MANILDRA GROUP

SHOALHAVEN STARCHES

ENVIRONMENTAL

MANAGEMENT SYSTEM

MANUAL

FMEN 036 1.0.C

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1 Introduction

The Manildra Group is a wholly Australian owned business and the largest processor of wheat in Australia. First established in 1952 with the purchase of a single flour mill, the Manildra Group of companies has since achieved considerable growth. The company is now the largest user of wheat for industrial purposes in Australia processing over one million tonnes of wheat per annum.

Over the last 50 years Manildra Group has vertically integrated and as a result diversified it's product range to include flour, pre-mixes and products derived from flour such as modified starches, glucose syrups, maltodextrines, gluten and specialty protein products.

Our corporate philosophy of "Commitment to Excellence" is at the core of our business strategy. Our qualified staff develop, manufacture and deliver innovative products to our customers, with the aim of being the supplier that brings the most value to your industry. Manildra Group is proud to remain an Australian, privately owned company.

Manildra owns and operates flour mills at three locations in the heart of the Australian wheat belt:

• Manildra, New South Wales
• Gunnedah, New South Wales
• Narrandera, New South Wales

The flour mill at Manildra has extensive milling capabilities ranking the ninth largest in the world. Our three mills are comprised of six separate milling systems which allow us to produce an extensive range of flour, semolina and specialty products. Our sophisticated pre-mix plant produces bakery and food pre-mixes. These products are sold both on the domestic and international market. Manildra is Australia's largest flour exporter with approximately 60% of the export market.
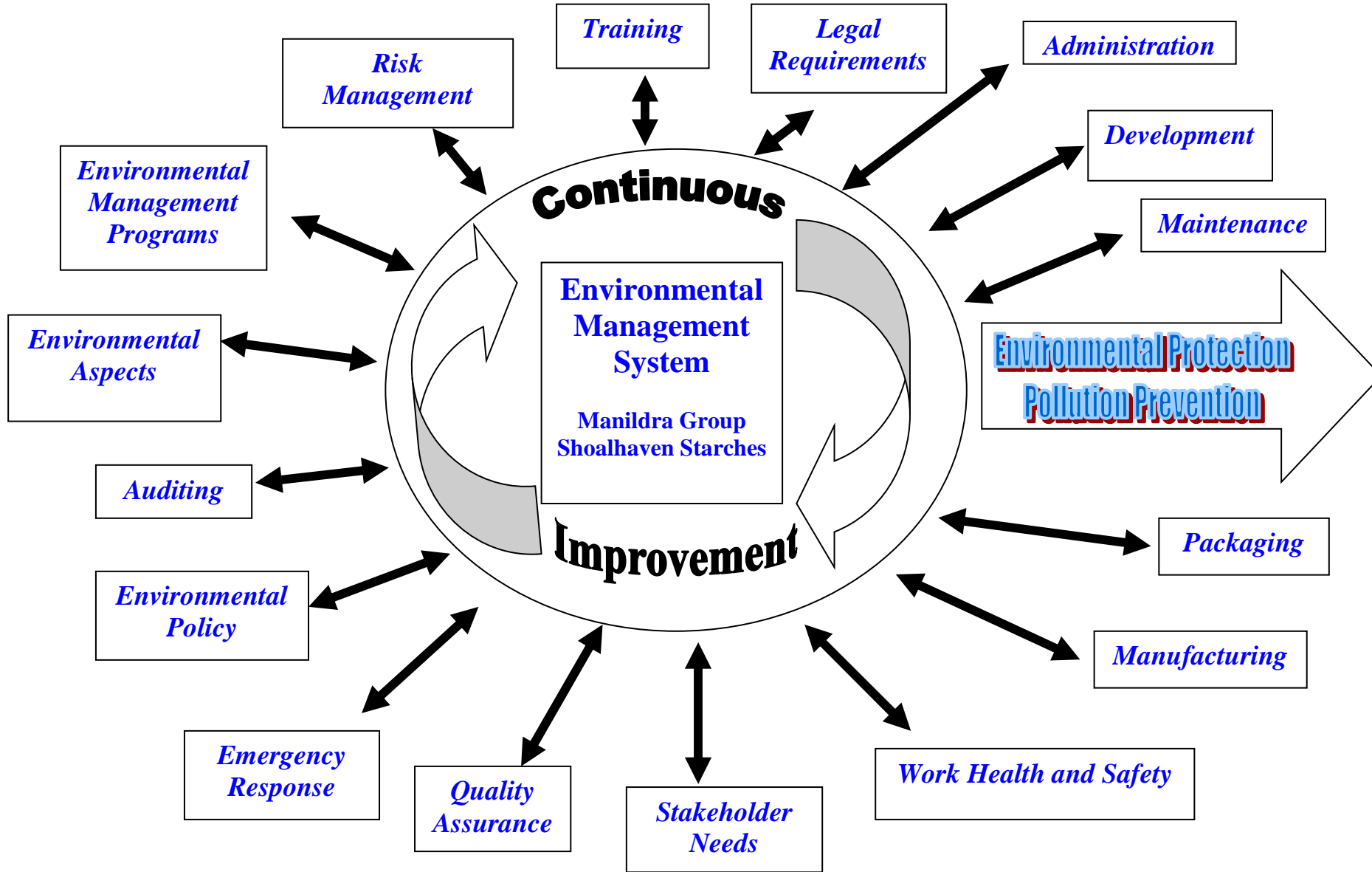
Shoalhaven Starches is a member of the Manildra Group of Companies. Shoalhaven Starches produces a range of products derived from wheat flour for the food, beverage, confectionary and paper industry including specialty starches, gluten, glucose and syrups. During the production process, low grade starch and wastage from the starch and syrup production processes are used to manufacture industrial and fuel grade ethanol. By-products from the ethanol process are recovered and sold as Dried Distillers Grain for the feedlot industry.

