

## ENVIRONMENTAL MANAGEMENT SYSTEM OPERATING PROCEDURE

### Significant Environmental Aspects

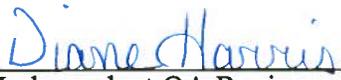
Effective Date: January 8, 2016

Christopher Taylor  
PLMG/SSFM

APPROVED:

  
\_\_\_\_\_  
Peer Reviewer

1/8/16  
Date

  
\_\_\_\_\_  
Independent QA Reviewer

01/08/2016  
Date

  
\_\_\_\_\_  
Designated Safety, Health, and Environmental  
Management Official

1-11-16  
Date

Recertified:

Name					
Date					



## A. PURPOSE AND APPLICABILITY

The purpose of this Environmental Management System (EMS) Operating Procedure (OP) is to establish a uniform process for identifying and evaluating the significance of environmental aspect impacts resulting from EPA Region 7's activities, products, and services (APSs). It applies to all processes within the stated scope of the EPA Region 7 EMS.

## B. DEFINITIONS

All definitions may be found in the most current version of the document titled *US Environmental Protection Agency Region 7 Safety, Health, and Environmental Management System Terms and Definitions* (SHEMS 1006.9000.02) contained in the EMS Manual. For the purposes of this OP, the following terms apply:

- Activity, Product, or Service
- Environmental Aspect
- Environmental Impact
- Environmental Objective
- Environmental Target
- Job Hazard Analysis (JHA)
- Legal and Other Requirements
- Management Program (MP)
- Record
- Significant Environmental Aspect
- Senior Management

## C. PROCEDURAL STEPS

The Region's activities, products and services have changed very little since implementation of the EMS in 2005. As such, the process of discerning significant aspects is generally one of validating and, if necessary, making minor updates from one cycle to the next to better refine their application.

1. Discerning significant environmental aspects begins with assessing APSs and then mapping them to existing aspects/impacts and management programs using the Processes-Aspects-Impacts Matrix (PAIM – an EMS document) and the Aspects-Process- Management Program Matrix (APMPM – an EMS document). The EMS Coordinator, Safety & Health Management System (SHMS) Coordinator, and the Regional Safety & Health Manager (RSHM) have extensive knowledge of the Region's APSs because of their work in managing EMS programs and/or completing Job Hazard Analyses (JHAs – see SHMS 1006.7210.01, *Hazard Identification, Risk Assessment and Determining Controls*). Therefore, they are able to determine if changes (additions, deletions, modifications) have occurred within the Region's APSs since the start of the previous EMS cycle. Based on this knowledge, the EMS Coordinator will develop the initial draft updates of the PAIM and APMPM at the beginning of the EMS cycle and review the matrices with the SHMS Coordinator and RSHM. NOTE: Updates to the matrixes may also be completed any other time new APSs are introduced within the scope of the EMS or changes are made to existing APs that could change the characteristics of its interaction with the environment and/or the severity of its impact(s).

