



Luminus Devices, Inc
Environmental, Health, and Safety
Management Systems Manual

ISO 14001:2004

OHSAS 18001:2007

Environmental, Health, and Safety Management System Manual

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FORWARD

Luminus Devices, Inc is committed to enhancing human safety, protecting the environment, and manufacturing a safe, high quality product. The operation of our facility depends on a safe working environment and safe conduct of facility operations by employees at all times. We also recognize the necessity to assure compliance with applicable government laws, regulations and standards.

The Executive Management Team (EMT) at Luminus Devices, Inc has made a commitment to establish, implement, and maintain a formal Environmental, Health and Safety (EHS) management system. Our EHS Management System is intended to meet all the requirements of ISO 14001:2004 and OHSAS 1800:2007 and this manual uses paragraph numbering that follows these Standards as a convenient cross reference. The EHS System is complemented by and in no way conflicts with our ISO 9001:2008 Quality Management System.

1.0 SCOPE

The EHS Management System described in this Manual applies to all activities, product and services at our facilities identified below:

Locations include:

Luminus Devices, Inc. (Main Headquarters)
1100 Technology Park Drive
Billerica, MA 01821

Luminus Devices, Inc.
175 New Boston Street
Woburn, MA 01801

The scope of the Luminus business is to Design, Manufacture and Deliver Big Chip LED products.

2.0 REFERENCE DOCUMENTS

Luminus Document Master List (Luminus Intranet/Quality/Documentation)

EHS Organizational Chart (Luminus intranet/HR/Admin/Organizational Charts)

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3.0 TERMS AND DEFINITIONS

Acceptable Risk: Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy.

Auditor: Person with the competence to conduct an audit

Continual Improvement: Recurring process of enhancing the environmental management system in order to achieve improvement in overall environmental performance consistent with the organization's environmental policy.

Corrective Action: action to eliminate the cause of a detected nonconformity.

Document: Information and its supporting medium.

EHS: Environmental, Health and Safety

Environment: Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelations

Environmental Aspects: elements of an organization's activities or product or service that can interact with the environment.

Environmental Impacts: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.

Environmental (EHS)/OH&S Management System: Part of an organization's management system used to develop and implement its environmental/OH&S policy and manage its environmental aspects and OH&S risks.

Environmental/OH&S Objective: Overall environmental/OH&S goal, consistent with the environmental policy and the OH&S performance that an organization sets itself to achieve.

Environmental/OH&S Performance: Measurable results of an organization's management of its environmental aspects OH&S risks..

Environmental/ OH&S Policy: Overall intention and direction an organization relates to its environmental performance as formally expressed by top management.

Environmental Target: Detail performance required, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives.

Hazard: Source, situation, or act with a potential for harm in terms of human injury or ill health.

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Hazard Identification: Process for recognizing that a hazard exists and defining its characteristics.

ILL Health: Identifiable, adverse physical or mental condition arising from and/or made worse by a work activity and/or work related situation.

Incident: Work related event in which an injury or ill health (regardless of severity) or fatality occurred, or could have occurred.

Interested Party: Person or group concerned with or affected by the environmental performance of an organization.

Internal Audit: systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which the environmental management system audit criteria set by the organization are fulfilled.

Management Representative: The Luminus CEO has appointed the Quality Manager as the management representative who, irrespective of other responsibilities, has the responsibility and authority for:

- a) ensuring that processes of the EHS quality management system are established, implemented and maintained;
- b) reporting to top management on the performance of the EHS quality management system, including needs for improvement;

Nonconformity: Non-fulfillment of a requirement.

Occupational Health And Safety (OH&S): Condition or factors that affect, or could affect, the health and safety of employees or other workers (including temporary workers and contractor personnel) visitors, and any other person in the workplace.

OH&S: Part of an organization's management system used to develop and implement OH&S policy and manage its OH&S risks.

Preventive Action: action to eliminate the cause of a potential nonconformity.

Prevention of Pollution: Use of processes, practices, techniques, materials, product, service or energy to avoid, reduce or control (separately or in combination) the creation, emission or discharge of any type of pollutant or waste, in order to reduce adverse environmental impacts.