Shoalhaven Starches receives flour from all three company owned flour mills and also produces flour from its own flour mill located on site. The site achieved ISO 14001 EMS certification in February 2014.

Shoalhaven Starches and the Manildra Flour Mills all have a Quality Management System's (QMS) which are third party certified according to AS/NZS ISO 9001, and an established Work, Health & Safety (WHS) Management System. Where applicable, aspects of the site's Environmental Management System (EMS) are incorporated into the existing QMS and WHS management systems and procedures.

The environmental management system is developed, implemented and maintained in accordance with the ISO 14001 Environmental Management System standard. The elements or processes are illustrated in the following diagram which can be viewed as a roadmap to the company's environmental management system.

GEM OF THE WEST

Training

Legal Requirements

Administration

Risk Management

Environmental Management Programs

Development

Maintenance

Continuous

Environmental Aspects

Environmental Management System

Manildra Group Shoalhaven Starches

Environmental Protection Pollution Prevention

Auditing

Improvement

Packaging

Environmental Policy

Manufacturing

Emergency Response

Quality Assurance

Stakeholder Needs

Work Health and Safety

Environmentally Sustainable Business

Ongoing Review

Committed To Excellence

2 Scope of Environmental Management System (EMS)

The EMS applies to all activities, products and services of the Shoalhaven Starches site located at Bomaderry, including:

- Factory Operations
- Environmental Farm
- Administration
- Maintenance
- Packaging

3 Environmental policy

The Environmental Policy (MG-POL-0020) is developed as a statement of commitment from top management and reflects the values of the organisation. The policy is reviewed each year by management for its appropriateness and legitimacy.

The policy is communicated to people working for or on behalf of the organisation through staff and contractor site inductions and the Company's intranet. A copy of the policy is also available to the public on the company's website located at http://www.manildra.com.au/.

4 Planning

4.1 Environmental aspects

Shoalhaven Starches has reviewed all of its activities, products and services that it can control and influence, including planned and new developments and new and modified activities, products and services and has identified all of its environmental aspects. These are listed in the Environmental Aspects and Impacts Register (FMEN032).

The Aspects and Impacts Register is reviewed each year to ensure that is kept up to date. It is also reviewed if there is any significant change to the sites activities, products or services.

Each identified environmental aspect is subject to a qualitative risk analysis based on likelihood and consequences of environmental impact or impact on the organisation from environment-related issues, in the context of *existing* measures to control the risk. Both positive and negative impacts can be considered. The risk analysis matrix is as follows:

LIKELIHOOD	CONSEQUENCES				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost Certain/daily	High	High	Extreme	Extreme	Extreme
Likely/weekly	Medium	High	High	Extreme	Extreme
Possible/monthly	Low	Medium	High	Extreme	Extreme
Unlikely/annually	Low	Low	Medium	High	Extreme
Rare	Low	Low	Medium	High	High

Adapted from HB 203:2006 Environmental Risk Management – Principles and Process

The risk analysis results in the allocation of a risk level of *extreme*, *high*, *medium* or *low* for each environmental aspect. Environmental aspects with an *extreme* or *high* risk are considered to be *significant*, that is, they have or can have a significant environmental impact. Further details on identifying environmental aspects and performing a risk analysis is described in ENSY-P-001 Environmental Aspects procedure.

