



# The Pantex EMS Process

**Presented by**

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**BWXT Pantex**

Establishing Aspects, Objectives  
and Targets



## Pantex Aspects Analysis Process

- ❑ **Define Scope:** Driver Information: DOE O 450.1 (w/EOs), ISO 14001, TAC 30.90
- ❑ **Analyze Hazard:** An electronic questionnaire is provided to over 120 department managers in the month of April, with a request to have them completed, with Department Manager electronic signature, prior to the EMS Aspects Analysis team commencement date of mid May.
  - Questionnaire is structured to address general as well as specific work at the plant.
  - Questionnaire requests managers to provide information on processes that may be unique to their operations.
  - Questionnaire is directed toward personnel in residence within the 16,000 acres of Pantex (e.g., NNSA/DOE, including Couriers, Texas Tech Research Farm, Sandia National Labs, etc.).



## Welcome to EMS Survey

Welcome to the 2007 EMS Survey

### Questionnaire: Fiscal Year 2007

Consider the Environmental Aspects (EA) listed below to determine their applicability to your department and complete the questionnaire. Generally, the questions are answered by checking yes or no. If a category applies, answer each question with appropriate details. If the category does not apply to your department's activities/services, check "Not Applicable". If you are not sure, place a question mark in that section and a member of the Environmental Management System (EMS) team will contact you for clarification once the questionnaire is returned. If the answer to any question needs an explanation, please provide it on the lines at the bottom of each aspect. If you do not understand a question or need a definition for an acronym or word, contact the Regulatory Compliance Department (RCD) at X4874 or the Conservation Management at X5506. If you have any recommendations for improving the questionnaire, please include that information in Section II.

**Special Note: Please answer the questions as applicable to your department only, not for**

**Special Note: Please answer the questions as applicable to your department only, not for Pantex Plant as a whole. Please make comments; all information provided is necessary for documentation. The EMS team will use this information as representation of your department operations/activities.**

### Environmental Aspects

A. Wastewater Discharges	L. Chemical Storage/Exposure
B. Storm Water	M. Underground Storage Tanks (USTs)
C. Drinking Water	N. Aboveground Storage Tanks (ASTs)
D. Soil & Groundwater Contamination	O. Polychlorinated Biphenyls (PCBs)
E. Hazardous & Non-Hazardous Waste	P. Asbestos
F. Air Emissions	Q. Lead
G. Ozone Depleting Substances (ODSs)	R. Noise
H. Indoor Air Quality (IAQ)	S. Endangered Species/Wildlife
I. Respiratory Protection	T. Energy Conservation
J. Radiation Sources and Radiation Producing Devices	U. Affirmative Procurement Program
K. Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)	

# Pantex NEPA Checklist

#	CONSIDERATION	Y	N	#	CONSIDERATION	Y	N
1	Air emissions (non-rad)			17	Radiation exposures/air emissions		
2	Liquid effluents/erosion control			18	Pesticide/herbicide use		
3	Solid waste			19	Explosives		
4	Radioactive waste			20	Transportation issues		
5	Haz. waste/compliance/permits			21	Special Status/wildlife & plants		
6	Mixed waste (rad & haz)			22	Pollution prevention initiatives		
7	Asbestos waste			23	Floodlands/wetlands/playas		
8	Chemical storage/use & exposures			24	Solid Waste Mgt. Units (SWMUs)		
9	Petroleum storage/use			25	Cathodic Protection		
10	Water use/diversion			26	Environmental Management System		
11	Drinking water system			27	Water Conservation		
12	Sewage system			28	Energy Conservation Management		
13	Clearing/excavation/revegetation			29	Affirmative Procurement Plan		
14	Activity outside Z-4, 11, or 12 or Z-10 laydown area			30	Environmental Monitoring		
15	Cultural (archeo/historic) resources				Other		
16	Noise levels						



**-ASPECTS ANALYSIS TEAM ASSEMBLED BY  
THE EMS COORDINATOR-**

- A team leader is appointed
- A “scribe” is recruited to keep detail information regarding decisions made during the aspects analysis process.
- Make up of team can be from any division, although most of the team is associated with an environmental function (Compliance, EMS, NEPA; Water, Air or Waste disciplines, etc.) of the plant.
- During the aspects analysis subject matter experts (SMEs) are invited to share the experience, across divisional lines, as we are going through aspects that have been determined to be associated with their expertise



## EMS Team Identifies Significant Aspects

### -Identify Controls:

- Prioritize Aspects by assigned environmental score (see GreenWare)
- Determine “Significant Aspects” by establishing a cut off point (for the record) from top ranked aspect analysis ratings that may be recommended as Objective & Targets
- Develops recommendations for consideration by the Senior Management Team of those items identified as “Objectives & Targets” that would enhance the environment at Pantex while minimizing the perceived risk.



