

**U.S. Environmental Protection Agency
ENVIRONMENTAL SCIENCE CENTER, FORT MEADE, MARYLAND**

**ESC EP01.03
Environmental Management System Procedure for:**

Identification of Significant Environmental Aspects (SEA)

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Issued by:

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By:	
Changes:	

1 Purpose

To identify the significant environmental aspects of the Environmental Science Center (ESC) activities, products and services in order to set objectives and targets that can be achieved through the implementation of environmental management programs.

2 Scope

This procedure covers all activities, services and products conducted at the ESC. The evaluation of aspects includes aspects associated with goods and services from external suppliers.

3 Definitions

Environmental Aspect - element of the ESC's activities, products or services that can interact with the environment. The environmental aspect of an activity is that part of it that creates a possibility for an environmental impact. As such, it is equivalent to the concept of "hazard" which is also defined as the mere possibility of a negative event.

Significant Environmental Aspect (SEA) - an environmental aspect that has been determined by the organization to be "significant" relative to the other environmental aspects of its activities, products, and services. The organization defines significance.

Environmental Impact - any change to the environment, whether adverse or beneficial, wholly or partially resulting from the ESC's activities, products or services. A potential environmental impact is equivalent to the concept of "risk" which assigns a probability and magnitude to the possible negative event that may result from a "hazard".

Significant - the ESC defines its own criteria to determine which impacts are potentially "significant" and which are not. The ESC uses various characteristics in its criteria: e.g. legal requirements, magnitude of impact, likelihood of impact, whether there is an existing program. This ESC considers aspects that are regulated by law to be classified as significant environmental aspects regardless of other significance attributes.

4 Procedures

a) Specific Procedure

The following procedure is used to establish a baseline of environmental aspects:

- The ESC staff is asked during EMS Awareness Training to provide input regarding which aspects of their work has an impact on the environment. The responses are recorded and submitted to the EMS Team.
- The EMS Team compiles the responses from the ESC staff, categorizes the responses, adds their opinions regarding the facility's impacts on the environment, specifically which aspects of our activities create the

impacts (i.e., environmental aspects). For example, an environmental aspect of the activity of analyzing samples is the generation of hazardous waste.

- The EMS Team develops a data base of activities and associated aspects. The data base is used to list and categorize activities by aspect.
- The environmental impact (e.g., use of natural resources, release of pollutants) that results from each activity identified for each aspect is analyzed by the EMS Team and given a rating for two conditions: *likelihood of the impact occurring* and *magnitude of the impact* should it occur. The descriptors “high”, “medium”, and “low” are used to describe both conditions. The EMS Team bases this analysis on the collective experience of the team members and, to a limited extent, on environmental performance data. The results of the impact analysis are then sorted by descriptor pairs in the following manor to determine those with the highest potential impact:

	High Significance	Medium Significance	Low Significance
Impact Descriptor Pairs - Likelihood and Magnitude	H, H M, H H, M	H, L M, M L, H	L, L M, L L, M

- The database is resorted by aspect into those with the highest ratings and those with medium and low ratings.
- Three other significance criteria are then applied to the aspects. If a given environmental aspects meets one or more of these criteria it is determined to be significant. The full list of ESC significance criteria are the following:

Environmental Aspect Significance Criteria	
1) High significance descriptor	<i>Rated high for likelihood and magnitude during impact analysis</i>
2) Legal or other requirement	<i>There is a legal requirement</i>
3) Existing ESC program	<i>There is an existing ESC program to manage the aspect</i>
4) Aggregate of impacts is significant and/or EMS Team	<i>The EMS Team decides that there is sufficient evidence and/or concern</i>

determines need for significance	<i>among stakeholders as to make the aspect significant</i>
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- When the significance criteria are applied to the body of knowledge regarding activities, aspects, impacts, legal requirements, any inquiries received from external parties, and existing ESC programs, the result is the determination of significant aspects.

b) Responsibilities

The above steps are followed to create the baseline of significant environmental aspects (SEAs) upon which the EMS is to be built. On a yearly basis, the EMS Coordinator and EMS Team will repeat appropriate steps to ascertain the existence of additional significant environmental aspects (SEAs) that may arise from the changes in mission, activities, products or processes, or services. This review is to be documented to ensure that the information is up-to-date and to determine whether the scope of any significant aspect has changed even if targets are not currently determined. The ESC Board and/or the EMS Team may increase the frequency of this updating if they deem it necessary to maintain the effectiveness of the EMS. The development of EMS aspects should be completed with input from the ESC.

5 Documentation

Documentation includes the ESC staff feedback forms used during Awareness Training, EMS Team meeting minutes, database of impact analysis, Environmental Management Program forms (EMP), Operational Control Forms (OCF) and the Annual SEA Review Form (attached). Documents shall be retained in accordance with EPA Records Management policies.

ANNUAL SEA REVIEW FORM Significant Aspects (SEAs)	Document Number	Current Objectives and Targets	1) Any changes in ESC activities, mission, products, processes, or services? 2) Do any of these changes constitute a new ASPECT?	1) Comment on need to update/change/revise/add Objectives or Targets. 2) If a new aspect is discovered, determine if it is Significant.
Air Emissions	ESC EMP-01.0			
Chemical Resources	ESC EMP-02.0			
Energy Consumption	ESC EMP-03.0			
Fuel Consumption (oil & natural gas)	ESC EMP-04.0			
Fuel Consumption (mobile)	ESC EMP-05.0			
Paper Consumption	ESC EMP-08.0			
Radiation	ESC EMP-09.0			
Storm Water	ESC EMP-10.0			
Waste Generation	ESC EMP-11.0			
Wastewater Discharge	ESC EMP-12.0			
Water Consumption	ESC EMP-13.0			
Any new Aspects?	If new aspect is determined, see EP 01			

Process:

- 1) Annually question ESC facility for any changes or additions to activities, mission, products, processes, or services.
- 2) If anything has changed or has been added that is determined to be a new aspect, refer to ESC EP 01 **Identification of Significant Environmental Aspects (SEA)**, to determine if it is Significant.
- 3) Review all SEAs to see if Objectives and Targets are appropriate, and if new ones can be added. Follow ESC EP 03 **Determining Objectives and Targets**, for instruction. See J:\Environmental Management System\Aspects, Activities, Annual Reviews for supplementary documents to help with review.