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| Contact Person | Dan Kayser | Revision | 0 |
| Document | Plan 10200.040 | Effective Date | 11/01/12 |
| | | Review Date | 11/01/15 |

Environmental Management System Description

The Environmental Management System (EMS) Description plan is used to document the Laboratory's EMS in accordance to the ISO14001:2004 standard.

1.0 APPROVAL RECORD

- Reviewed by: Amy Tehan, Document Control Coordinator
- Approved by: Tom Wessels, Manager, Environment, Safety, Health & Assurance
- Approved by: Mark Murphy, Chief Operations Officer
- Approved by: Deb Covey, Associate Laboratory Director for Sponsored Research Administration
- Approved by: Duane Johnson, Chief Research Officer
- Approved by: Alex King, Acting Interim Deputy Director
- Approved by: Alex King, Director

The official approval record for this document is maintained in the Training & Records Management Office, 151 TASF.

2.0 REVISION/REVIEW INFORMATION

The revision description for this document is available from and maintained by the author.

3.0 PURPOSE AND SCOPE

The purpose of this document is to demonstrate the Laboratory's EMS compliance with ISO14001:2004 and DOE O 436.1.

3.1. Definitions

- *Continual Improvement*: Recurring process of enhancing the environmental management system in order to achieve improvements in overall environmental performance consistent with the organization's environmental policy.
- *Environment*: Surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.
- *Environmental Aspect*: Element of an organization's activities or products or services that can interact with the environment.
- *Environmental Impact*: Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.
- *Environmental Management System (EMS)*: Part of an organization's management system used to develop and implement its environmental policy and manage its environmental aspects.
- *Environmental Objective*: Overall environmental goal, consistent with the environmental policy that an organization sets itself to achieve.

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- *Environmental Target:* Detailed performance requirement, applicable to the organization or parts thereof, that arises from the environmental objective and that needs to be set and met in order to achieve those objectives.

4.0 GENERAL REQUIREMENTS

The Laboratory will establish, document, implement, maintain and continually improve its environmental management system in accordance with the requirements of the ISO14001:2004 standard. The scope of the Laboratory's environmental management system includes the Ames Laboratory research, administrative, and support buildings.

4.1 Environmental Policy

The Laboratory has established an environmental policy (10200.010) that is integrated into the Laboratory's Integrated Safety Management System (ISMS). The policy is publicly located on the Laboratory's webpage.

4.2 Planning

4.2.1 *Environmental Aspects*

The Laboratory has an established procedure (10200.075) for initially identifying the Laboratory's aspects and significant aspects. The list of aspects will be reviewed at a minimum every two years. The Laboratory will rely on established plans, policies and procedures for identifying aspects that have or could have an impact on the environment.

4.2.2 *Legal and other Requirements*

The Laboratory has a set of regulations and requirements that are established in the Laboratory's contract. The environmental specialist is responsible for keeping up to date with EMS applicable regulations and requirements.

4.2.3 *Objectives, Targets, and Programs*

The Laboratory has adopted the Department of Energy's objectives (aka goals) as required by Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*. Annual Laboratory results are documented in the Laboratory's Site Sustainability Plan.

4.3 Implementation and Operation

4.3.1 *Roles and Responsibilities*

Executive Council

- Ensure the availability of resources essential to establish, implement, maintain and improve the environmental management system. Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.
- Appoint a specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for implementing and maintaining the Laboratory's EMS.

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- Review the Laboratory's EMS, at a minimum every three years, to ensure its continued effectiveness. Reviews shall include assessing opportunities for improvement and the need for changes to the environmental management system, including the environmental policy, objectives and targets. Records (i.e. meeting minutes) of such reviews shall be retained by the Executive Council.

EMS Coordinator

- Ensure that an environmental management system is established, implemented, and maintained with the requirements of ISO14001:2004.
- Report to the Executive Council on the performance of the environmental management system for review, including recommendations for improvement.
- Responsible for maintaining compliance with applicable regulations and requirements and taking these regulations and requirements into account when establishing the Laboratory's aspects.

EMS Steering Committee (EMSSC)

- The EMSSC's responsibilities are outlined in the EMSSC Charter 10200.001.

Employees

- Employees are responsible for conducting their work in an environmentally sound manner. Employees are not required to know the formal EMS terminology but rather they will understand the intended spirit of the EMS and how their work may impact the environment and take the necessary measures to eliminate and/or reduce such impact(s).

