

COP11326: EMS Manual

Environmental Management System

Last modified: 6/19/2008

TABLE OF CONTENTS

- Section 1. [Purpose and Scope](#)
- Section 2. [SGI's Environmental Policy](#)
- Section 3. [Definitions](#)
- Section 4. [References](#)
 - 4.1. [Related Documents and Information](#)
 - 4.2. [Cross Reference to the ISO 14001:2004\(E\) Standard](#)
- Section 5. [Elements of the EMS](#)
 - 5.1. [General Requirements](#)
 - 5.2. [Environmental Policy](#)
 - 5.3. [Planning](#)
 - 5.3.1. [Environmental Aspects](#)
 - 5.3.2. [Legal and Other Requirements](#)
 - 5.3.3. [Objectives, Targets and Programs](#)
 - 5.4. [Implementation and Operation](#)
 - 5.4.1. [Resources, Roles, Responsibility and Authority](#)
 - 5.4.2. [Competence, Training and Awareness](#)
 - 5.4.3. [Communication](#)
 - 5.4.4. [Documentation](#)
 - 5.4.5. [Control of Documents](#)
 - 5.4.6. [Operational Control](#)
 - 5.4.7. [Emergency Preparedness and Response](#)
 - 5.5. [Checking](#)
 - 5.5.1. [Monitoring and Measurement](#)
 - 5.5.2. [Evaluation of Compliance](#)
 - 5.5.3. [Nonconformity, Corrective Action and Preventive Action](#)
 - 5.5.4. [Control of Records](#)
 - 5.5.5. [Internal Audit](#)
 - 5.6. [Management Review](#)

1.0 Purpose and Scope

SGI has established, implemented, and maintains an Environmental Management System (EMS) that addresses the environmental aspects associated with the activities, products, and services related to its Worldwide

Manufacturing Organization (WMO), Logistics, and Engineering organizations. The purpose of this EMS Manual is to:

- Provide a clear statement of the EMS and the methods by which conformance to this EMS is assured;
- Establish a concise reference of practices and procedures for the EMS at SGI; and
- Identify and designate personnel who will be responsible for ensuring that EMS standards are maintained.

2.0 SGI's Environmental Policy

SGI recognizes the importance of conducting business and managing environmental issues in a responsible manner. We are committed to minimizing our environmental impact. Therefore, we use the following principles to guide our efforts:

- Comply with environmental regulations
- Conduct operations in an environmentally sound manner
- Apply the principles of "reduce, reuse, and recycle" in all processes
- Promote environmental responsibility among employees
- Strive to ensure that suppliers agree to comply with environmental regulations
- Pursue continuous improvement in our environmental performance
- Clearly communicate SGI's environmental policies, practices, and impact to interested parties

3.0 Definitions

Communication:

Any inquiry (e.g., question, concern, or suggestion) or response to an internal or external inquiry related to environmental activities or the EMS.

Continual Improvement:

Process of enhancing the EMS to achieve improvements in environmental performance in line with SGI's environmental policy.

Corrective Action:

Any measure that must be taken to address an identified problem or nonconformance within a predetermined plan and clearly defined time schedule.

Document:

Procedure, instruction, manual, or other form of documentation that is used to manage the EMS. A controlled document refers to a document that has been assigned a number for tracking purposes. It has an owner who controls access by authorizing copies, assigning controlled copy numbers, specifying location of controlled copies, etc. An uncontrolled document is a copy of a document that is not controlled or tracked since it exists for illustrative, instructional, external distribution, or other like purposes.

EMS Audit:

A systematic verification process of objectively obtaining and evaluating evidence to determine whether an organization is conducting operations in conformance with its documented EMS.

EMS Management Representative (EMR):

The individual who serves as the liaison to Senior Management on all issues associated with the EMS. SGI's Corporate Environmental, Health and Safety (EHS) Manager serves as the EMR.

EMS Coordinator:

The individual who provides overall guidance to implement and maintain the EMS. SGI's EHS Manager in Chippewa Falls, WI serves as the EMS Coordinator.

EMS Core Team:

The team of personnel that is responsible for guiding the implementation of SGI's EMS. Each year the EMS Core Team and/or their designees identify the environmental aspects, impacts, and significant aspects. The

EMS Core Team is also responsible for setting the objectives and targets for continual improvement in environmental performance. The EMS Core Team will consist of the EMS Coordinator, the EMR, and representatives from Manufacturing, Engineering, and Facilities.

Environmental Aspect:

An element of an organization's activities, products, or services that can interact with the environment.