Environmental aspects associated with a legal requirement, or another requirement to which the organisation subscribes, such as an Australian Government policy, are also considered to be significant, regardless of the outcome of the risk analysis.

Significant environmental aspects are given priority for management, and are taken into account in establishing, implementing and maintaining the sites environmental management system.

4.2 Legal and other requirements

Shoalhaven Starches is subject to numerous legal requirements regarding its environmental aspects. The Environmental Obligations procedure (ENSY-P-002) sets out how to ensure continuing compliance with environmental legal obligations and other non-legal requirements regarding its environmental aspects.

The Environmental Obligations Register (FMEN031) summarises Shoalhaven Starches applicable legal obligations and other requirements such as standards and guidelines. The register links the legislative requirements back to the sites operation and is reviewed on an annual basis as part of the Document Control System.

Our legal and other requirements are taken into account in establishing, implementing and maintaining the environmental management system.

4.3 Objectives, targets and program(s)

Consistent with our environmental policy, measurable objectives and targets are set each year for our significant environmental aspects and recorded in the Environmental Management Program Register (FMEN047). The Environmental Management Programme (ENSY-P-003) procedure describes how environmental management programme's (EMP's) are used to achieve environmental objectives and targets and therefore improve the environmental performance of Shoalhaven Starches.

The EMP's also lists timeframes and key performance indicators (KPI's) to monitor progress in achieving the objectives and targets. The EMP register is maintained in the Document Control System and are reviewed each year by management to evaluate which objectives and targets have been met.

5 Implementation and operation

5.1 Resources, roles, responsibility and authority

Various positions in the organisation have roles, responsibilities and authorities for managing environmental aspects, action plans, programs and controls. The Responsibility, Authority and Communication procedure (QMS-P-0020) describes the company organisational structure and the responsibilities pertaining to quality and environmental management of the company.

The Site Manager has overall responsibility for environmental management of the site and ensures sufficient resources are available to implement the EMS.

The Environment and Technical Manager has direct responsibility for the general management of the sites environmental aspects, including compliance with applicable environmental legal requirements and the management of environmental incidents and complaints.

Company and operational managers are responsible for the management of the environmental aspects within their area of control. All employees and contractors must conform to EMS requirements and report any environmental incidents to their immediate Supervisor / Manager and the Environment and Technical Manager.

The QA & Environmental Coordinator is responsible for co-ordinating, implementing and maintaining the EMS in accordance with the requirements of AS/NZS ISO 14001:2004. The specific tasks associated with this role include:

- Maintenance of the Register of Environmental Aspects
- Maintenance of the Register of Legal Obligations
- Maintenance of the Register of Environmental Management Programs
- Control of documents, forms and records required by the EMS
- Co-ordination of environmental monitoring and measurement
- Evaluation of compliance with legal and other requirements relevant to the EMS
- Management of the internal audit program
- Co-ordination of corrective and preventive action
- Co-ordination of management review of the EMS

More detailed information on roles, responsibilities and authorities for key personnel managing environmental aspects and the EMS is depicted in the EMS Roles & Responsibilities Flowchart (FMEN040) and in their individual Position Descriptions.

5.2 Competence, training and awareness

Competence and training needs of Shoalhaven Starches employees are described in the Training procedure (QMS-P-0170). Positions and roles which have responsibility for an activity, product or service that has the potential to cause a significant environmental impact shall meet the skill and competency requirements of that Position Description. Competence refers to the knowledge, understanding, skills or abilities required for a person to effectively and efficiently carry out the position or role. Competence can be determined through appropriate education, training, experience and assessment.

For each person in each position and role, competence possessed, training needs, and training or other personal development undertaken to acquire the required competence are recorded in Training Sessions records. All training records, copies of education and training qualifications are maintained in personnel files by the Human Resources Manager.

