

**The Environmental management System**

**Coca-Cola Egypt (Rev: 2)**



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**Date: 20 may 2006**

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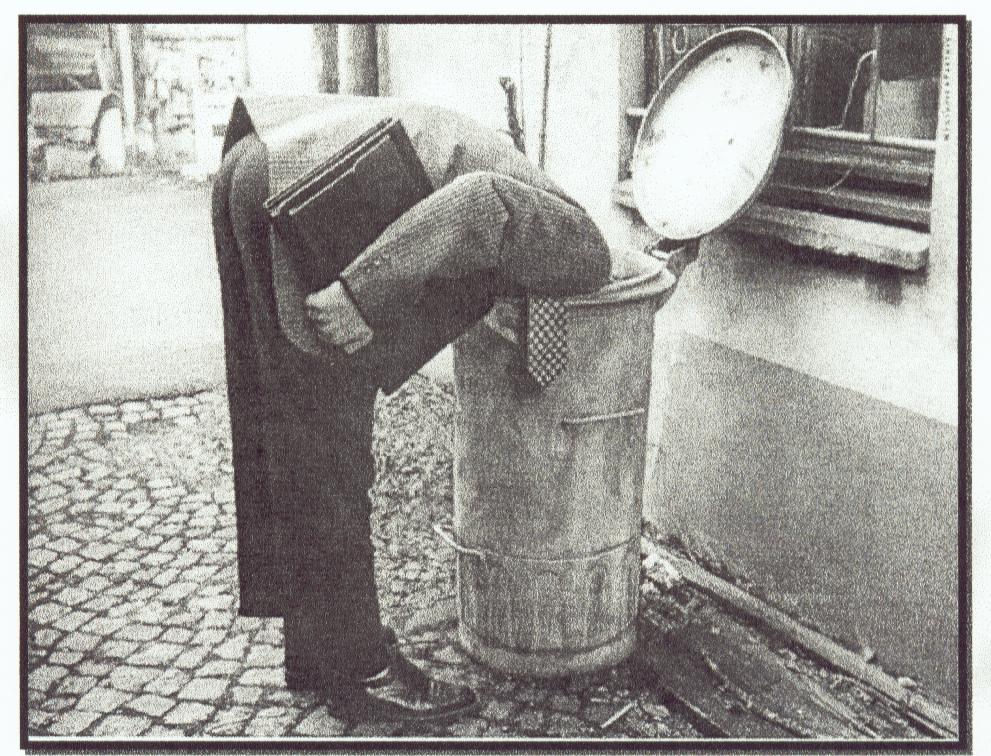
**1. Abstract**

**This is an imaginary Environmental Management System for Coca-Cola Egypt, as the company has not yet done this system, as it uses its own international system of Coca-Cola International that called “eko System” (“e” for environment, “ko” for Koke the name that Coca-Cola is famous for), which is a unique system that Coca-Cola has made & developed and is using internationally whatever the country of concern.**

****[](http://www2.coca-cola.com/index.html)

**Therefore, I will in this report try to establish a new Environmental Management System (EMS) based on ISO 14001-2004 for only Coca-Cola Egypt.**

**Moreover, I have summarized the requirements of this system, based on ISO 14001-2004, as it is shown in the following:-**



**1.2 Summary of Requirements for ISO 14001:2004**

This is a summary of the requirement of ISO 14001:2004, which is an international standard describing the specification and requirements for an environmental management system (EMS), which Coca-Cola Egypt will follow.

**ELEMENT-BY-ELEMENT GUIDANCE**

**ISO 14001 Requirements: 4.1 General requirements**

An organization must establish, document, implement, and continually improve their environmental management system and show how they meet all the requirements of this standard. The organization defines the scope of the EMS, i.e. the boundaries of the organization to which the EMS applies.

**ISO 14001 Requirements: 4.2 Environmental Policy**

The organization must have a policy, or commitment statement, developed by top management relative to the scope of the EMS that conforms to the standard. This is generally a short statement that drives the remainder of the EMS. There are specific items that must be committed to in the policy, such as compliance with legal and other requirements, prevention of pollution, and continual improvement. In addition, the policy must be communicated to all employees, and others working on behalf of the organization, and be available to the public. The policy provides a framework for reviewing objectives and targets and be appropriate to the nature and scale of the entity included in the scope. This policy must be documented, implemented, and maintained.

This means that it is kept current through the EMS review and continual improvement process, and is implemented through the remainder of the EMS elements.

**ISO 14001 Requirements: PLAN - 4.3.1 Environmental Aspects**

This element requires a procedure to identify environmental aspects and related impacts that the organization can control or have influence over, and determine those which are significant to the organization. ISO 14001 does not prescribe what aspects should be significant, or even how to determine significance. However, it is expected that a consistent and verifiable process is used to determine significance.

Aspects are defined as how an organization’s activities products and/or services interact with the environment. An impact is how an aspect changes the environment. The intent of this element is to help the organization identify how it affects the environment, prioritize aspects, and use the EMS to manage, control, and improve upon the aspects.

So the organization must ensure that the significant aspects are taken into account in the EMS.

2. In order to ensure that the system is continually improving and current, this information must be kept up to date.

**ISO 14001 Requirements: 4.3.2 Legal and Other Requirements**

This is a requirement for a procedure that explains how the organization obtains information regarding its legal and other requirements, and makes that information known to key functions.

The intent of this element is to identify the environmental legal and other requirements that pertain to its operations and activities so that the organization can ensure that they are taken into account in the EMS. In doing so, the organization must also determine how these requirements apply to the significant aspects.

**ISO 14001 Requirements: 4.3.3 Objectives, Targets, and Programs**

There is no requirement for a procedure in this element. However, there must be some process that ensures that the objectives and targets are consistent with the policy, which includes the commitments to compliance with legal and other requirements, continual improvement, and prevention of pollution. Also, the organization must take into consideration significant aspects, legal and other requirements, views of interested parties, technological, financial, and business issues when deciding what it wishes to accomplish as an objective. The objectives and targets need to exist all relevant functions and levels of the organization, and be measurable, where practicable.

Management programs (MPs) are the detailed plans and programs explaining how the objectives and targets will be accomplished. These MPs usually note responsible personnel, milestones and dates, and measurements of success. Noting monitoring and measurement parameters directly in the MP facilitates conforming to 4.5.1 on

Monitoring and Measurement discussed below. MP’s are required for the objectives and targets in an EMS.

**ISO 14001 Requirements: DO-4.4.1 Structure and Responsibility**

ISO 14001 requires that the relevant management and accountability structure be defined in this element. Top management is expected to ensure that resources are available so that the EMS can be implemented, maintained, and improved. These resources include human resources, organizational structure, financial and technological resources, and others as needed.

Roles, responsibilities, and authorities must be defined, documented and communicated as appropriate.

The organization must denote the Management Representative who is responsible to oversee the EMS and report to management on its operation. This person(s) ensures that the EMS is established, implemented and maintained consistent with ISO 14001, and also reports to top management on the performance of the system including recommendations for improvement.

**ISO 14001 Requirements: 4.4.2 Competence, Training, and Awareness**

The key point in this element is to ensure that persons performing tasks that have or can have significant impact on the environment and/or relate to the legal and other requirements are competent to do those tasks. Competence is ensured through appropriate education, training, and/or experience.

The organization needs to identify training needs as they relate to the EMS, the significant aspects, and the legal and other requirements and make sure this training is provided (records of such are to be maintained). A procedure is needed that makes sure such persons are: aware of the need to conform with all EMS procedures and requirements and what they specifically need to do to do so; the significant aspects and the legal and other requirements associated with their respective responsibilities and why improved performance is beneficial; and the consequences of not following these procedures and requirements. In addition to job-specific knowledge, it expected that all personnel within the EMS (including contractors) have general awareness on items such as the policy and emergency response.

**ISO 14001 Requirements: 4.4.3 Communications**

Procedures are required for both internal and external communications. Note that ISO

14001 only require procedures, and allow the organization to decide for itself the degree of openness and disclosure of information. Whatever the decision is in terms of disclosure, the decision process must be recorded. There is a specific requirement that the organizations consider external communications about its significant environmental aspects and record its decision.

For internal communications, the procedure needs to describe how it is done among the levels of the organization. For external communications, it has to describe how external communications are received, documented, and a response provided.