Environmental Impact:

Any change to the environment, whether adverse or beneficial, resulting from an organization's activities, products, or services.

Environmental Management System (EMS):

The part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes, and resources for developing, implementing, achieving, reviewing, and maintaining the environmental policy.

Environmental Objective:

Overall environmental goal, consistent with the environmental policy, that an organization sets itself to achieve.

Environmental Performance:

Measurable results of the EMS related to an organization's control of its environmental aspects, based on its environmental policy, objectives, and targets.

Environmental Policy:

An organization's statement of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets.

Environmental Program Document:

Plan, procedure, manual, permit, etc., that is developed and maintained to describe and document activities that are mandated by an applicable law, rule, or regulation, and/or that might impact the environment.

Environmental Target:

Detailed performance requirement, quantified where practicable, that needs to be set and met in order to achieve the objective.

External Source:

Customers, neighbors, government agency representatives, media representatives, or others who may be interested in SGI's environmental activities.

ISO14001:2004(E) Environmental Management Systems Specification:

The international voluntary standard that lays out elements of an EMS.

Monitoring and Measurement (M&M):

Specific equipment and methods to track various operational (e.g., manufacturing, warehousing, maintenance, etc.) activities. M&M includes equipment calibration and other metrics such as inventory (e.g., waste recycling) records, inspection results, trend data, meter readings, etc.

Nonconformance (or Nonconformity):

Any activity or practice that does not support or is counter to the environmental policy or any EMS document or is in violation of an applicable state or federal environmental regulation or permit. A nonconformance can also be referred to as a nonconformity, which is a new term used in the ISO 14001:2004(E) Standard. SGI typically uses the term nonconformance since its Quality Management System and EMS pre-date this Standard (i.e., the EMS was originally established based on ISO 14001:1996(E) where, instead of nonconformity, the term nonconformance was used).

Operational Control:

A practice or procedure that is conducted to ensure that activities are in line with the environmental policy, and objectives and targets. The result of "operational control" is that impact to the environment is minimized and compliance with applicable regulatory requirements is demonstrated. Examples of operational controls include specific material storage practices, scrap management procedures, EHS inspections, chemical handling techniques, employee training, etc.

Prevention of Pollution:

Use of processes, practices, materials or products that avoid, reduce, or control pollution, including recycling, treatment, process changes, control mechanisms, efficient use of resources, material substitution, etc.

Preventive Action:

Any activity that is taken to prevent a problem or nonconformance.

Problem:

Any condition that has the potential to cause an environmental nonconformance.

Procedure:

A document that describes the scope, purpose, responsibilities, resources, and issues associated with an activity which is intended to ensure that all environmental requirements are addressed at SGI.

Record:

Original written evidence (regardless of format or media) that something has been accomplished, e.g. inspection checklist, equipment calibration log, employee training roster, or other document generated during the course of business. A record does not change.

4.0 References

4.1 Related Documents and Information

- http://www.sgi.com/company_info/environment/ (SGI's worldwide website)
- Silicon Junction at <http://www.corp.sgi.com/> (SGI's intranet website)
- <http://cfmfg.americas.sgi.com/capd/safety.html> Environmental Program Documents and Records

4.2 Cross Reference to the ISO 14001:2004(E) Standard

This EMS conforms with the minimum standards specified in the ISO 14001:2004(E) Standard, as follows:

Element Description	ISO 14001 Section	SIG's EMS
Scope	1.0	1
Normative References	2.0	NA
Definitions	3.0	3
EMS Requirements	4.0	5.1
General Requirements	4.1	5.1
Environmental Policy	4.2	2 & 5.2
Planning	4.3	5.3
Environmental Aspects	4.3.1	5.3.1
Legal and Other Requirements	4.3.2	5.3.2
Objectives, Targets and Programs	4.3.3	5.3.3
Implementation and Operation	4.4	5.4
Resources, Roles, Responsibility and Authority	4.4.1	5.4.1
Competence, Training and Awareness	4.4.2	5.4.2
Communication	4.4.3	5.4.3
Documentation	4.4.4	5.4.4
Control of Documents	4.4.5	5.4.5
Operational Control	4.4.6	5.4.6
Emergency Preparedness and Response	4.4.7	5.4.7
Checking	4.5	5.5
Monitoring and Measurement	4.5.1	5.5.1
Evaluation of Compliance	4.5.2	5.5.2
Nonconformity, Corrective Action and Preventive Action	4.5.3	5.5.3
Control of Records	4.5.4	5.5.4
Internal Audit	4.5.5	5.5.5
Management Review	4.6	5.6

5.0 Elements of the EMS

5.1 General Requirements

5.1.1 SGI has established and maintains an EMS, the elements of which are described in this section.

5.1.2

SGI's Senior Management provides resources to implement and maintain the EMS, and reviews the EMS on a periodic basis as defined in Section 5.6 of this manual.