## NOTE:

- 1) Not all “Significant Aspects” should be considered actionable (e.g., It may be determined for instance; radiation graded out as a significant aspect but no action would be required, based on team decision, because there are already appropriate safety, security, and safeguards in place to manage the aspect).
- 2) Likewise not all top ranked Aspects should be considered for exclusion from the process (Aerators in a wastewater lagoon may be nearing life expectancy, and team has determined that the process could be enhanced by the addition of solar powered replacement aerators. (potential compliance issue)).



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Asp. Id.	Activity/Product/Service Aspect [?] Condition [?] Reference [?] • Impact [?]  * 1 (low) - 5 (high)	Environmental significance of impact(s)					Business significance of impact(s)					
		Scale of impact (1 - 5)*	Severity of impact (1 - 5)*	Prob. of occur. (1 - 5)*	Duration of impact (1 - 5)*	Avg. score (out of 5)	Pot'l reg. & legal expos. (1 - 5)*	Diff./Cost of changing impact (1 - 5)*	Effect of change on other activity or process (1 - 5)*	Public Perception (1 - 5)*	Concerns of Internal Stakeholders (1 - 5)*	Avg. score (out of 5)
[?]	Weighting (%) [?]	20	30	30	20		30	20	20	15	15	
A1 N, A	Global <b>Noise</b> Normal and abnormal Reference: Table 005 [v] • Disturbance of wildlife - Section F • Disturbance of off-site neighbors - Section E ☑ Comments: Noise considered included vehicular traffic, heavy equipment, firing site operations, gun range (live fire exercises), construction/demolition, audible warning system alarms. Per NEPA, routine activities are allowed up to 140 db at the fence line. Routine office noises were not included.	3	3	4	1	2.90	2	2	4	2	1	2.25
		3	3	4	1	2.90	2	2	4	3	2	2.55
A2 N	Global <b>Excess Property Management</b> Normal Reference: Table 005 [v] • Soil / surface water contamination - Section J • Increase waste generation - Section K • Depletion of natural resources - Section B • Degradation of aesthetics - Section D ☑ Comments: The team agreed that wildlife habitat is	3	4	4	2	3.40	3	4	2	2	3	2.85
		4	4	3	4	3.70	3	4	2	2	3	2.85
		4	2	2	4	2.80	2	4	2	2	3	2.55
		3	2	5	3	3.30	1	4	2	2	3	2.25

# **Criteria for Significance Determination Of Environmental Impacts Scale of Impact**

- 5 – Impact to countries, the atmosphere, oceans, or other larger portions of the earth
- 4 – Impact to states, counties, or regional areas; rivers, lakes, regional aquifers, or other significant features of the environment
- 3 – Impact to buildings, parking lots, perched aquifers, or other small, localized areas
- 2 – Impact to points of discharge only, whether it is from a leak, spill, or application of chemicals, etc
- 1 – Impact is imperceptible or diminutive

## **Severity of Impact**

--See prepared tables--

**TABLE-0005**  
**Aspect: Wastewater Discharge, Section A**

**Severity Criteria**

5	Very High (Permanent)	Release of chemicals in wastewater of sufficient volume, duration, and toxicity that could cause irreversible damage to the environment.  Release of: Large quantity (Tens to hundreds of gallons) of full-strength to minimally diluted hazardous chemicals to the sanitary sewer.
4	High (Severe)	Release of chemicals in wastewater of sufficient volume, duration, and toxicity that could cause reversible damage to the environment.  Release of: Sufficient quantity (tens of gallons) of minimally diluted to diluted hazardous chemicals to the sanitary sewer or storm water drainage system.
3	Medium (Moderate)	Release of wastewater containing chemicals of high enough concentration to require corrective action.  Release of: Wastewater containing high concentrations of chemicals above regulatory permissible limits.
2	Low (Minimal)	Release of wastewater containing chemicals below the lowest regulatory threshold limits or if not regulated by permit, have no known effect on the environment.
1	Neutral (Zero)	Negligible or no release to the environment.
N/A	Positive (Beneficial)	Process, action, or service that improves environmental impact related to wastewater discharge.  <i>Positive impact will be recorded but not included in risk ranking</i>