**ISO 14001 Requirements: 4.4.4 EMS Documentation**

This requirement ensures that the organization has documented the system in either electronic or paper form such that it addresses the elements of the standard, describes how the organization conforms to each element, and provides direction to related documentation. Not all ISO 14001-required procedures need to be documented, as long as the system requirements can be verified. However, documentation must be provided such that enough is available to ensure the effective planning, operation, and control of processes related to the significant aspects, and to demonstrate conformance to ISO 14001. Such documentation at a minimum includes policy, objectives and targets, a definition of the scope of the EMS, and other main elements.

4

**ISO 14001 Requirements: 4.4.5 Control of Documents**

The organization is required to control documents, such as system procedures and work instructions, to ensure that current versions are distributed and obsolete versions are removed from the system. There is a requirement for a document control procedure that ensures documents are approved prior to use, are reviewed and updated as necessary, changes to versions are identified, that the current versions are available at points of use, that they are legible, identifiable, and that obsolete ones are so noted to avoid unintended use. It is acceptable to use documents of internal origin in the EMS, but those must be identified as being essential to the EMS and their distribution controlled.

**ISO 14001 Requirements: 4.4.6 Operational Control**

For this element, critical functions related to the policy, significant aspects, the legal and other requirements, and objectives and targets are identified and procedures and work instructions are required to ensure proper execution of activities. Requirements for communicating applicable system requirements to contractors also need to be addressed in these procedures.

The required procedures need to provide instruction such that the organization conforms to the policy, objectives and targets, the legal and other requirements, and addresses any impacts from significant aspects. Which procedures are needed can be determined by review of the significant aspects, objects and targets, the legal and other requirements, and policy and then deciding what must be proceduralized and documented to ensure that deviations from planned arrangements do not occur.

In regard to the contractors, the organization will need to establish procedures related to the significant aspects the legal and other requirements, of the goods and services it uses, and communicating the relevant elements of those procedures to the suppliers and contractors.

**ISO 14001 Requirements: 4.4.7 Emergency Preparedness and Response**

Although typically addressed through conventional emergency response plans, this element also requires that a process exist for actually identifying the potential emergencies, in addition to planning and mitigating them. Emergency incidents include those that may not be regulated, but may still cause significant impact as defined by the organization.

As part of continual improvement, it is required that the organization not only responds to emergency situations, but also reviews the emergency procedures and make improvements as necessary. This may involve periodic testing of emergency procedures, if practicable.

**ISO 14001 Requirements: CHECK- 4.5.1 Monitoring and Measurement**

In order to properly manage the system, measurements must be taken of its performance to provide data for action. Procedures are required describing how the organization will monitor and measure key parameters of operations. These parameters relate to the operations that can have significant impacts, to monitor performance towards the objectives and targets, and to monitor conformance to the legal and other requirements and other EMS requirements.

Equipment related to environmental measurements, such as temperature and pH meters and pressure gauges, must be calibrated according to procedures, and records maintained.

**ISO 14001 Requirements: 4.5.2 Evaluation of Compliance**

The first part of this element (4.5.2.1) requires the organization to have a procedure(s) to periodically evaluate its compliance with applicable legal requirements as defined in

4.3.2. The organization will need to keep records of these periodic evaluations.

ISO 14001 in 4.5.2.2 also requires a similar evaluation for compliance with other requirements. Again these are defined in 4.3.2 and the procedure can be the same as, and even part of, 4.5.2.1.

**ISO 14001 Requirements: 4.5.3 Non-conformances, Corrective and Preventive**

**Action**

This element requires procedures for acting on non-conformances identified in the system, including corrective and preventive action. A non-conformance is a situation where the actual condition is not in accordance with planned conditions. Someone not following a procedure, a regulatory non-compliance, or an incident, is all examples of possible systemic non-conformances. Non-conformances may be identified through audits, monitoring and measurement, and communications. The intent is to correct the system flaws by addressing root causes, rather than just fixing the immediate incident only. The standard also requires that trends in corrective actions be evaluated to see if deeper-rooted preventive actions can also be implemented.

The procedure needs to make sure the non-conformances are not only first addressed to mitigate environmental impact; but that further investigation occurs to determine their cause, and action taken to avoid it happening again. Preventive actions would then be those actions resulting from an evaluation as to why nonconformities are occurring and taking action to prevent their recurrence. The standard states that the corrective action is appropriate to the magnitude of the problem and the impacts encountered; to avoid either over-compensating or under-compensating for a problem.

The organization must record the results of corrective actions taken, and must also review the effectiveness of actions taken

**ISO 14001 Requirements: 4.5.4 Control of Records**

Records are expected to exist to serve as verification of the system operating and the organization’s conformance to the standard and its own EMS requirements. Procedures in this element are required for the maintenance of records, and specifically require that records are identifiable, retrievable, safely stored, and legible, retained as appropriate, and traceable.

**ISO 14001 Requirements: 4.5.5 Internal Audit**

ISO 14001 requires that the system provide for internal audits. This procedure could include methodologies, schedules, checklists and forms, and processes used to conduct the audits. The purpose of this audit is to determine whether the system conforms to the requirements of ISO 14001 and the organization’s own EMS detailed requirements, and if the EMS has been properly implemented and maintained. The procedure for internal audits has to address responsibilities and requirements for planning and executing the audits, reporting results, and what records will be generated (and maintained in accordance with 4.5.4). The procedures also address determination of audit scope, how often they will be conducted, and specifically how they will be done.

Auditors need to be selected such that it ensures objectivity and impartiality of the audit process.

**ISO 14001 Requirement: ACT- 4.6 Management Review**

This element requires that periodically, top management will review the EMS to ensure it is operating as planned, and is suitable, adequate, and effective. The organization needs to ensure that in the review: results of internal audits (EMS and compliance); external communications; environmental performance; status on objectives and targets; status of corrective and preventive actions; follow up on actions from prior management reviews; and changing conditions or situations; and recommendations for improvement are all discussed.

Results and records of management review include: agendas, attendance records, minutes, and documented agreed upon action items.

**Organizational Goals**

**Drive Commitment**

**Environmental**

**Policy**

**Environmental**

**Aspects**

**Objectives & Targets**

**Legal & Other**

**Requirements**

**Documentation**

**& Document**

**Control**

**Management**

**Programs**

**EMS**

**Auditing**

**Training**

**Operational**

**Controls**

**Corrective &**

**Preventative**

**Action**

**Monitoring & Measurement**

**Management Review**

**2.Introduction**

**2.1 Company description**

**Coca-Cola is one of the biggest companies in the world. However, when Coca-Cola international invests in other countries; it shares its investment with a local investor for easier cooperation with the country, as the new born company will be established to follow the country’s laws & regulations, hire local employees and maintain the country’s habits & traditions. This has been the case with Coca-Cola Egypt, which was established more than 70 years ago.**

**Coca-Cola Egypt now consists of 13 factory and 40 distributing areas located allover Egypt. It employs more than 30 thousands employees. Coca-Cola Egypt does not just refresh the Egyptians by its wonderful products, but it also share & cooperate with the community in its sustainable development towards a better environment, besides improving the country’s economy by paying taxes, employing Egyptian staff, making products “Made in Egypt” and doing many incentive activities for the Egyptian community in its battle for better life.**

**2.2 Organization Chart**

General Manager

Sales Manager

Financial Manager

Purchasing Manager

&

Transportation Manager

H.R. Manager

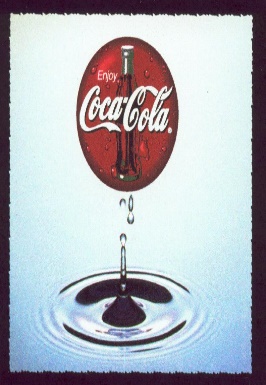
Technical Manager

**Environmental & Planning Manager**

Coca-Cola deputy International Manager

Safety& Security Manager

Legal Manager

**Coca-Cola Production Process in Appendix 1(p.20)**

**3. Environmental Management System (EMS)**

**Scope of the EMS**

The municipality of Coca-Cola Egypt has developed and implemented its EMS to cover all activities occurring within a defined section of the municipal operations known as the EMS boundary.

These operations are listed in *Appendix 1 (p.20)*

The EMS addresses all environmental aspects that maybe have a significant impacts on the environment arising from activities within the EMS boundary. The EMS covers only those aspects for which the municipality of Coca-Cola Egypt is responsible or over which it can reasonably expect to have control or influence.