2. If, during the review process, it is determined that APS changes have occurred, the EMS Coordinator will determine the Process Type of the change using the list of generic processes found at Attachment 1 and determine if that Type already exists in the latest PAIM. If it does, then no further action is needed; however, if a new Process Type has been introduced, the Coordinator will assign appropriate aspects and impacts using the generic list found at Attachment 2. The EMS Coordinator will then update the process-aspect correlations in the APMPM with any changes noted in the PAIM, and annotate on the APMPM which Process Types they believe are the largest contributors to a particular aspect's impact(s).
3. Once the matrices have been reviewed and updated (if necessary) the EMS Coordinator will determine if any of the aspects are governed by legal or other requirements identified in accordance with the most current version of SHEMS 1006.7210.04, *Legal and Other Requirements*. It is Region 7's position that any portion of a generic aspect where a legal or other requirement can be applied will be designated as a significant environmental aspect.
4. The draft PAIM and APMPM documents are next reviewed and validated in a meeting with the Associate EMS Coordinator. During this meeting the two Coordinators will also assess which of the processes are the largest "contributors" to an aspect's impacts. This determination is particularly important as it helps the Program Managers develop specific objectives and targets aimed at reducing the overall negative impact of an aspect should that aspect be deemed to be significant.
5. The EMS Coordinator and Associate EMS Coordinator will next review the previous cycle's list of significant environmental aspects (an EMS document) to determine if any changes are needed, and create the draft list for the current EMS cycle. Changes may include the addition of new significant aspects, the deletion of current significant aspects, and/or the refinement of existing significant aspects to more appropriately define their "breadth and scope" of significance. For example, the discharge of wastewater to the sanitary sewer may only be significant at certain locations and under specific conditions because legal requirements may only apply in limited circumstances. Similarly, generic aspects not governed by a legal or other requirement, but whose impacts are considered to be substantial may be declared to be significant in total or in part. For example, the consumption of electricity may be a significant aspect for the Region, but the scope of its significance may be limited to only certain, high demand activities.
6. The draft list of significant aspects developed in Step C5 is next provided to the EMS Sustainment Team for review before being forwarded to the Region's Senior Management for final review and approval. The final list of significant aspects is used to discern the need to develop/maintain management programs (MPs) and to create the Region's EMS objectives and targets in accordance with the most current version of SHEMS 1006.7210.05, *Objectives, Targets, and Programs*.
7. If appropriate, out-of-cycle changes to the matrix brought about by changes in the processes performed within the Region or to the legal and/or other requirements that govern them will be validated by the division(s) affected by the changes. The EMS Coordinator is responsible for initiating changes within the EMS to account for out-of-cycle changes to the list of significant aspects, for ensuring the APMPM and PAIM are updated (as necessary), and for obtaining Senior Management's approval per Paragraph C7 above.

#### **D. RECORDS MANAGEMENT**

This OP may result in the generation of EMS records. Any records created will be managed in accordance with the most current versions of SHEMS 1006.7210.02, *Document Control*, and SHEMS

1006.7210.17, *Records Management*.

## E. QUALITY ASSURANCE AND QUALITY CONTROL

The quality assurance and quality control (QA/QC) success of the significant environmental aspect identification process, as detailed in this OP, will be determined through the internal and external EMS conformance audit processes. Deficiencies noted during these audits will be managed through the Region's Corrective/Preventive Action Process as defined in the current version of SHEMS 1006.7210.12.

## F. REFERENCES

Current versions of the following references are assumed if no date is provided.

1. ISO 14004:2004(E); *Environmental Management Systems – General Guidelines on Principles, Systems, and Support Techniques*; November 15, 2004
2. US EPA R7, *US Environmental Protection Agency Region 7 Safety, Health, and Environmental Management System Terms and Definitions*, SHEMS 1006.9000.02
3. US EPA R7, *Legal and Other Requirements*, SHEMS 1006.7210.04
4. US EPA R7, *Objectives, Targets, and Programs*, SHEMS 1006.7210.05
5. US EPA R7, *Document Control*, SHEMS 1006.7210.02
6. US EPA R7, *Corrective/Preventive Action Process*, SHEMS 1006.7210.12
7. US EPA R7, *Records Management*, SHEMS 1006.7210.17

**ATTACHMENT 1**  
**Region 7 Generic List of Processes**

<b>Process Type</b>	<b>Process (Activities/Products/Services)</b>
Adhering/Bonding/Sealing	Adhering/bonding/sealing - spray
Adhering/Bonding/Sealing	Adhering/bonding/sealing - brush/hand wipe
Adhering/Bonding/Sealing	Adhering/bonding/sealing - squeeze tube
Administrative	Computer use
Administrative	Copying/sorting
Administrative	Filing/general
Administrative	Paper shredding
Coating/Paint Operations	Coating/paint removal - chemical stripping
Coating/Paint Operations	Coating/paint removal - hand sanding/scraping
Coating/Paint Operations	Coating/paint removal - machine sanding/scraping
Coating/Paint Operations	Coating - wipe
Coating/Paint Operations	Coating/paint mixing/pouring
Coating/Paint Operations	Coating/paint - brush/roller
Coating/Paint Operations	Coating/paint - cleaning equipment
Coating/Paint Operations	Coating/painting - spray aerosol/gun
Coating/Paint Operations	Masking/surface prep
Communications	Communications - equipment operation
Communications	Computer room operation
Communications	Telephone, maintenance/repair
Electrical/Electronics	Electrical - facilities maintenance
Electrical/Electronics	Electrical - installation/repair
Electrical/Electronics	Electronics repair
Electrical/Electronics	Electronics calibration
Electrical/Electronics	Telecommunications - installation/repair/service
Environmental Response	Chemical response/spill clean-up
Environmental Response	Oil spill response/clean-up
Equipment Repair/Preventative Maintenance	Battery charging/recharging - electric current
Equipment Repair/Preventative Maintenance	Equipment installation, cable/wire pulling
Equipment Repair/Preventative Maintenance	Equipment installation/removal
Equipment Repair/Preventative Maintenance	Inspecting
Equipment Repair/Preventative Maintenance	Lubricating