General awareness of the organisation's environmental management system is implemented through compulsory site induction training of staff and contractors, as well as in annual refresher sessions. General EMS awareness is assessed following the induction and refresher sessions, and records of assessment are maintained by the Human Resources Manager.

More specific training on the company's environmental management system is provided on documented standard operational procedures and emergency preparedness and response as required.

5.3 Communication

Communication, both internally and externally in relation to the site's environmental performance is documented in the Environmental Communications procedure (ENSY-P-004). Information about the organisation's environmental aspects and environmental management system is communicated among the levels and functions of the organisation through:

- EMS awareness training through site induction and at refresher sessions
- Provision of the EMS manual and supporting documentation distributed in folders to each department and available through the company's intranet
- General information regarding the EMS and environmental issues via notice boards around the site and through the company's intranet and internal documentation.
- Management meetings

Complaints from external parties on environmental issues are handled according to Environmental Complaints Handling procedure (EN-P-0010). The QA & Environmental Coordinator is responsible for reporting on communication from external interested parties, including complaints, in management review meetings.

External communication required during response to emergency situations and incidents is documented in Shoalhaven Starches Pollution Incident Response Plan (EN-P-248).

The Manildra Group Environmental Policy is available to the public, suppliers, customers and any interested external party.

Other forms of external communications such as newsletters, factsheets and community group meeting information are available on the Manildra Group website. Manildra Group management decides on a case by case basis whether to communicate about its significant environmental aspects to external parties.

5.4 Documentation

Documentation including policies, manuals, procedures, plans, external documents, registers, forms, templates and records relevant to the environmental management system are held in Fast Track Document Control System. A list of all EMS documentation in the Document Control System can be generated by using the search function and selecting the 'Environmental' tab.

5.5 Control of documents

All environmental management system documents are filed within the organisation's Document Control System. The methods used to maintain control of all EMS documentation is described in the Control of Documents procedure (QMS-P-0040).

All Environmental Management System documentation is subject to at least annual review. The Environment and Technical Manager and the QA and Environmental Coordinator are the authorised signatories for approving EMS documentation. The Farm Manager and the Environmental Scientist are authorised to sign EMS documents relating to the Environmental Farm.

All changes to the Environmental Management System documentation are controlled through the Fast Track Document Control System. Requests are submitted to the Document Control Officer, so that all changes are correctly recorded and controlled. Once changes are approved the amended document is given the next version number. Documents are automatically superseded and up to five previous versions are held in the database.

The QA and Environmental Co-ordinator posts notices of significant changes to documents on the Intranet, and emails relevant managers. Managers are expected to promote relevant and significant changes to documents to their staff.

5.6 Operational control

Activities that are associated with the identified significant environmental aspects, the environmental policy and objectives and targets have documented procedures to control or reduce the adverse impacts associated with them; refer to Environmental Operational Control and Monitoring procedure (ENSY-P-005).

Activities that have specific environmental operational control requirements have been identified previously through internal audits, external audits / reports, risk assessments and through development of the EMS and regular review of the Environmental Aspects and Impact Register.

Where appropriate, existing work instructions have been modified to include the environmental requirements as required. Where existing work instructions do, or did not exist, new work instructions have been, or will be, developed and implemented. Where applicable, a monitoring component has been included in the Work Instructions.

5.7 Emergency preparedness and response

The company identifies potential emergencies and incidents that can have an environmental impact during the identification of environmental aspects. Environmental emergencies and incidents are therefore subject to risk analysis and determination of environmental significance and handled accordingly in the environmental management system. Objectives and targets are set for environmental emergencies and incidents that are regarded as significant environmental aspects and the Shoalhaven Starches Pollution Incident Response Plan (EN-P-248) is implemented and maintained to achieve the objectives and targets.

In conjunction with OH&S system procedures, the Environmental Emergency and Incidents procedure (ENSY-P-006) ensure employees and staff are aware of how to respond to an environmental emergency or incident on site. The Environment and Technical Manager must be notified immediately of an emergency situation to allow the environmental aspects to be addressed.

The organisation's emergency preparedness and response plan is reviewed after every test and after the occurrence of each environmental emergency and incident and are revised where appropriate after a review.

6 Checking

6.1 Monitoring and measurement

Activities that have specific environmental monitoring requirements have been identified previously through internal audits, external audits / reports and through development of the EMS and regular review of the Environmental Aspects and Impact Register and EMP's.