**3.1 Environmental Policy (Appendix 2)**

The municipality of Coca-Cola Egypt has a publicly available Environmental Policy that has been endorsed by senior management. The policy sets forth the environmental commitments of the municipality, which cover all activities within the defined EMS boundary.

As required by the ISO 14001 standard, the policy includes the following key components:

• A commitment to continual improvement;

• A commitment to the prevention of pollution; and

• A commitment to meet or exceed relevant environmental legislation, regulations and other internal or external requirements. *Appendix2. Environmental Policy* (p.25) is a copy of the Environmental Policy for the municipality of Coca-Cola Egypt.

The policy is reviewed annually by the Environmental & Planning Manager as part of the management review (covered in the last section titled; “Management Review”), communicated to all personnel and made available to the public as required in operational control procedure Appendix 3 *Communications Procedure* (p.26). The management review considers whether or not the policy is appropriate to the nature, scale and environmental impacts of the activities within the EMS boundary.

**3.2 Planning (PLAN)**

**\* Environmental Aspects and Impacts**

The EMS Team (all employees of the Environmental & planning Department and some delicate employees from other departments whenever required by the Environmental & Planning Manager) identifies the environmental aspects of all activities within the EMS boundary that Coca-Cola Egypt controls or over which it can be expected to have influence. The EMS Team then determines which of the aspects maybe have a significant impacts on the environment.

This is done using operational control procedure *EMS 4-I Procedure for* *the Identification of Environmental Aspects, Determination of Significant Impacts, and* *Development of Objectives and Targets* (p. 27). Appendix 4-II-F1: Flow Diagram of Impact Significance Evaluation (p.28). Appendix 4-III-F2: Form for Preparing a List of Environmental Aspects for One Activity (p.29).

A list of all aspects and the significant impacts is included in *Appendix 4-IIII List of Environmental Aspects and Significant Impacts* (p.30).

Aspects determined to have significant impacts are reviewed at least semi-annually by the EMS Team as well as anytime there are new or changed activities to consider. Meeting discussions and procedures used to determine significant impacts are recorded in EMS Team meeting minutes. The EMS responsible person (Environmental & Planning Manager) maintains the EMS Team meeting minutes and other records, as required.

**\* Legal and Other Requirements**

As part of the Environmental Policy’s commitment to regulatory compliance, Coca-Cola Egypt has established a procedure (Appendix 5-I: *Procedure for Identifying Legal and Other* *Environmental Requirements* p.31) for ensuring compliance with environmental regulations and other requirements. This procedure involves identifying, accessing and communicating legal and other environmental requirements that are applicable to the activities within the EMS boundary.

Information necessary to ensure compliance is acquired through legal publications and other sources identified by the EMS responsible persons (EMS team & Legal Manager). The relevant requirements are identified, accessed and communicated to all personnel, as necessary. At least once a year, the EMS responsible persons (Environmental & Planning Manager) reviews the current national, state and local legal requirements and other requirements to ensure ongoing compliance. *Appendix5-II is a* List *of Legal and Other Environmental Requirements* (p.32), lists the requirements.

**\* Objectives, Targets and program(s).**

The EMS Team establishes environmental objectives and targets to set performance improvement goals for the aspects that may lead to significant impacts. These are integrated into programs developed to stimulate action within individual units, departments or across all operations within the EMS boundary. Objectives and targets are developed for aspects considering significant environmental impacts, legal and other requirements, technical and financial feasibility, commitments in the environmental policy and operational requirements.

The EMS Team develops objectives and targets to define:

1. The performance objectives (e.g., monitor, study, control or improve) for each aspect with a significant environmental impact.

2. The specific, quantified targets which define those performance objectives; and.

3. The planned schedule for achieving targets. The objectives and targets are developed using environmental control procedure *EMS 4-I Procedure for* *Identifying Environmental Aspects, Determining Significant Impacts, and Developing* *Objectives and Targets* (p.27). *Appendix4-II List of Aspects, Significant Impacts, Objectives and Targets* (p.28) lists all of the EMS environmental objectives and targets that have been established.

Objectives and targets are developed to stimulate action using environmental management programs. This element of the EMS translates objectives and targets into programs that direct the municipality towards achieving results.

The EMS Team establishes environmental management programs (EMPs) for all objectives and targets. EMPs are reviewed and approved by senior management (Environmental & Planning Manager) prior to implementation. The EMPs define the principal actions to be taken, the individuals responsible and the scheduled times for implementation that will achieve the desired results. EMPs are developed using operational control procedure (Appendix 6-I) *EMS 6-I Procedure for Establishing* *Environmental Management Programs* (p.33) and are included in *Appendix 6-II Environmental Management Programs* (p.34) and

**3.3 Implementation & Operation (DO)**

**\* Resources, Roles, Responsibility and Authority.**

The environmental management programs identify roles, responsibilities and authorities for all personnel. The EMS Team ensures that the resources (e.g., budget and personnel time) required for implementing and controlling the EMS are provided. Environmental management programs require resources for training, human resources, specialty services, financial resources and technical & informational services.

A key element of responsibility is the identification of an EMS responsible person (title of the person) with primary responsibility for establishing, operating and maintaining the EMS in accordance with the ISO 14001 standard. The EMS Team provides routine EMS support and reports directly to the EMS responsible person (Environmental & Planning Manager) who will report to top management on the performance of the environmental management system for review, including recommendations for improvement. A list of roles and responsibilities is available in *Appendix 7. List of Environmental Responsibilities* (p.35).

**\* Competence, Training and Awareness.**

EMS implementation includes training for personnel on both general awareness and competency. Awareness training ensures that all personnel are familiar with the environmental policy and the relevance of the EMS, including the potential significant environmental impacts of their work activities. Additional competency training addresses environmental procedures that are specific to personnel work activities. All personnel receive appropriate training based on a delivery procedure that matches training requirements with personnel job descriptions and work activities.

The municipality of Name identifies, plans, monitors and records awareness and competency training needs and delivery for all personnel. The municipality of Name has a procedure to ensure effective and timely training for employees at all levels to ensure awareness of:

• The importance of conformance with the environmental policy;

• The implementation of environmental management procedures and the EMS;

• The actual and potential significant environmental impacts of their work activities;

• The environmental benefits of improved personal performance;

• Their own roles and responsibilities for achieving conformance with the policy and procedures, and with the requirements of the EMS; and

• The potential consequences of departure from specified operating procedures.

The responsible person (H.R. & Environmental & Planning Managers) for the organization and delivery of training is also responsible for training records. Records are to be monitored and reviewed on a scheduled basis. Supervisors determine competency as outlined in environmental control procedure *EMS 8-I for Environmental Awareness and Competency Training* (p.36). *Appendix 8-II Training Matrix* (p.37) lists environmental training needs and delivery programs.

**\* Communication**

EMS communication includes programs addressing internal and external parties. The purpose of internal communication is to ensure that environmental information is disseminated to all personnel and that all personnel feel they are able to participate in the EMS through available communication channels. Communication with individuals, groups, government, local businesses and others outside of the municipal EMS provides insight into how the environmental performance of operations within the municipal EMS boundary is perceived externally.

The Coca-Cola Egypt has established and is maintaining a procedure for internal and external communication relating to the EMS as described by operational control procedure *Appendix 9 EMS Communications Procedure* (p38).

**\* Documentation**

Coca-Cola Egypt has established and is maintaining information to describe the core elements of the EMS. All EMS-related documents are referenced in the EMS manual, and copies of EMS documents can be obtained from the EMS responsible person (Environmental & Planning Manager) or designee, upon request.

**\* Control of Documents**

The EMS requires extensive documentation of procedures, tools and other elements. Document control procedures are implemented to ensure that all personnel have access to appropriate EMS documentation and that out-dated documents are replaced and only current versions are used.

Coca-Cola Egypt has established an operational control procedure *EMS 10-I EMS Document Control Procedure* (p.39) for controlling all documents relevant to the EMS. Thisprocedure describes where documents are located and how and when they are reviewed. Theprocedure ensures that current document versions are available and that obsolete versions areremoved from use or are suitably identified. Controlled documents are maintained in an orderlymanner and are obtained from the EMS responsible person (Environmental & Planning Manager) or designee.