Procedure: Specified way to carry out an activity or process.

Records: Stating results achieved or providing evidence of activities performed.

Risk Assessment: Process of evaluating the risk(s) arising from a hazard(s), taking into account the adequacy of any existing controls, and deciding whether or not the risk(s) is acceptable.

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Workplace: Any physical location in which work related activities are performed under the control of the organization.

Note: When given consideration to what constitutes a workplace, the organization should take into consideration the OH&S effects on personnel who are, for example, traveling or in transit, working at the premises of a client or customer or working from home.

4.0 MANAGEMENT SYSTEM

4.1 General Requirements

We have established, documented, implemented and maintained and EHS Management System in accordance with ISO14001:2004 and OHSAS 18001:2007 that is focused on driving continual improvement. The procedure herein defines and documents the scope of the EHS Management System and how we fulfill these requirements.

4.2 Environmental, Health and Safety Policy

All employees of Luminus Devices, Inc aim to minimize the impact on the environment and are committed to do our best in following the Environmental, Health and Safety (EHS) policy:

- Protect the environment by setting objectives that drive continuous improvement in safety, pollution prevention and resource conservation throughout the design, manufacturing and distribution of our products.
- Protect coworkers and visitors at our facilities by providing a workplace safe from injury or ill health and raise EHS awareness.
- Understand and insure through training that we comply with all legal and regulatory requirements that relate to EHS and apply to our facilities, operations and products.

4.3 Planning

4.3.1 Aspects, Hazards and Risks

There are aspects of our activities, products and services that can have an impact on the environment. Similarly, there are activities within our facility that presents potential hazards to the health and safety of people.

A critical part of our EHS planning is to asses the risk of the environmental aspects and health and safety hazards. With knowledge of the risk, we can plan and implement activities to mitigate, control, or eliminate these significant risks. We recognize that aspects, hazards, and

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risk can change overtime. So we repeat our assessment and update our plans periodically or when there are significant changes facilities or activities.

The following procedure assigns responsibility and provides guidance for identifying and rating risks:

- EHS-001750 Aspects/Hazards/Risk Analysis

4.3.2 Legal and Other Requirements

OSHA, EPA and other regulatory bodies establish the legal requirements that apply to our facility, products and handling of waste. We have established practices to identify the applicable legal and other requirements, and we plan and implement activities to ensure those requirements are met. Other requirements as defined on FRM-001753 for which the our organization subscribe includes but not limited to:

- RoHS Directive
- REACH Directive
- WEEE Directive
- Photobiological Safety of Lamps and Lamp Systems

We communicate the legal and other requirement to our employees and other relevant interested parties as necessary to ensure the requirements are met.

The following procedures assign responsibility and provide guidance for periodically reviewing the applicable legal and other requirements and for evaluating our compliance with those requirements.

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- EHS-001783 Transportation of Hazardous Materials
- FRM-001753 EHS Regulatory Requirements

4.3.3 Objective and Targets

We establish measures of our Environmental, Health, and Safety performance, with objectives and targets. These measures take into account legal and other requirements, significant environmental aspects and health safety risks, technological, financial and other business considerations, and the views of the stakeholders. The measures are tracked and are used as a basis for assessing the effectiveness of our EHS system and for directing continuous improvement activities. Projects are assigned with definite time frames for achieving our improvement objectives.

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The setting of objectives and targets is handled by the same procedures used by our ISO9001 Quality Management System:

- Company Objectives on the Luminus Intranet
- QSP-000015 Management Review

4.4 Implementation and Operation

4.4.1 Assignment of Responsibility and Authority

Executive Management Team (EMT) has overall responsibility for:

- Establishing the EHS Policy
- Setting objectives and targets
- Assigning responsibility and authority for implementation activities
- Provide resource needed to implement the policy
- Reviewing the EHS system to ensure its continuing suitability, adequacy, and effectiveness

The CEO has appointed the VP of Operations with overall responsibility and authority for ensuring the EHS Management System is established, implemented, and maintained. The VP of Operations has delegated the following responsibilities:

- ISO14001/OHSAS18001 management representative to the Quality Manager.
- Implementation and maintenance of the EHS management system to EHS/Facilities Manager.