5.2 Environmental Policy

SGI's Environmental Policy is stated in section 2.0 of this EMS Manual. As prescribed by the ISO 14001 Standard, SGI's Environmental Policy:

- Is appropriate to the nature, scale and environmental impacts of the organization's activities, products and services;
- Includes a commitment to continual improvement and prevention of pollution;
- Includes a commitment to comply with applicable legal requirements such as relevant environmental legislation and regulations, and with other requirements to which the organization subscribes which relate to SGI's environmental aspects;
- Provides the framework for setting and reviewing environmental objectives and targets;
- Is documented, implemented, maintained and communicated to all persons working for or on behalf of the organization; and
- Is available to the public.

5.3 Planning

5.3.1 Environmental Aspects

SGI personnel identify and evaluate their environmental aspects each year in accordance with the [Environmental Aspects Procedure \(COP11327\)](#). The EMS Coordinator records the annual review of the environmental aspects and their impacts on the forms provided in [COP11328](#). For example, Environmental Aspects & Impacts - 2003 Records, documents the aspects, impacts, and significant aspects identified in fiscal year 2003.

5.3.2 Legal and Other Requirements

SGI contracts with an EHS consultant who routinely tracks regulatory requirements to identify applicable environmental laws, rules, and regulations related to SGI's environmental aspects. The [Legal and Other Requirements Procedure \(COP11330\)](#) specifies the procedure SGI uses to ensure on-going identification and access to applicable federal, state and local environmental laws, rules, and regulations. SGI ensures that these applicable legal requirements and other requirements to which it subscribes are taken into account in establishing, implementing, and maintaining its EMS.

5.3.3 Objectives, Targets and Programs

SGI is committed to pursuing continuous improvement in its environmental performance. As part of the business plan development and EMS continual improvement processes, SGI establishes, implements, and maintains documented objectives and measurable targets based on the following:

- Applicable legal and other requirements;
- Significant environmental aspects of SGI's activities;
- Available technological options;
- Financial, operational, and business requirements;
- The views of interested parties; and
- SGI's business requirements.

The EMS Core Team determines an objective and target for achieving continuous improvement associated with each significant aspect each fiscal year. The EMS Core Team or its designee(s) record the responsibilities, time frame, action plan, and resources needed for achieving each environmental objective on an [Environmental Improvement Program \(EIP\) Form \(COP11329\)](#). The EMS Coordinator reports progress in meeting objectives and targets to the EMR. EIP records are maintained at <http://facilities.corp.sgi.com/ehs/environmental/ems#eip>.

5.4 Implementation and Operation

5.4.1 Resources, Roles, Responsibility and Authority

This EMS Manual defines resources, roles, responsibilities and authorities of personnel who manage, perform, and verify work affecting environmental issues at SGI. SGI's Senior Management provides the necessary resources, both materials and staff, to ensure that the EMS is effectively implemented. The EMS Coordinator ensures that the EMS is established, implemented and maintained in accordance with this EMS Manual, and reports on its performance to management for review and as a basis for continual improvement.

5.4.2 Competence, Training and Awareness

SGI identifies personnel in job functions that have a potential to cause a significant impact on the environment to ensure that they are competent to perform their jobs on the basis of appropriate education, training, and/or experience. [The Training, Awareness, and Competence Procedure \(COP11331\)](#)

identifies how SGI ensures that effective environmental training programs are provided, tracked and recorded so that regulatory compliance issues are addressed and potential impact on the environment is minimized. The EHS Manager specifies employee training needs associated with SGI's environmental aspects and its EMS. The EHS Specialist maintains a web-based database of training courses, schedules, and records. Supervisors are responsible for ensuring that their employees receive the required training.

5.4.3 Communication

Information associated with SGI's EMS will be communicated through a number of means, including the following:

- SGI's worldwide website
- SGI's intranet website
- Departmental meetings
- Environmental and safety meetings
- One-on-one meetings with personnel whose work affects environmental issues
- Employee bulletin boards
- Electronic mail

SGI maintains a [Communications Procedure \(COP11332\)](#) for responding to inquiries, concerns, or questions related to environmental matters and the EMS originating from interested parties, internal and external to the organization.

