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FY 2012
SDRU Annual EMS Training

Overview

- What is an Environmental Management System

- Why Environmental Management System (EMS) is important

- Review SDRU's FY 2012 EMS Goals and Milestones

What is an Environmental Management System?

- A systematic approach to identifying and managing an organization's environmental obligations and issues

  - Way to continually improve environmental responsibilities

- A continual cycle of planning, implementing, reviewing, and improving processes and actions an organization takes towards meeting its mission and environmental goals.

- Our EMS is follows the "Plan, Do, Check, Act" model

  - Plan – develop policy and EMS goals

  - Do – training, implementation, and documentation

  - Check – internal audits, evaluate performance indicators

  - Act – Management Review

- Encompasses environmental awareness, regulatory compliance, pollution prevention, conservation of natural resources, and energy conservation

Why are Environmental Management Systems Important?

- All federal agencies required by National Environmental Policy Act (NEPA) to consider the potential impacts of their projects on the environment

- An Executive Order signed by President Bush in 2007 requires all federal agencies to:

  - Use an Environmental Management System to address environmental aspects

  - Establish objectives and targets

  - Collect, analyze, and report EMS performance

- Ensures that while we are working to reach our research mission that we avoid negatively impact the environment when possible and we reduce our impact on the environment

What is the EMS Table?

- Developed annually by the SDRU EMS Committee as part of the "Planning" cycle

- Identifies 10 environmental aspects or activities that have or can have a negative environmental impact

- Establishes goals, milestones, target dates for reducing the environmental impacts associated with each aspect

- Signifies the individuals responsible for each goal

- At the end of the year we must report the percentage of goals achieved.

  - One measure of our EMS performance

Aspect 1: Paper, cardboard, aluminum, plastic, refrigerator, freezer, file cabinet, glass, electronic use

- Impact - Depletion of natural resources

- Goal – Minimize solid waste going to landfills

Aspect 1: Solid Waste

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Minimize solid waste going into landfills			**All**	
	reduce paper use	**Sept. 30, 2012**	**All**	**copy on both sides of paper; maximize use electronic documents, documentation of paper purchases (responsibility Ann Houser/Diane Perry)**
	Minimize waste and pollutant generation through source reduction.	**Sept. 30, 2012**	**All**	**recycle log of solid waste generated by water chemistry lab. Responsibility Jeff Risley**
	50% or higher by FY2015: - solid waste diversion rate	**2015**	**All**	
	Use environmentally sound disposal practices for excess or surplus electronic products.	**Sept. 30, 2012**	**SDRU IT Person**	

Aspect 2: Generating universal waste (e.g., used oil, fluorescent light tubes, antifreeze, batteries, etc.

- Impact – Pollution of land and water

- Goal – Comply with universal waste disposal rules

Aspect 2: Generating Universal Waste

Goals	Milestones	Target Dates	Responsibilities	Management Actions
comply with universal waste disposal rules			All	recycle log of batteries generated by water chemistry lab - Responsibility Jeff Risley
	All ARS laboratories use the OSU EHS waste program	Sept. 30, 2012	All	
	Recycle used oil	Sept. 30, 2012	All	Log of recycled oil - Responsibility Phil Levison
	prevent spills & discharge to sewers	Sept. 30, 2012	All	
	employee training	Sept. 30, 2012	Safety Committee	
	Minimize waste and pollutant generation through source reduction.	Sept. 30, 2012	All	
	Proactive acquisition and efficient use of toxic and hazardous materials and chemicals	Sept. 30, 2012	All	

Aspect 3: Product consumption

- Impact – Depletion of natural resources

- Goal – Sustainable acquisition, proactive procurement, green purchasing

Aspect 3: Product Consumption

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Sustainable Acquisition, Proactive procurement, green purchasing			All	Recycled product purchasing
	Recycled product purchasing	Sept. 30, 2012	Card holders and those who request purchases	
	Minimize waste and pollutant generation through source reduction.	Sept. 30, 2012	All	
	use minimum 30% postconsumer recycled paper	Sept. 30, 2012	All	
	Ensure EPEAT-registered electronic product procurement preference; ensure procurement of Energy Star and FEMP designated equipment.	Sept. 30, 2012	Card holders	

