTRUCTIONS**

<b>CRITICAL OPERATION:</b>	<b>Water Sampling</b>
<b>LOCATION:</b>	<b>Piezometers, Irrigation Pond</b>
<b>OPERATING CRITERIA:</b>	<b>Monitoring frequency as per licence requirements Sampling as per applicable standards</b>
<b>PERSON (S) RESPONSIBLE</b>	<b>Environment Manager</b>

#### **W.I. Number: 6**

1. Take supplied water sample bottles to the desired sampling points as specified to be sampled by our N.S.W. E.P.A. Pollution Control Licence.
2. Take samples at the frequency as specified in the above-mentioned licence.
3. Carefully remove the lid of the sample bottle so as not to damage the lock seal device installed.
4. Fill sample bottles to the top and seal tightly, engaging lock seal so that sample cannot be tampered with. Samples do not require refrigeration or any special conditions.
5. Carefully package samples in a box and courier to NATA approved laboratory overnight for the required testing as per the licensing instructions.
6. In the case of the Piezometers, remove the cap from piezometer and lower the specialized non-return valve water collection tool to capture water for sampling.
7. Apply the same conditions for Piezometer sample as above, once water sample is obtained.
8. Piezometers are measured for water depth and recorded with testing results.

#### **Corrective Actions**

- (a) If seal breaks on lid, seal with waterproof tape prior to sample being sent.
- (b) Resample water if necessary.
- (c) Resend sample if not delivered to testing laboratory in correct order.

### **WORK INSTRUCTIONS**

<b>CRITICAL OPERATION:</b>	<b>Soil Sampling</b>
<b>LOCATION:</b>	<b>Irrigation &amp; Cropping Paddocks</b>
<b>O OPERATING CRITERIA:</b>	<b>Monitoring frequency as per licence requirements Sampling as per applicable standards</b>
<b>PERSON (S) RESPONSIBLE:</b>	<b>Irrigation/Farm Manager</b>

#### **W.I. Number: 7**

1. Locate reference plot in each paddock to be tested.
2. Take samples at the frequency and position as outlined by our N.S.W. E.P.A. Pollution Control Licence.
3. Using a soil sampling corer, take a random ten (10) cores within a one (1) metre radius of the reference plot position.
4. Place soil in bags and record the following details on the bag
  - Name of Company
  - Date
  - Paddock sample taken from
  - Depth of sample
  - Whom sample taken was by
5. Deliver samples to local agronomist to arrange testing at their NATA approved laboratory.
6. Advise Environment Manager when samples are taken.

#### **Corrective Actions:**

- (a) If bags damaged, repackage prior to dispatch
- (b) If necessary resample soil in required paddocks
- (c) Advise Environment manager of any problems.



# **Appendix 24-**

## **Guidelines for developing emergency preparedness plan**

The following are the type of accidents and emergency situations expected in a feedlot facility.

### **1. Fires**

Fires can lead to many environmental impacts. Some typical causes of fires in the feedlot industry are:

- Electrical short circuiting;
- Welding near flammable materials; and
- Combustion of flammable materials

The environmental impacts from such fires could include contamination of stormwater, release of toxic gases and production of hazardous waste (liquid and solid).

### **2. Liquid Waste Emergencies**

Liquid waste emergencies include:

- Effluent discharge to receiving waters

The impacts from these emergencies include stormwater contamination affecting downstream watercourses e.g. increasing Biological Oxygen Demand levels in runoff receiving areas, sedimentation, and fire risk (in the case of dangerous goods waste).

### **3. Solid Waste Spills**

Solid waste spills can occur in the handling, storage and processing of manure.

### **4. Chemical Spills/Leaks**

Emergencies related to chemicals storage and handling include (but are not limited to):

- Fuel and oil leaks from above ground and underground storage and piping.
- Livestock feed spills.

### **5. Loss of Power**

- Pump controls.

Once the emergency situations have been identified, procedures to address them should be identified. Responsibilities need to be allocated for the development of the emergency procedures and their implementation. These responsibilities should be included in the emergency procedures developed for this section.

Where possible, existing emergency response plans or procedures should be reviewed and where appropriate modified to include coverage of environmental emergencies.

The following requirements apply to the implementation of emergency response plans/procedures:

- All employees with specific responsibilities in emergency response plans must undergo initial and periodic refresher training; and

- Drills involving people, equipment and where necessary, external emergency services providers (such as fire brigade or the State Emergency Service) must be undertaken on a planned basis at regular intervals.

**Other tasks to be considered in developing procedures for emergency response**

There are a number of other tasks and requirements that should be considered for importance in the development of an emergency response plan or procedures.