<b>Process Type</b>	<b>Process (Activities/Products/Services)</b>
Facility Lighting	Interior lighting
Facility Lighting	Exterior lighting
Facility Lighting	Task lighting
Food Preparation/Handling	Cooking
Food Preparation/Handling	Dishwashing
Food Preparation/Handling	Food preparation & handling
Fuels	Automotive/truck use
Fuels	Generator operation
Fuels	Storage
Hazardous Material Handling	Container opening/sampling
Hazardous Material Handling	Container rinsing/disposal
Hazardous Material Handling	Shipping and receiving
Hazardous Waste Handling	Generation
Hazardous Waste Handling	Identification/classification
Hazardous Waste Handling	Handling & storage
Hazardous Waste Handling	Shipping & disposal
Heating, Ventilation & Air Conditioning (HVAC)	Air conditioning/refrigeration charging
Heating, Ventilation & Air Conditioning (HVAC)	Blowers, operation/maintenance/repair
Heating, Ventilation & Air Conditioning (HVAC)	Boilers, operation/maintenance/repair
Heating, Ventilation & Air Conditioning (HVAC)	Chillers, operation/maintenance/repair
Heating, Ventilation & Air Conditioning (HVAC)	Cooling towers, operation/maintenance/repair
Heating, Ventilation & Air Conditioning (HVAC)	Filters, cleaning/replacement
Heating, Ventilation & Air Conditioning (HVAC)	Humidifiers, maintenance & repair
Heating, Ventilation & Air Conditioning (HVAC)	Ventilation system, maintenance/cleaning
Housekeeping/Janitorial/Facility Maintenance	Janitorial/custodial services, general cleaning
Housekeeping/Janitorial/Facility Maintenance	Janitorial/custodial services, restroom cleaning/sanitizing
Housekeeping/Janitorial/Facility Maintenance	Janitorial/custodial services, trash collection
Housekeeping/Janitorial/Facility Maintenance	Janitorial/custodial services, vacuuming/sweeping/mopping floors
Insulation	Insulation - installation/removal
Laboratory Operations	Analysis - biological/microbiological
Laboratory Operations	Analysis - chemical/physical

<b>Process Type</b>	<b>Process (Activities/Products/Services)</b>
Laboratory Operations	Analysis - radiological
Laboratory Operations	Analysis - chemical warfare agents
Laboratory Operations	Compressed air system - operation/maintenance
Laboratory Operations	Fume hoods - operation/maintenance/repair
Laboratory Operations	Glassware cleaning/washing
Laboratory Operations	Sample shipping & receiving
Laboratory Operations	Sample storage & disposal
Laboratory Operations	Vacuum system operation/maintenance/repair
Laboratory Operations	Water treatment (see also Water/Wastewater Treatment)
Laundry	Washer/dryer
Metal Machining/Working	Drilling/piercing/punching
Metal Machining/Working	Fabricating/shaping
Metal Machining/Working	Riveting/screwing
Metal Machining/Working	Sawing/cutting
Miscellaneous Operations	Mailroom operations
Non-hazardous Material/Waste Handling	Disposing/recycling
Non-hazardous Material/Waste Handling	Universal waste accumulation/marketing/storage
Pest Control	Pest control - aerosol spray can
Pest Control	Pest control - baiting/trapping
Pest Control	Pest control - powder application
Photography/Graphic Arts	Photography/graphic arts production
Photography/Graphic Arts	Stenciling - sign/poster making
Plumbing Operations	Plumbing - installation/maintenance/repair
Plumbing Operations	Plumbing - stoppage clearing
Printing/Reproducing Documents	Binding
Printing/Reproducing Documents	Copying - bulk/high volume
Printing/Reproducing Documents	Copying equipment - cleaning/maintenance/repair
Printing/Reproducing Documents	Printers - maintenance/repair
Professional/Technical	Respirator fit testing
Professional/Technical	Safety/industrial hygiene surveys/inspections
Professional/Technical	Sampling - air
Professional/Technical	Sampling - hazardous wastes
Professional/Technical	Teaching/training