This manual is a controlled document in accordance with the operational control procedure, as it’s mentioned before. The EMS responsible person (Environmental & Planning manager) or designee, following approval by senior management (Coca-Cola Egypt General Manager), issues amendments to the EMS manual. All copies of this EMS manual or other EMS documentation that are not marked ‘CONTROLLED DOCUMENT’ are uncontrolled and are to be used for reference purposes only.

Alist of controlled documents is provided in *Appendix 10-II Master Document List* (p.40).

**\* Operational Control**

The EMS Team follows a process to identify aspects that may lead to significant impacts and uses these to establish objectives and targets, which are addressed in the environmental management programs. Environmental management programs are then used to develop specific operational control procedures.

Operational control procedures direct personnel work activities. Operational control procedures stipulate operating criteria to ensure operations and activities are carried out appropriately. *Appendix 11-II Operational Control Procedure Registry* (p.42) lists all operational control procedures for the management of the EMS and operations with potential for significant environmental impact. The list of operational controls is developed using environmental control procedure *EMS 11-I Procedure for Developing Operational Controls* (p.41).

**\* Emergency Preparedness and Response**

Emergency preparedness and response plans identify the potential for and response to environmental accidents and emergency situations. These plans also address the prevention and mitigation of the environmental impacts of accidents that do occur.

The EMS includes emergency preparedness and response plans developed using environmental control procedure *EMS 12 Procedure for Establishing Emergency Preparedness and* *Response Plans* (p.42). The EMS Team reviews emergency plans annually and following any accidents or emergency situations that do occur.

**3.4. Checking** (**CHECK**)

**Monitoring and Measurement**

The EMS Team establishes environmental performance objectives and targets that require monitoring and measurement to assess performance. The EMS Team establishes and maintains operational control procedures to monitor and measure the key characteristics of activities within the EMS boundary that have aspects that may lead to significant environmental impacts.

This procedure, *EMS 13 Procedure for Environmental Monitoring and Measuring* (p.44- Appendix 13-I), outlines requirements for recording information needed to track performance, relevant operational control procedures and specified environmental objectives and targets. The procedure includes requirements for equipment calibration and maintenance and ensures that records are retained.

A key element of monitoring is the EMS audit program, which outlines a procedure for scheduling audits used to monitor the overall effectiveness of the EMS and particularly regulatory compliance. The municipality of Name has established an environmental regulatory compliance program to monitor regulatory requirements. Environmental control procedure *EMS 16 Procedure for EMS and Regulatory Compliance Audits* (p.48) outlines the requirements of the program and the need to periodically review regulatory compliance and report results to management on a yearly basis.

**Nonconformance, Corrective and Preventive Action**

The operational control procedure, *EMS 14 Procedure for Non-Conformance and*

*Corrective and Preventive Action* (p.45), defines responsibility and authority for handling and investigating occurrences of non-conformance with the requirements of the EMS. This includes taking action to mitigate significant environmental impacts, and initiating and completing corrective and preventive action. Any changes in procedures resulting from corrective and preventive actions are implemented and recorded. The EMS responsible person (Environmental & Planning Manager) maintains these records.

**Environmental Records**

The operational control procedure, *EMS 15-I Environmental Records Procedure* (p.46), ensures that environmental records are correctly identified, maintained and disposed of. Environmental records relevant to the EMS include training records and the results of audits and reviews. Records are legible, identifiable, traceable, and readily retrievable and protected against damage, deterioration and loss. Record and document retention is also specified in the procedure. Individual departments maintain environmental records using the EMS procedure. A list of relevant records is provided in *Appendix 15-II Master EMS Records List* (p.47).

**Internal Audit**

Coca-Cola Egypt conducts internal EMS audits to ensure that the EMS has been properly implemented and is being maintained. Audits include a review of documentation and records, personnel interviews, and a review of the results from monitoring and measurement.

The results of these audits are communicated to senior management (General Manager) for inclusion in the management review process described below. Audits are performed according to a regular schedule based on the management review cycle. The audit procedure is described in operational control procedure *EMS 16 Procedure for EMS and Regulatory* *Compliance Audits* (p.48). The audit procedure covers the audit scope, frequency, methodologies applied and the responsibilities and requirements for conducting audits and reporting results. All auditors are properly trained, and the audit records are provided to the EMS responsible person (Environmental & Planning Manager) for use in the management review process. Forms 16-I & 16-II (p.49) are used for conducting audits.

**3.5 Management Review (ACT)**

The EMS review process includes a senior management (Coca-Cola Egypt General Manager) review of all elements of the EMS. Management reviews are conducted annually to ensure suitability, adequacy and effectiveness of the EMS, as defined in operational control procedure *EMS 17 EMS Management Review Procedure* (p.50). All management review meeting minutes are recorded and kept by the EMS responsible person (Coca-Cola Egypt Environmental & planning Manager).

**4. Conclusion**

**As it was shown in this report of the Environmental Management System (EMS) for Coca-Cola Egypt, that although Coca-Cola Company in general has the least bad impacts on the environment compared to other industrial companies, but by following this system, and not just the “eko System” of Coca-Cola International; Coca-Cola Egypt can gain a lot. These benefits can be summarized on the following:-**

* **Gain significant positive impact on its business in general.**
* **Enhance a better image in the Egyptian market.**
* **Compare itself with other production companies inside Egypt.**
* **Adjust the “eko System” to be fit in Egypt.**
* **Run a drill for all employees to compare between the eko system & EMS system.**
* **Cooperate with the certification bodies in Egypt towards better environment for Egypt.**

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5. References

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2. [www.iso14001.com](http://www.iso14001.com/).
3. [www.eeaa.gov.eg](http://www.eeaa.org.eg/).
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5. <http://www.egypt.coca-cola.com/ccacms/cca/countryHomePages/egypt/viewEgyptCokeIn.jsp>
6. <http://www.cocacola.com/flashIndex1.html>