In summary these tasks are:

- Assign responsibility for internal and external communication;
- Develop emergency contact lists for internal and external contacts;
- Establish criteria for notification of the emergency to senior management;
- Establish a hazardous materials inventory for internal and external use;
- Identify local emergency services providers and other local providers of expertise which may be of assistance in managing an emergency;
- Identify neighbours who should be advised in the event of an emergency;
- Identify specific training needs for persons with specific emergency response responsibility;
- Identify community communication requirements;
- Detail the scope of the plan/procedure(s);
- Detail the purpose of the plan/procedure(s);
- Having on site spill kits for clean up of liquid waste and chemical spills;
- Consider processes for disposal for contaminated absorbent material used during spill response;
- Documentation and reporting of incidents;
- Review and revision of emergency response procedures;
- Distribution list; and
- Area and plant maps and plans

**Appendix 25-**

**Guidelines on  
nonconformity, preventive  
action and corrective  
action**

It should be the responsibility of all employees to report accidents and near misses. To ensure that they are able to do this they will need to be trained in what constitutes an environmental accident and/or near miss and it's reporting to related personnel.

The types of events (or potential events) that should be reported and investigated include:

- Spills;
- Complaints from the community or local authorities;
- Breaches of licence or discharge conditions; and
- Raw Material wastage.

It is recommended that a preventive and corrective action form (refer Table 15) be developed and distributed around the site. The form requires the following to be recorded:

- A description of the event;
- The immediate response taken;
- Corrective actions to be taken; and
- Sign-off for actions taken.

One of the most important parts to the form is the corrective action. The corrective action is the longer-term response that is determined to be required in order that a similar environmental undesired event will not happen in the future.

Systems should be established for all preventive and corrective action forms as well as systems to ensure that:

- Persons are delegated to be responsible for corrective actions;
- The corrective actions are developed and completed; and
- The corrective actions are signed off.

Staff should be trained on the importance of using the form and how to fill it out. Depending on your facility, you may find it useful for some or all of these systems to be electronically based.

It is recommended that a written procedure should be developed which documents the following:

- The type of events which should be reported;
- The timing and how events should be reported;
- Who should be notified (internal and external);
- Who is responsible for conducting investigations;

- How to conduct the investigation; and
- The reports that should be prepared.

Periodically, the preventive and corrective action forms can be analysed to assess trends. This type of periodic evaluation is a very powerful source of management information. The findings will probably have knock-on effects in other management areas such as safety and quality.

It is suggested that a two tiered system be developed in that all accidents and events are reported and only the significant events are investigated. It will be necessary for you to define the criteria that will make an event be a high, medium or low significance. Many organisations document this on the reverse of the form. The form itself does not need to be A4, in fact many companies have the forms printed specially and have them in pocket book size.

Many organizations have found it useful for the forms to be printed on carbon paper so that multiple copies can be made. For example, three copies might be made: the first is retained by the employee reporting the event, the second may be sent to the supervisor and the third to the Environmental Coordinator.

Use of these systems to show that events are reported and that the actions taken are recorded will assist in demonstrating due diligence.

Formal training should be provided to all personnel involved in the investigation of significant accidents. This training should include how to evaluate what the root causes were that caused an event and how to report these and suggest actions to prevent recurrence.

**TABLE 15**

**ENVIRONMENTAL UNDESIRED EVENT REPORTING FORM**

Description	Reported by: _____ Date: _____  Reported to: _____ time: _____  Location: _____  Significance:                      High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>  Brief Description	
Immediate Response	Actions Taken at scene:	
Corrective Action	Actions needed to prevent recurrence:  1  2  3  4	(Responsible person)  1  2  3  4
Corrective Action	Sign off actions taken:  1  2  3  4:	
All actions taken-sign off:		
Review of effectiveness of actions taken:		

**Appendix 26-**  
**Example of procedure for  
reporting non-  
conformance**



**Purpose:**

The purpose of such a procedure is to ensure that employees, locals, neighbours and authorities can report non-conformance and be assured that action can be taken to detect, eliminate, control or reduce those con-conformances.

**Responsibilities**

It is the responsibility of the Environment Manager to ensure that non-conformance that is reported is followed up and dealt with in the correct manner. It is also the responsibility of the Environment Manager to educate persons as to the types of events that should be reported and investigated. In particular employees directly associated with the EMS should report any non-conformances immediately they are aware of them.