<b>Process Type</b>	<b>Process (Activities/Products/Services)</b>
Protective Services - Fire	Evacuation plans/drills
Protection Services - Fire	Fire alarm systems - inspecting/testing/maintaining
Protective Services - Fire	Fire extinguishers - inspecting/maintaining
Protective Services - Personal	Eye washes - inspecting/testing/maintaining
Protective Services - Personal	Safety showers - inspecting/testing/maintaining
Protective Services - Security	Guard operations
Protective Services - Security	Mail screening - x-ray
Protective Services - Security	Personnel screening - metal detector/x-ray
Protective Services - Security	Small arms - handling, cleaning, securing
Records/Document Management	Document disposal/shredding
Recreational Services	Gym/exercise equipment maintenance
Recreational Services	Physical fitness training
Roads & Grounds Maintenance	De-icing walkways/roadways/parking areas – salt/sand
Roads & Grounds Maintenance	Lawn maintenance
Roads & Grounds Maintenance	Pavement sweeping/cleaning
Structure Fabrication/Renovation	Oversee contractor operations
Supplies/Materials Handling	Bar code scanning
Supplies/Materials Handling	Forklift operation
Supplies/Materials Handling	Palletizing
Supplies/Materials Handling	Shipping/receiving
Supplies/Materials Handling	Shrink-wrapping
Supplies/Materials Handling	Supplies - issuing/tracking/inventorying
Supplies/Materials Handling	Warehouse/stocking operations
Transportation/Official Travel/Commuting	Dispatching vehicles
Transportation/Official Travel/Commuting	Driving - automobiles/SUVs/vans/pick-up trucks
Transportation/Official Travel/Commuting	Watercraft operations
Utility Production/Distribution/Emergency Power	Generator testing/operation
Vehicle Maintenance	Vehicle maintenance, inspecting/checking
Water/Wastewater Treatment	Water treatment - Reverse Osmosis/DI system operation/maintenance
Water/Wastewater Treatment	Water collection - rainwater reuse
Water/Wastewater Treatment	Cooling tower water - chemical treatment
Water/Wastewater Treatment	Wastewater neutralization - chemical treatment

**ATTACHMENT 2**  
**Region 7 Generic List of Potential Aspects and Impacts**

<b>ASPECT</b>	<b>IMPACT</b>
Consumption of Cultural Resources	Degradation/Reduction of Cultural Resources
Consumption of Energy	Reduction of Natural Resources
Consumption of Fuel	Reduction of Natural Resources
Consumption of Land/Property	Reduction of Natural Resources
Consumption of Materials	Reduction of Natural Resources
Consumption of Natural Resources (Other)	Degradation/Reduction of Natural Resources
Consumption of Water	Reduction of Natural Resources
Discharge/Emission/Release/Application to Air	Degradation of Air Quality
Discharge/Emission/Release/Application to Land	Degradation of Soil Quality/Habitat
Discharge/Emission/Release/Application to Water (Groundwater)	Degradation of Water Quality
Discharge/Emission/Release/Application to Water (Storm Water System)	Degradation of Water Quality
Discharge/Emission/Release/Application to Water (Surface Water)	Degradation of Water Quality
Discharge/Emission/Release/Application to Water (Sanitary Sewer)	Degradation of Water Quality
Generation of Dust	Degradation of Air Quality
Generation of Heat	Degradation of Habitat
Generation of Light	Degradation of Habitat
Generation of Noise	Degradation of Habitat
Generation of Noxious Fumes	Degradation of Air Quality
Generation of Radiation (Ionizing)	Degradation of Habitat
Generation of Radiation (Non-Ionizing)	Degradation of Habitat
Generation of Recyclable & Reusable Materials	Improvement/Preservation of Natural Resources & Landfill Capacity
Generation of Waste (Hazardous)	Reduced Landfill Capacity/Land Quality
Generation of Waste (Non-Hazardous)	Reduced Landfill Capacity/Land Quality