The key assignments for regulatory compliance are shown in the Luminus organizational chart located on the Luminus/intranet. The following procedures provide further detail on the responsibilities and authorities for maintenance of the EHS Management System:

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- EHS-001783 Transportation of Hazardous Materials
- QSP-000012 Quality Management Responsibilities

4.4.2 Competence, Awareness and Training

Training is essential for the successful implementation of our EHS Policy. Personnel at all levels receive training appropriate to their functions and assignments. Appropriate training is also provided to subcontractors and other visitors to our facilities to ensure their safety protection and adherence to our EHS Policy.

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Training needs are identified based on such factors as new employee or process, changes to regulations or other requirements, and the results of audits and measures of performance. Training is provided that meet the legal requirements as well as the needs of the organization, and records of the training are maintained.

Training is handled by the same procedure used by our ISO9001 Quality Management System.

- QSP-000011Training

4.4.3 Communication (include participation/consultation)

We have established methods for internal communication as specified in the documents listed below. In addition, we have developed an EHS committee made up of a cross functional team that may at time include representatives of all levels of the organization,so our employees are informed about the performance of our EHS Management System and have the opportunity to participate and share their ideas for its continual improvement.The individual with key assignments for regulatory compliance are responsible for handling communication with the regulatory agencies. All other external communication is coordinated through the Management Representative.

The Executive Management Team has decided that there is no reason for us to communicate environmental aspects to external parties at the present time. Should the need to communicate change, the method of communication to external parties may include but not limited to:

- Luminus website
- Global Luminus announcement
- Customer notification via letter, e-mail, on-site visit and/or telephone

The following procedures assign responsibility and provide guidance for internal and external communication:

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- QSP-000020 Communication

4.4.4 Documentation

The documentation of our EHS Management System includes but not limited to:

- This EHS Management System Manual.

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- Statements of objectives and targets as defined on the Corporate Dashboard on the Luminus intranet.
- Documented procedures as necessary for effective and efficient operation of the system.
- Written program where required by regulatory bodies.
- Work instructions where their absence could lead to deviation from expected practices.
- Emergency preparedness and response plan, where needed.
- Records.

The following documents describe the main elements of the EHS management system and their interactions.

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- EHS-001826 Integrated Contingency Plan
- EHS-000084 Accident Reporting Procedure

Document Control and Record Control is handled by the same procedure used by our ISO9001 Quality Management System.

- QSP-000002 Document and Data Control.
- QSP-000006 Control of Records
- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure

4.4.5 Document Control

Our EHS documentation is controlled by the same procedure used by our ISO9001 Quality Management System. This procedure describes where documents can be located and how and when they are reviewed. The procedure ensures that current versions are available and that obsolete documents are promptly removed for use or are suitably identified. Current versions of relevant documents are available when and where needed by personnel for effective operation of the EHS Management System.

Document Control and Record Control is handled by the same procedure used by our ISO9001 Quality Management System.

- QSP-000002 Document and Data Control.
- QSP-000006 Control of Records

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4.4.6 Operation Controls

We define operational controls for operations and activities associated with significant environmental aspects significant health and safety risks, or where historical performance has demonstrated a need. These controls can include:

- Written work instructions where the absence could lead to failure to satisfy the EHS Policy or to meet the objectives.
- Defined operating criteria and maintenance activities.
- Controls for purchased goods, equipment, and services with significant EHS risks, and communication of those controls to supplier and subcontractors when relevant.
- Consideration of designs for the workplace of human capabilities, to reduce or eliminate health and safety risk.

4.4.7 Emergency Preparedness Response

Emergencies can happen. Where there is a significant risk to health, safety, or the environment, we create plans and make preparations on how we will respond if the emergency arises. Where practical, we periodically test the response plans.

We learn from experience, so we periodically review and update the response plans, in particular, when emergencies or accidents occur.

The following procedures assign responsibility and provide guidance for emergency preparedness:

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- EHS-001726 Integrated Contingency Plan

4.5 Checking and Corrective Action

4.5.1 Performance Measurements and Monitoring

We monitor our Environmental, Health, and Safety performance, and we apply qualitative and quantitative measures, when legally required or when necessary, for effective operational control of significant aspects or hazards. Our proactive and reactive measures tell us how we are performing against our objectives and how well we are meeting our goals.