**6. Appendixes**

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| Washing Bottles  Mixing & Blinding  Labeling  Inspection  Packing  Warehousing & delivery  H2O  CO2  To the Market  **Appendix 1: Coca-Cola Production Process**  **INGREDIENT DELIVERY** INGREDIENT DELIVERY  INGREDIENT DELIVERY   **Sweetener** Team of professionals, work on selecting, auditing, sampling, testing, approving and then authorizing the sugar suppliers and the list of such authorized suppliers with approved sugar lots and along with the certificate of analysis are sent across to all the bottling unit for procurement. **Secret Formula** Created in special concentrate plants, it's delivered, held and used under strict controls to maintain its integrity and security. Each unit of concentrate is especially identifiable to allow the "history" of each component to be researched at any stage of production, storage or use.  **CO2 Formula** when delivered to the plant, carbon dioxide, or CO2, comes in cylinders for easy delivery and storage. But what is it? In essence, it's a colorless and odorless gas that provides the "fizz" for our beverages. But it's also a by-product of our breathing and used by plants and trees to produce oxygen. **Water** since water is a key component to all our beverages, its quality is critical. And, since public water quality varies around the world, each plant further treats the water it uses. This means that before water is added to any of our beverages, it's rigorously filtered and cleansed. We then continuously sample the water to ensure it meet our standards.  **Materials** Ingredients are not the only things delivered to the plant. Other materials such as bottles, cans, labels and packaging are also delivered. Our plants in India use refillable bottles, CANS, PET etc. in the Production Process, When bottles and cans are delivered to the plant, they are carefully inspected to ensure that they meet our exacting standards. Once these have passed initial inspection, they move on to be washed and/or rinsed.  **WASHING AND RINSING**WASHING AND RINSING  WASHING AND RINSING   To ensure quality, each bottle is washed, sanitized and rinsed before being filled. While this sound simple, the actual steps can differ by bottling plant. In Egypt, our plants, use refillable glass, cans or PET bottles. To ensure they meet our cleanliness standard, bottles are first hit with pre-rinse jets which remove any dirt or debris. They are then soaked in a high-temperature deep cleaning solution that removes any remaining dirt and sanitizes them. The bottles then move to the "hydro wash" where they are washed again with a deep cleaning pressure-spray.  **MIXING AND BLENDING** MIXING AND BLENDING  MIXING AND BLENDING  **H2O and Sugar** Mixing and blending begins with the steps of mixing pure water with refined sugar, which creates a simple syrup. The syrup is then measured for the correct amount of sugar.  **Secret Formula** Our secret formula is... still secret! That's right, the secret formula remains a mystery to the millions of people in nearly 200 countries who enjoys our refreshing beverages everyday. Even though we can't tell you the secret, you can be sure that "LIFE TASTES GOOD" with Coca-Cola.   **H20 and Syrup** With the syrup nearing its final state, we mix it with pure water, creating the finished uncarbonated beverage. However, the water and syrup must be mixed in right ratio. This is done by the beverage proportioning equipment. It accurately measures the correct ratio for each and sends this mixture to the carbonator.   **CO2 Adding** Adding CO2 or carbon dioxide gas is the final touch that carbonates the beverages. Carbon dioxide not only gives our beverages their effervescent zest, but it also adds to the distinctive and familiar taste everyone has come to expect from our beverages.  **FILLING**FILLING Once all the ingredients have been mixed and blended and the bottles have been cleaned and sanitized, we're ready to start filling. This is a surprisingly complex process requiring precision at each step. To begin with, bottles must be carefully timed as they move to the filler - synchronization is key. Once at the filler, bottles are either held securely in place by flexible grippers or precisely placed under filling valves by centering devices. Before the bottles can be filled, the inside of the bottles must be pressurized. This allows for the force of gravity itself to draw the beverage into the bottle - a process that ensures the smooth flow of liquid, with little to no foaming.  **CAPPING** CAPPING Once filled, bottles are then capped. We use different caps for different bottles - glass bottles are usually topped with a metal crown while "PET BOTTLES" are topped with a plastic screw-top. Each cap type then moves through different parts of the machine, which ensures each cap stays scratch free and is in the right position to be precisely placed on the bottle. As quality and freshness are key, we use a "no closure" detector during the capping process and a "go-no-go gauge" or "torque meter" after the bottles has been capped. The "no-closure" detector checks if a screw top or crowns has been placed on bottle. The process actually stops if the detector doesn't find a closure. The "go-no-go gauge" checks for the proper crown crimp and the "torque meter" checks to make sure the screw-top is good and tight. If the bottle cap isn't just right, the beverages can become flat or be affected in other ways. If this happens, the bottle is discarded.  **LABELING**spro\ite Once the bottles have been filled and capped, they move on to be labeled. A special machine dispenses labels from large rollers, cuts them and place on the bottles. For special labels such as commemorative bottles for football championships, the labels are sent to the bottling plants for approval, then used for packaging. Depending on the occasion, some of these special bottles will go only to the specific locations. For example, a national football championship bottle will be sent only to the home town or state of the championship team.  **CODING**CODINGDiet Coke The bottle is now ready to be coded. Each one of our beverages is marked with a special code that identifies specific information about it. The codes simply identify the date the beverages was bottled or canned. These codes identify the date, time, batch no. and the MRP. Product coding allows us to ensure that u receive our beverages at their flavorful best.  **INSPECTION**INSPECTION  INSPECTION    We inspect bottles at many point during the process. With refillable bottles, it happens they are first brought into the plant. They are also inspected after they are washed and again after they are filled. Inspectors look for external bottle imperfections and make sure each bottle has the right amount of beverages. Even after filling, each plant samples bottles for analysis in its lab to ensure quality is up to standards    **PACKAGING**PACKAGINGSprite Zero Once our filled beverages have passed final inspection, they are ready to be packaged for delivery. Generally, packing can refer to everything from the unique "BOTTLE" and "CAN" designs, to label designs, to cardboard boxes and containers, to plastic rings. Because the needs and tastes of our consumers are so diverse, the packaging varies depending on where the beverages are being sent.  **WAREHOUSING & DELIVERY**WAREHOUSING & DELIVERY In order to make sure the freshest beverages possible get to you, each warehouse must efficiently manage the thousands of beverages cases produced each day. Beverage organization is key, though it's the bottle and can coding that allow for the necessary precision. From the warehouse, we load beverages onto our distinctive trucks. Night and day, our trucks are delivering our refreshing beverages to stores, soda fountains, and vending machines near you.  Coke |

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| **Appendix 2: Coca-Cola Egypt Environmental Policy**  **EMS CONTROLLED DOCUMENT**  2  Coca-Cola Egypt, as a leading company manufacturer of soft drinks in Egypt, recognizes the impact of its process and products on the environment.  Coca-Cola Egypt has a commitment to continually improve an Environmental Management System, in accordance with ISO 14001 standard, through setting objectives and targets which are regularly monitored.  Coca-Cola Egypt shall comply with, and where practical exceed the applicable environment legislation, regulations and other requirement.  Coca-Cola Egypt environmental program will give priority to prevention of pollution and mitigation of negative environmental impacts.  All employees are responsible for the implementation of the policy. Top management will ensure that sufficient resources are available to meet these policy requirements.  This policy will be made publicly available and distributed to all employees.  Date: XXXXXX XXXXXX  Managing Director  Coca-Cola Egypt |

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| **Appendix 3: EMS Communication Procedure** |
| **EMS CONTROLLED DOCUMENT** |
| Municipality: Coca-Cola Egypt |
| Prepared By: Environmental & planning Manager |
| Document Number: *EMS 3* |
| Date: *15 May 2006* |
| **Description:**  This procedure describes the process for:  • internal environmental communication/awareness;  • External environmental communication with interested parties.  External communication includes all written or electronic correspondence, telephone conversations and oral discussions or meetings with external parties. According to the ISO 14001 standard, the organization shall consider processes for communicating externally on its significant environmental aspects and record its decision.  **Procedure:**  • Internal environmental communications shall ensure that those personnel at each relevant level and function are aware of:  − the EMS and the environmental policy;  − the importance of conformance with the environmental policy;  − all operational control procedures; and  − Individual responsibilities for achieving environmental objectives and targets.  • Externat environnemental communications ensure that:  − external communication concerning the environmental aspects within the EMS boundary is directed to the EMS Responsible person; and the ISO Management Representative or designee is responsible for determining the need for, and preparation of, any notification to regulatory agencies.  • General guidelines:  − Department Managers keep records of their own internal communication;  − The ISO Management Representative maintains records of external environmental communication with interested parties and the media; and the Environmental Coordinator maintains environmental records. |

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| **Appendix 4-I: Procedure for Identifying Environmental Aspects, Determining Significant Impacts, and Developing Objectives and Targets**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Document Number: *EMS 4-I*  Date: *15 May 2006*  **Description:**  This procedure covers all elements from listing the activities within the EMS boundary to developing environmental performance improvement targets. It describes how to classify activities within the EMS boundary. It describes the procedure for identifying stakeholder expectations regarding environmental performance. It involves listing the environmental aspects of activities. It is the procedure for assigning environmental impacts to the list of aspects. It describes the procedure for assessing environmental impacts and determining which of them are to be classified as significant environmental impacts. It is the procedure for establishing environmental objectives and targets.  **Procedure:**  Identifying Operations within the EMS Boundary  This procedure is used to describe the operations within the defined EMS boundary. Operations include all activities, products, and services.  1. Identify a boundary for the EMS (the boundary should correspond to activities over which t the organization has control over or can influence).  2. It can be helpful to divide operations into categories. Use a method for categorizing operations that suits the municipal operation. Some examples of categorization are:  • Flowchart following materials or activities through processes;  • Dividing operations along departmental lines; and  • Any other categories that capture all operations in the EMS boundary.  3. Identify and list all activities, products, and services within the EMS boundary:  • Review the EMS boundary when deciding which operations to include;  • Create separate lists of activities, products and services, as needed;  • Start with as comprehensive a list as possible grouped into categories and consider anything that may have been missed by these categories.  4. Record the operations and activities, along with a short description, in the table in form EMS 4-IIII. Consider creating a separate table for each category of operation. |

**Appendix 4-II-F1: Flow Diagram of Impact Significance Evaluation**

**Impact Evaluation**

**Is it regulated?**

**YES**

NO

**1. Does the aspect pose a potential environmental impact?**

**2. Is there significant stakeholder interest?**

**3. Is there significant financial opportunity or risk?**

**Determining significance based on your evaluation criteria**

YES

NO

**Significant Aspect:**

Action Required

**Evaluate existing EMS controls**

**(Objectives, targets, programs)**

NO

**Are the EMS controls adequate?**

YES

**Document and maintain per**

**ISO 14001 EMS standard**

**Consider establishing objectives, targets and programs**

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| **Appendix 4-III-F2 : Form for Preparing a List of Environmental Aspects for One Activity**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 4-III-F2*  Date: *15 May 2006*  **Activity from Form EMS 4-III-F2:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** |
| **Inputs:** What are the interactions occurring or done that use: |
| **Electricity:**  **Materials:**  **Water:**  **Fuels:**  **Other:** |
| **Emissions:** What are the interactions occurring or done that create releases to: |
| **Air:**  **Water:**  **Land:**  **Other: (e.g. noise/odor):** |
| **Note:** Complete a separate Form EMS 4-III-F2 for each Activity on the way of EMS 4-II-F1 (Flow Diagram). |