Work instructions have been developed and documented for monitoring the significant environmental activities for the site. The Environmental Operational Control and Monitoring procedure (ENSY-P-005) sets out to ensure procedures are developed and implemented to monitor and measure environmental performance.

The QA & Environmental Co-ordinator is responsible for analysing the results of monitoring and measurement and reporting on the environmental performance of the organisation, in particular the extent to which environmental objectives and targets have been met. The results of the monitoring and measurement data are incorporated into the Environmental Performance Report which is generated on an annual basis.

Monitoring and measuring equipment are controlled and calibrated according to the Control of Monitoring and Measuring Devices procedure (QMS-P-0100). Calibration schedules detail the equipment identification and calibration frequency; calibration frequencies are also controlled by the Maintenance System (Mainpac) for some plant instruments. All records of calibrations performed are entered onto instrument calibration records or applicable process control sheet or records.

6.2 Evaluation of compliance

The QA / Environment Coordinator is responsible for ensuring an annual evaluation of compliance against the applicable legal and other requirements is undertaken for Shoalhaven Starches operation.

The following reports are used to form the annual evaluation:

- Completed EPA Annual Return and Annual Environmental Monitoring Report
- Annual Evaluation of Compliance Checklist (FMEN034)

Any non-conformances are followed up through Corrective and Preventative Action procedure (QMS-P-0130). Appropriate records associated with the annual evaluation of compliance are attached to the checklist at the conclusion of the audit.

6.3 Nonconformity, corrective action and preventive action

The Corrective and Preventive Action flowchart illustrates the organisation's process for identifying actual and potential environmental nonconformity, recording suggestions for improvement to environmental management, taking appropriate action to correct nonconformity and mitigate environmental impact, taking corrective action to avoid recurrence of nonconformity and taking preventive action to avoid occurrence of nonconformity or implement a suggestion.

This process is further described in the Corrective & Preventive Action procedure (QMS-P-0130) and has the ultimate goal of driving continual improvement of the environmental management system.

Actual and potential nonconformity is identified and suggestions for improvement are made by the following means:

- Internal audit
- External audit
- Site inspections
- Feedback from external parties
- Complaints from customers or other stakeholders
- Suggestions for improvement from staff and contractors
- Occurrence of environmental emergencies and incidents
- Testing of emergency preparedness and response
- Management review

The QA & Environmental Co-ordinator is responsible for generating and maintaining environmental non-conformances which are held in the Document Control System. The Environmental Non-conformance Report provides for the following:

- The taking of immediate action to correct the nonconformity (i.e. correction) and mitigate environmental impact
- Root cause analysis of actual nonconformity
- The taking of corrective action addressing the root cause to avoid recurrence of nonconformity, or the taking of preventive action to avoid occurrence of nonconformity or implement a suggestion for improvement
- Evaluation of the effectiveness of the action taken
- Close out.

Corrective and preventive action often requires changes to environmental system documentation. In such cases, this process feeds into the process for control of documents.

Corrective & Preventive Action

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┌─────────────────────────┐                    ┌─────────────────────────┐
│  Identify non conformity│                    │ Identify potential non  │
│                         │                    │ conformity or suggestion│
│      (responsive)       │                    │   for improvement       │
└────────────┬────────────┘                    │      (proactive)        │
             │                                  └────────────┬────────────┘
             ▼                                               │
┌─────────────────────────┐                                 │
│   Fix immediate problem │                                 │
│      (correction)       │                                 │
└────────────┬────────────┘                                 │
             │                                               ▼
             ▼                                  ┌─────────────────────────┐
┌─────────────────────────┐                    │  Determine root cause of│
│  Determine root cause of│                    │  potential non conformity│
│     non conformity      │                    │  or cost/benefit analysis│
└────────────┬────────────┘                    │  of suggestion for       │
             │                                  │     improvement          │
             ▼                                  └────────────┬────────────┘
┌─────────────────────────┐                                 │
│  Determine appropriate  │                                 ▼
│  corrective action      │                    ┌─────────────────────────┐
│  focused on root cause  │                    │  Determine appropriate  │
│  to avoid re-occurrence │                    │  preventive action      │
│  of non conformance     │                    │  (focused on root cause)│
└────────────┬────────────┘                    │  to avoid occurrence of │
             │                                  │  non conformity or      │
             ▼                                  │  implement suggestion   │
┌─────────────────────────┐                    │  for improvement        │
│  Implement corrective   │                    └────────────┬────────────┘
│        action           │                                 │
└────────────┬────────────┘                                 ▼
             │                                  ┌─────────────────────────┐
             ▼                                  │  Implement preventive   │
┌─────────────────────────┐                    │        action           │
│  Evaluate effectiveness │◄───────────────────┴─────────────────────────┘
│   of action taken       │
└────────────┬────────────┘
             │
             ▼
┌─────────────────────────┐
│        Close out        │
└────────────┬────────────┘
             │
             ▼
┌─────────────────────────┐
│       CONTINUAL         │
│     IMPROVEMENT         │
└─────────────────────────┘
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6.4 Control of records