Aspect 4: Utilities use

- Impact – Depletion of natural resources

- Goal – Minimize energy and natural resource waste; conserve utilities

Aspect 4: Utilities Use

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Minimize energy and natural resource waste; conserve utilities			All	
	Green acquisition	Sept. 30, 2012	Cardholders and those requesting purchases	Proactive procurement in purchasing energy efficient equipment
	turn off equipment, lights, etc.	Sept. 30, 2012	All	
	Promote energy conservation	Sept. 30, 2012	EMS Committee	
	Inventory of Greenhouse Gas emissions (Baseline FY2010)	Sept. 30, 2012	EMS Committee	
	Increase use of renewable energy.	Sept. 30, 2012	All	
	Pursue cost-effective, innovative strategies, including management of buildings systems, to reduce energy, water, and material use.	Sept. 30, 2012	Research Leader	
	Implement policies to enable duplex printing, and other energy efficient or environmentally preferable computer features	Sept. 30, 2012	SDRU IT Person	

Aspect 5: Hazardous material use

- Impact – Pollution of land or water

- Goal – Reduce hazardous waste disposal quantities

Aspect 5: Hazardous Material Use

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Reduce hazardous waste disposal quantities			All	Emergency Response Plan and employee training for use and handling of hazardous materials – Responsibility – Safety Committee
	Minimize waste and pollutant generation through source reduction.	Sept. 30, 2012	All	
	Increase use of alternative chemicals and processes.	Sept. 30, 2012	All	
	Efficient chemical use to assist in meeting GHG emissions reductions.	Sept. 30, 2012	All	Hazardous waste log - Responsibility Eric Fischer

Aspect 6: Discharge to sewer

- Impact – Water pollution

- Goal – Comply with local sewer discharge limits

Aspect 6: Discharge to Sewer

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Comply with local sewer discharge limits			All	Minimize inputs; Employee training
	All ARS laboratories use the OSU EHS waste program	Sept. 30, 2012	All	

Aspect 7: Farm equipment and vehicle use; Combustion of fossil fuels

- Impact – Air pollution

- Goal – Federal fleet and transportation efficiency

Aspect 7: Vehicle use

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Federal Fleet and Transportation Efficiency			All	
	Keep vehicles tuned and running properly thereby preventing excess pollution and waste	Sept. 30, 2012	Safety Committee	
	Efficient travel planning	Sept. 30, 2012	All	Increased carpooling
	Use low GHG emitting vehicles, including AFVs	Sept. 30, 2012	All	
	Optimize the number of vehicles in the agency fleet.	Sept. 30, 2012	Research Leader	
	2% vehicle petroleum reduction annually through FY2020. (Baseline FY2005)	2020	All	Document vehicle use and fuel use – (Responsibility Ann Houser / Diane Perry)

Aspect 8: Construction, renovation, research and other operations

- Impact – Generation of construction debris waste, dust, and noise

- Goal – Comply with NEPA

Aspect 8: Construction, Renovation, and Research Activities

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Comply with the NEPA			All	NEPA documents
	Retain NEPA documents	Sept. 30, 2012	Lead Scientists	

Aspect 9: Ozone Depleting Substances

- Impact – Depletion of ozone layer

- Goal – Minimize use and manage reduction of ODS

Aspect 9: Ozone Depleting Substances

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Minimize Use and Manage Reduction of ODS			All	
	Survey ODS containing equipment	Sept. 30, 2012	EMS Committee	
	Replace ODS containing equipment as budget or opportunities allow	Sept. 30, 2012	All	Purchase new equipment that does not contain ODS

Aspect 10: Environmental Management System

- Impact – Environmental impacts

- Goal – Improve the Environmental Management System

Aspect 10: Environmental Management System

Goals	Milestones	Target Dates	Responsibilities	Management Actions
Improve the Environmental Management System			**EMS Committee**	
	Follow Aspects ID SOP	**Sept. 30, 2012**	**EMS Committee**	
	Conduct Training	**Sept. 30, 2012**	**Environmental Location Officer**	
	Annually review EMS responsibilities	**Sept. 30, 2012**	**Research Leader**	
	Ensure EMS coordinator has a Performance Plan statement	**Sept. 30, 2012**	**Research Leader**	
	Review EMS policy statement annually	**Sept. 30, 2012**	**Research Leader**	
	Annually conduct internal audit	**Sept. 30, 2012**	**EMS Committee**	
	Annually complete Management Review of EMS audit	**Sept. 30, 2012**	**Research Leader**	
	OMB Scorecard	**Sept. 30, 2012**	**EMS Committee**	

Conclusions

- EMS – a systematic framework established to ensure that we don't negatively impact the environment and/or to enable us to reduce our impact on the environment

- EMS Table – annual goals and milestones for the year

- EMS is everyone's responsibility

- ***Thank you to everyone who volunteered to assist with our 2012 EMS goals.***