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| **Appendix 4-IIII: List of Aspects, Significant Impacts, Objectives and Targets**  *This is a list linking activities within the EMS boundary to environmental aspects, significant impacts, and performance improvement objectives and targets.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Document Number: EMS 4-IIII  Date: *15 May 2006*   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Activity** | **Aspect** | **Significant Impact** | **Severity**  **(S)** | **Frequency**  **(F)** | **S X F** | | Washing bottles using water & caustic Soda | Discharge of water to M.W.W.S or to open drains | **Water Pollution** | 3 | 5 | **15** | | Filling the bottles using filling lines that makes lots of noise normally by using glass bottles | Causes lots of noise inside the production areas. | **Noise Pollution** | 4 | 5 | **20** | | Use glass bottles & Plastic & wooden boxes for backing | Discharge of solid wastes due to broken pieces | **Solid Wastes Pollution to land** | 3 | 5 | **15** | | Use trucks for transporting products | Discharge of polluting gases to air  CO2, CO,... | Air Pollution | 1 | 5 | 5 | |

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| **Appendix 5-I: Procedure for Identifying Legal and Other Requirements**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental Manager & Legal Manager  Number: EMS 5-I  Date: *15 May 2006*  **Description:**  This procedure is used to identify all legal/regulatory and other environmental requirements to which Coca-Cola Egypt must conform and the status of compliance.  **Procedure:**  The EMS responsible person with support from the EMS Team completes the Form EMS 5-II in its entirety. The EMS Team completes the form to the greatest degree possible using all available sources of information for identifying applicable legal and other environmental requirements declaring all impacts with an applicable regulatory requirement as significant.  The EMS responsible person or designee stays informed of changing environmental  regulations:  • Obtaining a regulatory guidance manual and subscription to ensure access to  amendments;  • Reviewing regulatory updates and the compliance calendar and attending compliance  workshops offered by state and local regulatory agencies;  • Using a consultant specializing in compliance issues; and  • Accessing documentation and websites with compliance assistance content;  The EMS responsible person or designee reviews the List of Legal and Other Requirements on a regular basis as part of the EMS Audit preparation. |

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| **Appendix 5-II: Form for Preparing a List of Legal and Other Environmental Requirements**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental Manager & Legal Manager  Number: *EMS 5-II*  Date: *15 May 2006*  **Legal Environmental Requirements** | | | | |
|  | Aspects | Legal & Other Requirements | Reference |  |
| Discharge of water to W.W.M.S and other cases to open drains. | Law no.4-1994 & executive regulation 1741-2005 & Law 48-1982, Coca-Cola International rules for saving the environment | Egyptian Ministry of environment & EEAA and “eko system” |
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| Causes lots of noise inside the production areas. | Law no.4-1994 & executive regulation 1741-2005 & Coca-Cola International rules for saving the environment & maintains its staff’s health. | Egyptian Ministry of environment & EEAA and “eko system” |
| Discharge of solid wastes | Law no.4-1994 & executive regulation 1741-2005 & Law no.38-1967 and its executive regulation. As well as Coca-Cola International rules for saving the environment | Egyptian Ministry of environment & EEAA  and “eko system” |
| Discharge of polluting gases to air  CO2, CO,...etc. | Law no.4-1994 & executive regulation 1741-2005. As well as Coca-Cola International rules for saving the environment | Egyptian Ministry of environment & EEAA  and “eko system” |

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| **Appendix 6-I: Procedure for Establishing Environmental Management Programs**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & planning Manager  Number: *EMS 6-I*  Date: *15 May 2006*  **Description:**  This procedure is used to develop and document all Environmental Management Programs required for managing environmental aspects that have significant impacts and to meet the objectives and targets that have been developed.  The description of the Environmental Management Programs include:  • Designation of responsibility;  • Resources available (budget, staff and technology); and  • Time frame for execution.  A continual improvement process shall be in place to amend Environmental Management Programs when necessary.  For each environmental aspect with a significant impact identified in form EMS 4-IIII for which an objective and target has been developed, complete form EMS 6-II.  *Note: If there are 5 environmental improvement targets, there will be 5 environmental management programs, each described on a separate form.*  ***This planning process is completed annually or within the normal budgeting period of your organization.*** |

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| **Appendix 6-II: Environmental Management Programs Registry**  *This is an example of a registry of environmental management programs addressing environmental targets.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & planning Manager  Number: EMS 6-II  Date: *15 May 2006* | | | | | | |
| **Activity** | **Aspect** | **Significant Impact** | **Objective** | **Target** | **Environmental**  **Management**  **Program**  **Document No.** | **Operational**  **Control**  **Procedures** |  |
| Washing bottles using water & caustic soda | Discharge of water to M.W.W.S or to open drains | Water Pollution | Prevent water pollution to M.W.W.S or to the open drains. | No water pollution in all factories by the end of 2006. | Program for constructing new W.W.T.Plants or Maintain existing ones |  |
| Filling the bottles using filling lines that makes lots of noise normally by using glass bottles | Causes lots of noise inside the production areas. | Noise Pollution | Decrease noise pollution & save the labors ears. | Decrease noise pollution in the production areas from 200 > 95 & take all the necessary precautions for the labors protections by end of 2006 | Program for preventing Noise |  |
| Use glass bottles & Plastic & wooden boxes for backing | Discharge of solid wastes due to broken pieces | Solid Wastes Pollution to land | Reduce Solid wastes & Reuse and recycle of the solid wastes. | Train labors to reduce S.W. & reuse of some of the S.W. and make recycling factories. | Reduce &  Reuse & Recycling Programs |  |
| Use trucks for transporting products | Discharge of polluting gases to air  CO2, CO,... | Air Pollution | Reduce trucks trips by good planning & renew trucks & use new trucks that use new technologies don’t pollute the environment. | Review all the trucks fleet by 2006 | Programs for changing old techniques trucks by new ones & maintain old ones. |  |

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| |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Appendix 7: List of EMS Responsibilities**  *This is an example of a matrix outlining all EMS roles and responsibilities.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & planning Manager  Number: *EMS 7*  Date: *15 May 2006* | | | | | | | | | | | |  | Environmental Manager | Plant Manager | HR Manager | Technical Manager | Production Supervisors | Finance Manager | EMS Management Rep. | Purchasing Manager | Legal manager | Safety, Security Manager | | EMS audit | X |  |  |  |  |  |  |  |  | X | | Regulatory compliance | X | X | X |  |  |  |  |  | X |  | | Obtain and maintain  permits |  | X |  |  | X |  | X |  | X | X | | Coordination of EMS  training requirements | X | X | X | X | X | X |  |  |  |  | | Contractor environmental  Performance | X | X |  | X |  |  |  |  |  |  | | Comply with regulatory  Requirements | X | X |  |  |  |  |  |  | X |  | | Maintain the EMS Manual | X |  |  | X |  |  |  |  |  |  | | Maintain maintenance and calibration program | X | X |  | X |  |  |  |  |  |  | | Coordinate emergency  response planning | X | X |  |  |  |  |  |  |  | X | | Identify environmental  aspects of operations | X | X |  | X | X |  |  |  |  |  | | Establish objectives and targets | X | X |  | X | X |  | X |  |  |  | | Maintain EMS records | X | X | X | X | X |  | X |  |  |  | | Coordinat document  maintenance and control | X | X |  |  |  |  |  |  |  |  | |