**Procedures**

- (i) Identify and educate employees as to the types of events that should be reported. The following list of event should always be reported.
  - Spills
  - Complaints from the community or local authorities
  - Breaches of licence or discharge conditions
  - Odours
  - Noise
  - Raw material wastage
- (ii) Educate employees as to when and how reporting of a non-conformance should take place. This education will take place through on the job training, newsletters and meetings of staff and management.
- (iii) This education should be sufficient as to inform staff as to who should be notified both internally and if applicable, externally. The Environment Manager would complete the external communication.
- (iv) The Environment Manager should complete a Non-Conformance report for each individual incident.
- (v) The Environment Manager is responsible for investigating all reports, both internal and external.
- (vi) The Environment Manager should conduct investigations in person. Reports should then be directed back to the persons making the report of non-conformance.
- (vii) All Non-Conformance reports should be filed in the environmental record field and a brief summary of non-conformities should be reported in the annual Environmental Management Report.

**Records:**

- (i) Non Conformance form
- (ii) Environmental Management Report
- (iii) Completed Non-Conformance Reports.

## **Appendix 27-**

# **Example of procedure for non-conformance related actions**

### **Purpose**

This procedure is to establish the actions to be taken in the event of a Non-Conformance being reported, either internally or externally.

### **Responsibilities**

It is the Environment Manager's responsibility to ensure all complaints registered are followed up in the correct manner and documented. Some reports may not require investigation whilst others will. This should be recorded on the Non-Conformance report when it is filed.

### **Procedures:**

- (i) Upon complaint being lodged, the Environment manger is to begin completing a Non-Conformance report taking down the particulars of the complainant.
- (ii) If an outside complaint the Environment Manager should make every attempt to visit the site of the complaint so as to experience the complaint first hand.
- (iii) If internal then the complaint can be described, and visit the site internally where the problem has occurred.
- (iv) The Environment manager should determine the particularity of the complaint and its possible origins.
- (v) Steps should be then taken to control, reduce or eliminate the non-conformance to the best possible outcome.
- (vi) The Non-conformance form should be completed including the complainant's responses and filed in the environmental files register.
- (vii) Further actions then need to be taken in accordance with the ECCP plans to ensure the risks associated with the complaint are further reduced if not eliminated.

### **Records**

- (i) Non-Conformance.
- (ii) ECCP Tables.

# **Appendix 28-**

## **Examples of procedure for internal audit**

### **Purpose**

This procedure is to determine the effectiveness of the EMS. Either internal or external auditors can complete this audit. This audit system is to ensure that all section of the system do their intended purpose and achieve their goal.

### **Responsibilities**

It is the responsibility of the Environment Manager to ensure the system does comply with its intended purpose and achieves its set goals. It is the lead auditors responsibility to ensure the system is correctly audited and documented. Both people should work together to complete any necessary Non-conformities & amendments to the system.

### **Procedures:**

- (i) Form the audit team and review the EMS.
- (ii) Review the system and audit on a 12 monthly basis. The system can be broken down into sections and audited section by section, making sure that each section is audited at least 12 monthly.
- (iii) Divide the audit into following phases and complete the audit
  - Planning & Preparation;
  - Entry Meeting;
  - Actual Audit;
  - Reporting/Caucus;
  - Exit Meeting/Findings; and
  - Close-out/Follow-up.

### **Records**

- (i) Internal Audit Corrective Action Request Sheet.
- (ii) Internal Audit Check Sheet.
- (iii) Internal Audit Advisory Findings Sheet.
- (iv) EMS Manuals 1&2.
- (v) Audit Reports.
- (iv) Completed Non-Conformance Reports.

## **Appendix 29-**

# **Examples of procedure for legal compliance auditing**

**Purpose:**

The purpose of this procedure is to ensure compliance with the legal requirement.

**Responsibilities**

It is the responsibility of the Managing Director & the Environment Manager to ensure all Legal Requirements are adhered to in the full. It is the responsibility of the Lead Auditor to ensure that audits are carried out within the prescribed time frames allocated.

**Procedures:**

- (i) Assemble the audit team made up of employees not directly associated with the EMS.
- (ii) Allocate the timeframe of the audits and the frequency. In this case audits are to be conducted for Compliance on a 12 monthly basis and to conclude over a 1-day period.
- (iii) Review all associated Legal Documents as outlined in the Legal Register and check for Compliance to the actions of the Environment Manager and his subordinates.
- (iv) Record and advise the Environment Manager of any Non-Conformances detected in the audit.
- (v) Record all the Non-Conformances on the Internal Audit Corrective Action Request Sheets as used in the Quality Assurance Program.
- (vi) Allocate the nominated time for the Non-Conformity to be corrected and close out the C.A.R. after it's completion.