Records required by the company's environmental management system are controlled according to the Control of Quality Records procedure (QMS-P-0150). The Environmental Records Handling Schedule (FMEN044) specifies the requirements for each record including the unique form number, filing method and retention time. Records can be maintained in either hardcopy or electronic format; where possible records are scanned and stored in the preferred electronic format.

Types of EMS records include:

- Inspection, Maintenance and Calibration Records
- Corrective and Preventative Action Records
- Emergency Test and Incident Reviews
- Evaluation of Compliance Records
- Internal Audits
- Environmental Complaints
- Monitoring and Measurement Records
- Training Records

6.5 Internal audit

The organisation has established and implemented an annual internal audit program with the objective of determining whether the environmental management system conforms to planned arrangements, including the requirements of AS/NZS ISO14001:2004 and this EMS manual, and has been properly implemented and maintained.

The QA and Environmental Co-ordinator manages the internal audit program and reports the results of internal audits and the effectiveness of the program to top management. Audits are carried out by trained internal auditors and the QA and Environmental Coordinator.

The internal audit program covers all of the organisation's operations units and functions, environmental management system elements, and the full geographical scope of the company's environmental management system over the year. Some units, functions and elements may be audited more than once annually if justified on the basis of environmental risk. The program also provides for additional audits that may be required to follow up scheduled audits.

The methods used to audit the Environmental Management System are described in the Internal Auditing procedure (QMS-P-0160). Audits are carried out according to the EMS Audit Schedule, with one audit each year devoted to evaluating compliance with legal and other requirements.

Audit criteria in the program include the requirements of AS/NZS ISO 14001:2004 for environmental management systems, the requirements of procedures and work instructions listed in the EMS to control operational activities associated with significant environmental aspects, and legal and other requirements.

The EMS Internal Audit Checklist (FMEN053) is used to record evidence for internal audits of the EMS. Where necessary, Non-Conformance Reports are raised to ensure that any resulting non-conformance or opportunities for improvement are acted upon. Results of audits are forwarded to the relevant area Manager(s).

7 Management Review

The Environmental Performance Report is generated on an annual basis to formally review the environmental performance of the Company. The report is distributed to senior management of the company for review of the environmental management system for its continuing suitability, adequacy and effectiveness.

The management review process of the Quality and Environmental Management Systems is described in the Management Review procedure (ENSY-P-007) The QA and Environmental Co-ordinator is responsible for compiling information for management review of the EMS.

At the end of each year, management review makes decisions on changes to environmental policy, the risk assessment procedure and environmental aspects, objectives and targets, environmental programs/plans, and other elements of the environmental management system.

Prepared By: John Studdert   Authorised By: Wes Davis

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Manildra Group

ENVIRONMENTAL POLICY

The Manildra Group of Companies produces and markets a diverse range of products derived from sustainable Australian raw materials. The company recognises the importance of the environment and is committed to protecting the environment and fostering a culture of environmental responsibility within the organisation.

To fulfil this commitment, the Manildra Group will:

- Conduct its operations in compliance with applicable legal requirements and other environmental obligations to which the organisation subscribes.

- Identify and manage significant environmental aspects and risks of our operations to eliminate or minimise environmental impacts.

- Prevent pollution and continually improve our environmental performance by implementation of our Environmental Management Systems.

- Provide appropriate communication, education and training to all employees and contractors on their environmental responsibilities.

- Develop programs to improve environmental performance such as improvements in energy and water efficiency, and the minimisation of waste.

- Continue to develop and improve our Environmental Management Systems for all our Australian manufacturing sites to achieve recognised third party certification.

John Honan
Managing Director

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