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| **Appendix 8-I : Procedure for EMS Awareness and Competency Training**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: *Environmental & Planning Manager and HR Manager*  Number: *EMS 8-I*  Date: *15 May 2006*  **Description:**  There are two basic types of environmental training required in the ISO 14001 standard for environmental management systems:  1. Awareness training for all employees; and  2. Competency training for those whose jobs affects the organization’s ability to meet its objectives and targets.  **Procedure:**  • Develop a standard environmental awareness training program for all employees;  • Assemble a list of all technical training requirements for the operational control  procedures (include initial training and ongoing or refresher training requirements);  • Assemble a list of all staff that will play a role in EMS implementation. The list of  environmental aspects and significant impacts can be used to complete this task;  • Determine the type of training needed for each personnel category and job function. It is important to recognize that senior management also need competency training (as well as awareness training), since they are involved in the Management Review process.  • Prepare a Training Matrix with training needs along one-axis and employee groups to be trained along the other using form EMS 8-II  • Develop technical training curricula for each category of staff. It is likely that some  portion of the training will be the same for each category of staff, but that the extent and nature of the additional information provided will vary;  • Prepare a training schedule for initial and continuing training;  • Include provisions for employees transferred to different positions and new hires;  • Deliver awareness training to all staff and technical training as required; and  • Maintain appropriate records regarding staff that received training, and the content of the training they received.  Training materials should include a description of the EMS and the Environmental Policy, and describe why it is important to the company, and the role of each employee in its implementation. |

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| **Appendix 8-II : EMS Training Matrix**  *Example of a matrix for awareness and technical training needs and delivery.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: *Environmental & Planning Manager and HR Manager*  Number: EMS 8-II  Date: *15 May 2006* | | | | |
| **Training Required** | **Description** | **Mandatory**  **Attendance** | **Frequency** | **Date Complete** |
| EMS Awareness  Emergency  Response  Etc…  W. Water Treatment  How to deal with noise.  How to deal with S. Wastes  Supervisor EHS  Training  Toxics Management  Spill Response | Introduction to the EMS and  the Environmental Policy  What to do in case of emergency  How to run a W.W. Treatment plant.  Ways of using ear’s plugs  Solid wastes Management  Responsibility for employee  health and safety  Procedure for managing and  using toxic materials  Procedure for responding to  liquid spills | All Employees  All employees  W.W. Treatment staff.  Production staff  Supervisors  Operational  personnel  Production  supervisors  Production labors | Yearly  6 Monthly  6 monthly  Yearly  Yearly  Monthly  Yearly  Yearly |  |

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| **Appendix 9: EMS Communication Procedure**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 9*  Date: *15 May 2006*  **Description:**  This procedure describes the process for:  • internal environmental communication/awareness;  • External environmental communication with interested parties.  External communication includes all written or electronic correspondence, telephone conversations and oral discussions or meetings with external parties. According to the ISO 14001 standard, the organization shall consider processes for communicating externally on its significant environmental aspects and record its decisions.  **Procedure:**  • Internal environmental communications shall ensure that those personnel at each relevant level and function are aware of:  − the EMS and the environmental policy;  − the importance of conformance with the environmental policy;  − all operational control procedures; and  − Individual responsibilities for achieving environmental objectives and targets.  • External environmental communications ensure that:  − external communication concerning the environmental aspects within the EMS  boundary is directed to the EMS Responsible person; and  − The ISO Management Representative or designee is responsible for determining the need for, and preparation of, any notification to regulatory agencies.  • General guidelines:  − Department Managers keep records of their own internal communication;  − The ISO Management Representative maintains records of external environmental  communication with interested parties and the media; and  − The Environmental Coordinator maintains environmental records. |

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| **Appendix 10-I : EMS Document Control Procedure**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 10-I*  Date: *15 May 2006*  **Description:**  EMS documentation may be maintained in electronic and/or hard copy form. In either case this procedure is to be applied to ensure appropriate access to and control over all EMS documentation.  **Procedure:**  1. The EMS Responsible person assembles existing environmental documentation.  2. Develop additional environmental documentation required by the ISO 14001 standard. This may include EMS responsibility, training and other elements.  3. Use ISO 14001 standard requirements for EMS documentation to determine the need to revise or supplement the existing documents.  4. Use Form EMS 10-II to maintain an index of EMS documents and revisions. |

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| **Appendix 10-II : Master EMS Document Index**  *This is an example of a master list of all EMS documents.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 10-II*  Date: *15 May 2006* | | | |
| **Document**  **Control**  **Number** | **Document Name** | **Date of**  **Current**  **version** | **Location**  **Document** |
| ***Documents*** | # Environmental Policy  # List of Operations within the EMS Boundary  # List of Aspects, Significant Impacts, Objectives and Targets  # List of Legal and Other Environmental Requirements  # Table of Environmental Management Programs  # Master Document List  # Registry of Operational Control Procedures  # Etc… |  |  |
| ***Procedure*** | # Procedure for Aspects, Significant Impacts, Objectives, Targets  # Procedure for Legal and Other Environmental Requirements  # Procedure for Environmental Management Programs  # Procedure for Awareness and Competency Training  # EMS Communications Procédures  # Document Control Procédures  # Etc… |  |  |
| ***Form*** | # Environmental Aspects, Impacts, Objectives and Targets  # Audit Checklist  # Corrective and Preventative Action Request  # Etc… |  |  |

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| **Appendix 11-I: Procedure for Establishing Operational Controls**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 11-I*  Date: *15 May 2006*  **Description:**  For each Environmental Management Program, operational control procedures need to be developed describing how each program will be implemented, and who has responsibility for implementation. These requirements must be detailed in written operational control procedures.  **Procedure:**   * Operational control procedures must explicitly describe how environmental management activities will be implemented; and * Operational Control Procedures must link operations to significant environmental aspects, significant impacts, the environmental policy, objectives and targets. * Operational control procedures primarily describe work practices and cover the environmental control of specific operational activities. These are activity-specific in their application. * Operational control procedures also include management operations. These procedures cover the management and control of both the EMS and the principal environmental aspects, which the system manages. |

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| **Appendix 11- II : Operational Control Procedure Registry** | |
| **EMS CONTROLLED DOCUMENT** | |
| Revision Date: *15 May 2006*  **EMS Operational Control Procedures** | **Document Control Number** |
| **Procedure for Aspects, Significant Impacts, Objectives, Targets**  Form for Listing Activities within the EMS Boundary  Form for Preparing a Stakeholder Registry  Form for Listing all Aspects for a Specific Activity  Form for Determining Significance of Environmental Impacts  Form for Establishing Objectives and Targets for Significant Impacts  **Procedure for Legal and Other Environmental Requirements**  Form for Preparing a List of Legal and Other Environmental Requirements  **Procedure for Environmental Management Programs**  Form for Preparing and Environmental Management Program  Form for Preparing a List of Environmental Management Programs  **Procedure for Awareness and Competency Training**  Form for Preparing a Training Delivery Log  **EMS Communications Procedures**  **Document Control Procedures**  Form for Preparing a List of Controlled Documents  **Procedure for Operational Controls**  **Emergency Preparedness and Response Procedures**  **Procedure for Environmental Monitoring and Measurement**  **Non-conformance, Corrective, Preventive Actions Procedure**  Form for Preparing a Corrective and Preventative Actions Tracking Log  **Procedure for Environmental Records Maintenance**  **Procedure for EMS and Regulatory Compliance Audits**  Form for Developing an EMS Audit Plan  Form for Summarizing Audit Findings  Form for Developing an Audit Finding Response Plan  **EMS Management Review Procedure** |  |

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| **Appendix 12: Procedure for Emergency Preparedness and Response Plans**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager & Safety & Security Manager  Number: *EMS 12*  Revision Date: *15 May 2006*  **Description:**  This procedure is used to establish plans to prepare for and respond to emergency events with the potential for significant environmental impacts.  **Procedure:**  The environmental responsible person supported by the EMS Team is responsible for identifying and quantifying environmental risk and implementing plans to avoid the occurrence of emergency events and to mitigate the environmental impacts associated with emergency events that do occur.  The environmental responsible person supports operational managers in the development and upkeep of Emergency Preparedness and Response Plans addressing risks as required by local, state and federal regulations.  The environmental responsible person ensures the preparation and delivery of training for all personnel as required by the training matrix.  For each emergency incident that does occur, the environmental responsible person and other relevant personnel use the procedure to evaluate the required response, and take actions to minimize the likelihood of its recurrence. |