**9.1.2 Records:**

- (i) Legal Register
- (ii) Legal Documents, Standards, Licences, Codes of Practice etc:

# **Appendix 30-**

# **Guidelines on Internal Auditing**



EMS auditing has two key facets:

1. First, it must be determined if the management system structure and content satisfies the overall intent of having the EMS. This step of the management system audit is often termed a 'documentation adequacy' audit. This is conducted to verify that the system documentation is adequate in terms of the relevant legal requirements, AS/NZS 14001:2004 commitments and other company requirements. In addition, the documentation adequacy audit should determine if all appropriate environmental issues and risks have been identified. A site visit or tour is required to accomplish this.
2. Second, once the structure and documentation of the system has been validated, an 'implementation' audit needs to be conducted to confirm whether or not the documented requirements are being implemented and whether the implementation is effective. The audit is a detailed process that reviews the process, activities and outcomes of the organisation in detail. The audit should evaluate the extent to which policy objectives and targets are being met.

Both the documentation adequacy and implementation audits must be undertaken to provide a total EMS audit.

### **1. Type of management system audit**

The audit type can be considered in two basic ways. Firstly, audits can be classified on the basis of who conducts them, either first, second or third party. The second method of classification is according to location and whether the audit is conducted within the auditors own organisation or not, i.e. internal or external.

First party audits are audits where both the auditor and auditee both work for the same organisation. These audits are typically less formal and take less time than other audits.

Second party audits are those where the auditee is from a customer organisation. Accordingly, the focus of the second party audits is on the contractual relationship between the two parties. Normally issues not affecting the contract are not subject to assessment.

Third party audits are carried out by independent bodies and may or may not be accredited by a body such as JAS/ANZ. These audits are often the most formal and are normally focused on AS/NZS 14001:2004 or regulatory requirements.

### **2. Recommended Audit Phases**

#### **a. Planning & Preparation**

This is conducted by the audit team. Auditors are to review the documentation of the system and prepare notes/questions on the Audit Checksheets. These will be used throughout the audit to review the system and its documentation to ensure it complies with its intended use.

#### **b. Entry Meeting**

This is conducted by the lead auditor with the EMS management representative(s) and the employees of the sections being audited. A list of the people at the meeting will be kept and filed with the actual audit. At this meeting the lead auditor will outline the purpose of the audit, the scope of the audit, the planned sequence of the audit, the audit criteria and the proposed timetable.

**c. Actual Audit**

The audit is conducted using the prepared audit checklist as a guide. The auditors check for compliance and legislation, the manual, the work instruction and any other necessary documentation or procedures associated with the system. As stated before the system can be audited as an entirety or by sections. If during the audit, a system's representative accompanies the auditor, then any non-conformity should be raised when they are detected.

**d. Reporting/ Caucus**

This meeting is conducted as part of the overall audit assessment of performance the auditors review their findings and complete the reporting of the audit. Internal Audit Advisory Findings is used to report any details or suggestions that could be made to improve the system. It is also used to report minor defects within the system. Internal audit Corrective Action Requests Sheets or Preventive and Corrective Action Form are used to record major breaches of the system or processes in direct conflict with the system. Any breaches to Licence conditions or breaches of the nature would be recorded on this particular sheet.

**e. Exit Meeting/Findings**

The is conducted by the lead auditor with the same representatives as that of the Entry meeting. The purpose is to present an objective overview of the audit and discuss findings made during that audit. The auditors may present their findings individually and explain any findings or corrective actions.

**f. Close Out/Follow Up**

The Corrective Action Request Forms or Preventive And Corrective Action Form should have a return date of the actions to be taken. These actions as discussed in the Exit Meeting should be completed by the said date to bring the system back into conformance. Copies of the audit process should go to the Environment Manager, Auditees and Management.

Record all audit information and retain copies for future reference.

EMS audits should be conducted by individuals who have at least several years experience in the feedlot industry, have been trained in the techniques of system auditing and have some environmental knowledge.

During certification to ISO14001 the qualifications of the system auditors is often evaluated so it is important that the appropriate personnel are used.

The EMS audits can be conducted in one of three ways:

1. by area of activity for the whole system i.e. select an area of activity and audit all elements of the EMS applicable to that area of activity;

2. by element of the EMS standard for the whole company; and
3. by aspect or impact i.e. select an environmental issue that is significant and follow its management through the system.

It is recommended that the EMS audit reports to be written to include a summary of the audit findings to act as a record that the audit took place. The detail of the audit findings should be documented as non-conformances and should therefore fall into the management system for dealing with non-conformance.

The Auditor and the auditee both have responsibility for follow-up of the findings of the audits. The auditee should be responsible for determining the corrective actions needed and initiating action to correct non-conformances and correcting the causes of the non-conformances. The auditor is responsible for undertaking the follow-up to verify that the corrective action is adequate and should be involved in the close out of the corrective action form.

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