4.3.2 *Competence, Training and Awareness*

Key personnel will take and maintain EMS training as necessary. All employees will receive EMS training through General Employee Training and through the Annual Retrain Memo. EMS Steering Committee members and Executive Council will receive additional training as necessary.

4.3.3 *Communication*

EMS/Sustainable communications are internally and externally communicated through Ames Laboratory *Insider* publications, the Laboratory's website, emails, the Annual Site Environmental Report, Site Sustainability Plan, and the Performance Evaluation Management Plan (PEMP).

4.3.4 *Documentation and Document Control*

Laboratory Plans, Policies and Procedures, and Forms are reviewed, tracked and maintained by the Document Control Office. Each subject matter expert (author) is responsible for keeping their plans, policies and procedures current. Ancillary documentation (e.g. meeting minutes) associated with the EMS is maintained by each responsible party (i.e. EMS Coordinator, Executive Council, etc.).

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4.3.5 *Operational Control*

The Laboratory's EMS is integrated into its operations in many respects. The EMS is integrated into the Laboratory's Integrated Safety Management System (ISMS). The following Plans, Policies and Procedures are at the core of keeping the Laboratory from deviating from its ISMS/EMS policy.

- 1) NEPA (National Environmental Policy Act) Plan. The NEPA plan is at the fore front of capturing potential activities that could affect the Laboratory's significant aspects.
- 2) Readiness Review Procedure (RRP). The readiness review is at the core of evaluating activities (new and current) at the Laboratory. The RRP evaluates activities for environmental, health and safety aspects.

In addition to this plan and procedure the Laboratory also has internal procedures (written and not written) that help identify and prevent adverse impacts to the environment (e.g. Service Order Requisitions (SORs), "Green Tag Procedure").

4.3.6 *Emergency Preparedness and Response*

The Laboratory's Facilities Services Group maintains the Laboratory's Emergency Plan. Key personnel are trained on an annual basis. The Laboratory also files EPCRA (Emergency Planning and Community Right-to-Know Act) Tier II forms with the State of Iowa and the local fire department. Plant Protection personnel tour the facilities routinely and are onsite 24/7/365.

4.4 **Checking**

4.4.1 *Monitoring and Measurement*

The Laboratory has two air permitted sources (sandblaster and paint booth) that do not require continuous monitoring or monitoring while in operation. The permits are maintained by mass balance spreadsheets. Chemical fume hoods are exempt from the CAA (Clean Air Act) and State of Iowa regulations. However, the NEPA and Readiness Review policies would capture any new or significant changes that may have an impact on the environment or require a permit. The Laboratory's waste water is included in the university's waste water.

4.4.2 *Evaluation and Compliance*

Applicable regulations and requirements typically flow down from DOE-HSS (Office of Health, Safety and Security). A list of applicable regulations and requirements are in the Laboratory's contract between DOE and Iowa State University (ISU). The ESH&A Manager maintains this list and the applicable specialist responsible for each regulation and requirement. Other resources such ISU's EH&S Department, list serves, and the attendance of webinars and workshops help keep the Environmental Specialist/EMS Coordinator abreast of new and/or changing regulations and requirements that may have an impact on the Laboratory's EMS. The Site Environmental Report recaps the Laboratory's environmental compliance status annually.

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4.4.3 *Nonconformity, Corrective Action and Preventive Action*

The Industrial Safety Specialist maintains the Ames Laboratory Corrective Action Tracking (ALCATS) database. Findings and corrective actions are noted and tracked until they are closed.

4.4.4 *Control of Records*

Laboratory Plans, Policies, Procedures and Forms are tracked by the Document Control Office. Ancillary documentation (e.g. meeting minutes) associated with the EMS are maintained by each responsible party (i.e. EMS Coordinator, Executive Council, etc.).

4.4.5 *Internal Audit*

Internal audits will be conducted every three years or more frequently if the Laboratory's significant aspects change. Results of this audit and/or change in significant aspects will be communicated to the Executive Council.

4.5 **Management Review**

The Executive Council shall formally review the Laboratory's EMS every three years for continued sustainability and effectiveness. Reviews shall include; assessing opportunities for improvement, environmental policy, environmental objective and targets. The Executive Council shall retain records (i.e. meeting minutes) of such reviews.