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| **Appendix 13 : Procedure for Environmental Monitoring and Measuring**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 13-I*  Date: *15 May 2006*  **Description:**  The EMS requires the establishment and maintenance of documented procedures to monitor and measure, on a regular basis, the key characteristics of operations and activities that can have a significant impact on the environment (including the recording of information to track performance, relevant operational controls and conformance with environmental objectives and targets). Monitoring and measuring equipment must be calibrated and maintained; records of this process must be maintained according to the procedures.  **Procedure:**  Develop required procedures for all areas in which monitoring and measurement is necessary for compliance with environmental operational control procedures. The procedures should:  • Ensure that monitoring and measuring occurs in order to assess whether or not objectives and targets are met;  • Respond to stakeholder demands, to the extent these are not reflected in the objectives  and targets (e.g., tracking number of complaints regarding noise in response to a  stakeholder request to reduce noise impacts);  • Meet regulatory and legal requirements regarding performance tracking and reporting requirements; and address the needs for operational control of equipment and processes.  The procedures should specify:  • The means by which the appropriate data will be gathered;  • How that data will be transferred to the other processes in which it will be used; and  • Develop and include calibration procedures for all measuring equipment.  Ensure that monitoring and measuring requirements are included in the Operational control Procedure for the relevant activity. |

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| **Appendix 14: Procedure for Non-conformance Corrective and Preventive Actions**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environm.&Planning Manager & Safety&Security and plant Managers  Number: *EMS 14*  Revision Date: *15 May 2006*  **Description:**  This procedure is used for implementing corrective and preventive action. The procedure should:  - Define responsibility for taking the results of monitoring and measurement and auditing and using them to determine what, if any, corrective and preventive actions need to be implemented;  - Specify what corrective and preventive actions will be taken when a non-conformance is discovered outside of the monitoring or auditing procedures—such as when a spill or accident occurs; and specify how corrective and preventive actions will be documented, so that changes to the EMS (i.e., continual improvement) can be demonstrated.  **Procedure:**   * Corrective action is generally a reactive process used to address problems after they have occurred. Corrective action may be triggered by a variety of events, including internal audits and management reviews, neighbor complaints or results of monitoring and measurement. * Preventive action is generally a proactive process intended to prevent potential problems before they occur or become more severe. Preventive action focuses on identifying negative trends and addressing them before they become significant. * Events that might require preventive action include monitoring and measurement, trends analysis, tracking of progress on achieving objectives and targets, response to emergencies and near misses, and customer or neighbor complaints. * The environmental responsible person is responsible for reviewing issues affecting the EMS, the application and maintenance of this procedure, and any updates to EMS documents affected by the preventive and corrective actions. * The ISO Management Representative is responsible for logging the communications and recording solutions. The responsible parties are to verify the effectiveness of the solution. * The ISO Management Representative is responsible for overall tracking and reporting on preventive and corrective actions. * Responsible personnel are to institute required corrective or preventive action, report completion of the required action to the ISO Management Representative, and assure sustained effectiveness. |

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| **Appendix 15-I : Environmental Records Procedure**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 15-I*  Date: *15 May 2006*  **Description:**  This procedure is followed to establish and maintain control procedures for identifying, maintaining and disposing of environmental records.  **Procedure:**  Environmental records are maintained in an archive so as to be retrievable as needed.  Records are preserved and archived for retrieval as needed based on the following criteria:  • Include records of all data and information required in Environmental Management  Programs such as training records and the results of audits and reviews, expired permits, inspection results;  • Ensure that environmental records are legible, identifiable and traceable to the activity, product or service involved;  • Ensure that environmental records are stored and maintained such that they are readily  retrievable and protected against damage, deterioration or loss; and  • Ensure that the retention times of these environmental records have been established and recorded.  Note: Records will be listed in the EMS 15-II form. |

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| **Appendix 15-II : Master EMS Records List**  *This is the master list of EMS records.*  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 15-II*  Date: *15 May 2006* | | | | | |
| **No.** | **Record Type** | **Person**  **Responsible** | **Location** | **File**  **Method** | **Retention**  **minimum** |
| 1  1.01  1.02  1.03  1.04  1.05  2  2.01  2.02  2.03  2.04  2.05 | **ADMINISTRATIVE**  Purchasing  Waste Management  Insurance  Auditing  Shipping/receiving  **ENVIRONMENTAL**  Incident Reports  Complaint Reports  EMS meeting minutes  Significant Impacts  Major source determinations |  |  |  |  |

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| **Appendix 16-I : EMS and Regulatory Compliance Audit Procedure**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: Environmental & Planning Manager  Number: *EMS 16*  Date: *15 May 2006*  **Description:**  The outputs from EMS audits feed into two separate processes:  1) Management Review.  2) Corrective and Preventive Action.  EMS audit procedure must be developed and documented with goals that:  • Ensure that the procedures incorporated into the EMS are being followed; and  • Determine if the EMS itself requires revision or restructuring.  **Procedure:**  Audit Team Selection: One or more auditors comprise an audit team. When the team consists of more than one auditor, a Lead Auditor is designated.  The Lead Auditor is responsible for audit team orientation, coordinating the audit process, and preparing the report.  The Lead Auditor prepares a written plan for the audit using form EMS 16-II.  A pre-audit conference is held with appropriate personnel to review the scope, plan and schedule for the audit.  The Lead Auditor prepares the audit report, which summarizes the audit scope, identifies the audit team, describes sources of evidence used, and summarizes the audit results using form EMS 16-II and communicates the results to the EMS responsible person and the operations manager.  A post-audit conference is held to present audit findings, clarify any misunderstandings, and summarize the audit results.  The EMS responsible person communicates the audit results to responsible management personnel. Management personnel execute follow-up actions as needed. The EMS responsible person tracks the completion and effectiveness of corrective actions. |

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| **Appendix 16-II-F3: Form for Preparing an EMS Audit Summary Sheet**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: **Environmental & Planning Manager & Lead Auditor**  Number: *EMS 16-I*  Date: *15 May 2006* | | |
| **Element Number and Description** | **Audit Results** | |
| Major/Minor Findings | Comment |
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| TOTAL |  |  |

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| **Appendix 16-III-F4: Form for Responding to EMS Audit Finding**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: **Environmental & Planning Manager & Lead Auditor**  Number: *EMS 16-II*  Date: *15 May 2006* | | | | | |
| **Type of Nonconformance:** (circle as appropriate) | | | | | |
| **Major** | **Minor** | **Positive Practice** | | **Recommendation** | |
| **Description** (include where in the organization the finding was identified): | | | | | |
| **ISO 14001 Reference:** | | | **Date:** | | **Finding Number:** |
| **Lead Auditor:** | | | **Audit Team:** | | |
| **Corrective Action Plan** (including time frames): | | | | | |
| **Preventive Action Taken:** | | | | | |
| **Corrective Action Verified By:** | | | **Date:** | | |

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| **Appendix 17 : Management Review Procedure**  **EMS CONTROLLED DOCUMENT**  Municipality: Coca-Cola Egypt  Prepared By: **Environmental & Planning Manager & General Manager**  Number: *EMS 17*  Date: *15 May 2006*  **Description:**  The purpose of this procedure is to document the process for conducting the Management Review and the primary agenda of issues to be included in reviewing the status of the EMS.  The Management Review process is intended to provide a forum for discussing the performance of the EMS and opportunities for improvement and for providing management with a vehicle for making changes to the EMS to achieve continual improvement.  **Procedure:**  \* The EMS responsible person (Environmental & Planning Manager) coordinates the EMS Management Review meeting. The meeting coincides with the annual business planning and financial review meetings. The EMS responsible person presents a summary of proposed EMPs for the next year to be considered in the budget planning process.  \* The EMS responsible person is also responsible for ensuring that the necessary information is collected prior to the meeting. At a minimum, each Management Review meeting considers the following:  • Suitability, adequacy and effectiveness of the environmental policy;  • Suitability, adequacy and effectiveness of the environmental objectives;  • Overall suitability, adequacy and effectiveness of the EMS;  • Status of objectives, targets, corrective and preventive actions;  • Results of any EMS audits conducted since the last Management Review meeting;  • Suitability, adequacy and effectiveness of training efforts;  • Results of any action items from the previous Management Review meeting;  • Suitability of resources, considering re-alignment of resources if required; and  • Extent to which changes in legislation, organizational activities, technology or stakeholder interests will require changes in the EMS.  Minutes of the Management Reviews are documented and include, at a minimum, the list of attendees, a summary of key issues and any actions items arising from the meeting. A copy of the meeting minutes are distributed to attendees and to any individuals assigned action items. |

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**(Rev: 2)**