5.4.4 Documentation

This EMS Manual describes how core elements of the EMS are documented, implemented, and communicated. EMS documentation includes:

- SGI's Environmental Policy, objectives and targets;
- A description of the scope of SGI's EMS;
- A description of the main elements of the EMS and their interaction, and reference to related documents;
- Documents, including records, required by the ISO 14001:2004(E) Standard; and
- Documents, including records, determined by SGI to be necessary to ensure the effective planning, operation, and control of processes that relate to its significant environmental aspects.

5.4.5 Control of Documents

The [Document Control Procedure \(COP11333\)](#) describes how EMS documents are controlled and maintained at SGI. SGI's EMS documents are located on SGI's intranet-based Document Control System, in accordance with the Quality Management System's document control procedures.

5.4.6 Operational Control

SGI personnel maintain operational controls to ensure that activities associated with significant environmental aspects are in line with the environmental policy and objectives and targets. The

[Monitoring and Measurement Procedure \(COP11334\)](#) describes how these practices and procedures are identified and documented to control situations where their absence could lead to deviation from the Environmental Policy, objectives and targets. Various monitoring and measurement methods and operational controls associated with each significant aspect are recorded annually on the form provided in [COP11335](#). This procedure also describes SGI's process for assuring that suppliers and contractors meet minimum environmental requirements.

5.4.7 Emergency Preparedness and Response

SGI maintains emergency preparedness and response procedures for preventing and responding to incidents, accidents, and emergency situations. The [Chippewa Falls Emergency Action Plan](#) is an example of a documented procedure that addresses how potential emergency situations or potential accidents that can have an impact on the environment are prevented and mitigated. It is reviewed, tested, and revised periodically and after the occurrence of accidents or emergency situations as needed.

5.5 Checking

5.5.1 Monitoring and Measurement

SGI personnel perform specific monitoring and measurement methods to monitor environmental performance, applicable operational controls, and conformity with SGI's environmental objectives and targets as described in the [Monitoring and Measurement Procedure \(COP11334\)](#).

5.5.2 Evaluation of Compliance

SGI maintains compliance with applicable environmental laws, rules, and regulations, consistent with its Environmental Policy. The [Regulatory Compliance Evaluation Procedure \(COP11336\)](#) describes how SGI periodically verifies the organization is meeting regulatory compliance requirements. The procedure also describes how SGI tracks and records the results of these periodic evaluations.

5.5.3 Nonconformity, Corrective Action and Preventive Action

The [Nonconformance, Corrective and Preventive Action Procedure \(COP11337\)](#) documents SGI's procedure for handling problems and nonconformity, and initiating, documenting and implementing corrective and preventive actions. Organizations within SGI use different systems to identify and address problems and nonconformances in a timely and appropriate manner. Specifically, WMO uses a [Closed Loop Corrective Action Web Tool \(COP10634\)](#), SGI's Logistics' organization uses a [Logistics Universal Corrective Action System \(LUCAS\)](#), and SGI's Engineering organization uses a system called [BugWorks](#).

5.5.4 Control of Records

EMS records are maintained as prescribed in the [Records Maintenance Procedure \(COP11339\)](#). This document ensures that environmental records are properly identified, stored, protected, retrieved, retained, and disposed. All EMS records are legible, identifiable, and traceable.

5.5.5 Internal Audit

In addition to periodic compliance evaluations, portions of the EMS are audited on a quarterly basis to verify that it is being properly implemented and maintained. The [EMS Conformance Audit Procedure \(COP11340\)](#) and [EMS Internal Audit Report Form \(COP11338\)](#) describe how SGI evaluates and reports EMS conformance.

5.6 Management Review

SGI's Senior Management evaluates the EMS on an annual basis to ensure its continuing suitability, adequacy and effectiveness. Management reviews assess opportunities for improvement and the possible need to make changes to the EMS. Each management review considers the following:

- Results of internal audits and evaluations of compliance with legal requirements and with other requirements to which SGI subscribes;
- Communication(s) from external interested parties, including complaints;

- The environmental performance of the organization;
- The extent to which objectives and targets have been met;
- Status of corrective and preventive actions;
- Follow-up actions from previous management reviews;
-
- Changing circumstances, including developments in legal and other requirements related to SGI's environmental aspects; and
- Recommendations for improvement.

The outputs from management reviews (i.e., observations, conclusions, and recommendations) will include any decisions and actions related to possible changes to the Environmental Policy, objectives, targets, and other elements of the EMS, consistent with SGI's commitment to continual improvement. Records of each management review are retained by the EMS Coordinator.