When instrumentation is used for making measurements, we ensure that is appropriately calibrated and maintained. The Control of Monitoring and

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Measuring Equipment is handled by the same procedures used by our ISO9001 Quality Management System

- QSP-000007 Control of Monitoring and Measuring Equipment
- SOP-000985 Measuring and Monitoring Environmental Control

The following procedure assigns responsibility and provides guidance for performance measuring and monitoring

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- EHS-001783 Transportation of Hazardous Materials

4.5.2 Evaluation of Compliance

Because we are committed to meeting applicable legal and other applicable requirements, we conduct periodic evaluations to verify we are complying with those requirements. The results of these evaluations are recorded and reported to the Executive Management Team (EMT) for their review and direction of actions, when needed.

The following procedures assign responsibility and provide guidance for evaluation of compliance.

- EHS-001751 Health and Safety Procedure
- EHS-001752 Environmental Protection Procedure
- FRM-001753 EHS Regulatory Requirements

4.5.3 Corrective and Preventive Action

Corrective actions are taken when:

- Departures from intended practices are discovered.
- Incident of failures or near failure occur.
- Planned results are not being achieved.

The following procedure assigns the responsibility and provides guidance for incident/accident reporting and the corrective and preventive action:

- EHS-000084 Accident Reporting Procedure

Corrective action and the reporting of results are handled by the same procedure used by our ISO 90001 Quality Management System:

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- QSP-000004 Corrective and Preventive Action System
- QSP-000015 Management Review

Preventive action is a key to the success of our EHS system. We don't want to fix failures, but instead, we want to prevent their occurrence. As we learn from our on-going experience, we take the preventive actions that can include:

- Updating of risk assessments.
- Changes to procedures and practices to mitigate, control and eliminate risks.
- Improvements to emergency preparedness and response plans.
- Training and retraining of personnel.

4.5.4 Records

Our EHS records are controlled by the same procedure used by our ISO9001 Quality Management System. Records provide evidence of compliance with our EHS Policy and procedures. They also provide the data needed for measurement of performance.

Records are handled by the same procedure used by our ISO 9001 quality Management System:

- QSP-000006 Control of Records.

4.5.5 Audits

We perform auditing and inspection activities on a regular basis to assess:

- Compliance with defined procedures and practices.
- Effectiveness of the system in meeting EHS Policy and objectives.

The results of these audits are recorded and reported to the Executive Management Team for their review and direction of action, where needed.

Internal auditing and reporting is handled by the same procedures used by our ISO9001 Quality Management System:

- QSP-00005 Internal Audit System.
- QSP-00015 Management Review.

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4.5.6 Management Review

The Executive Management Team conducts periodic, scheduled reviews to ensure the EHS Management System is adequate and effective. Outputs from these reviews include decisions and action that will drive continuous improvement of the System.

Management Review is handled by the same procedure used by our ISO9001 Quality Management System

- QSP-000015 Management Review

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PROCEDURES

The following documents define key tasks and responsibilities in the EHS Management System.

Document Number	Title	Documents shared between EHS Management System and the Quality Management System
QSP-000002	Document and Data Control	√
QSP-000004	Corrective and Preventive Action (CAPA) System	√
QSP-000005	Internal Auditing System	√
QSP-000006	Control of Records	√
QSP-000007	Control of Monitoring and Measuring Equipment	√
QSP-000011	Training	√
QSP-000012	Quality Management Responsibilities	√
QSP-000015	Management Review	√
QSP-000020	Communication	√
SOP-000985	Measuring and Monitoring Environmental Control	√
EHS-000084	Accident Reporting Procedure	
EHS-001750	Aspects/Hazards/Risk Analysis	
EHS-001751	Health and Safety Procedure	
EHS-001752	Environmental Protection Procedure	
EHS-001783	Transportation of Hazardous Materials	
EHS-001826	Integrated Contingency Plan	
FRM-001753	EHS Regulatory Requirements	