Microsoft Excel - 2007 Ranked Aspects				
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A1 2007 Aspects/Impacts Ranked (For FY 2008)				
2007 Aspects/Impacts Ranked (For FY 2008)				
Aspect	Aspect Title	Impacts	Ranking	
A10	Natural Resource Consumption	Depletion of Fossil Fuels - N	4.70	
A20	Vehicle/Combustible Engine Use	Natural Resource Consumption - N	4.40	
A7	Storm Water	Recharge in Perched Aquifer - N	4.20	
A10	Natural Resource Consumption	Depletion of Ogallala Aquifer - N	4.20	
A16	Procurement	Depletion of Natural Resources - N	4.20	
A20	Vehicle/Combustible Engine Use	Wildlife Mortality - N	4.20	
A10	Natural Resource Consumption	Depletion of Minerals/Metals - N	4.10	
A20	Vehicle/Combustible Engine Use	Degradation of Air Quality - N	4.10	
A10	Natural Resource Consumption	Depletion of Forests - N	3.90	
A8	Discharges to Wastewater Systems	Increase of Hydraulic Head to Playa from WWTF -N	3.80	
A11	Gen./Mgmt. of Non-Hazardous Waste	Reduction of Landfill Life (onsite) - N	3.80	
A2	Excess Property Management	Increase Waste Generation - N	3.70	
A11	Gen./Mgmt. of Non-Hazardous Waste	Reduction of Landfill Life (offsite) - N	3.70	
A16	Procurement	Increase of Waste/Reduced Landfill Life - N	3.70	
A12	Gen./Mgmt. of Hazardous Waste	Reduction of Landfill Life (offsite) - N	3.60	
A13	Gen./Mgmt. of Low-Level Waste	Reduced Landfill Life (offsite) - N	3.60	
A2	Excess Property Management	Soil/Surface Water Contamination - N	3.40	
A3	Land Use	Increase Storm Water Run-Off - N	3.40	
A7	Storm Water	Sediment Loading of Ditches & Playas - N	3.40	
A2	Excess Property Management	Degradation of Aesthetics - N	3.30	
A11	Gen./Mgmt. of Non-Hazardous Waste	Water/Soil Contamination - N	3.30	

# Proposal

## Identify Controls:

- Make recommendations to Sr. Management Team (per item)
  - Rationale for ranking
  - Activity Owner
  - Improvement that will decrease risk to plant environment
  - Schedule and expected cost to perform activity
- Receive approval from team for the record (may be all or part)

## Implement Controls, Perform Work, Provide Feedback:

- Provide concept to estimators and planners
- Track Status (budget, planner information, start dates, etc.)



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**PANTEX ENVIRONMENTAL MANAGEMENT SYSTEM**

*FY2008 Environmental Objectives*

**Approved**

September XX, 2007

-DRAFT- -DRAFT-

Aspect ID and Description	Objective	Responsible Organization(s)	Target(s)	Action Plan
<b>A10 Natural Resource Consumption<sup>1</sup></b>	<b>Reduce the Consumption of Fossil Fuels</b>	Maintenance - R. L. (Bob) Asbury/ R. L. (Ronnie) Payne	<ul style="list-style-type: none"> <li>Reduce fossil fuel consumption as compared to FY06 use by 8 %.</li> </ul>	<ul style="list-style-type: none"> <li>Acquire alternative fuel vehicles (all types) by 9/30/08.</li> </ul> <p><i>Additional Expected Funding to complete:</i> No additional cost identified, pending coordination with GSA, and budget to replace non-GSA vehicles.</p>
<b>A10 Natural Resource Consumption<sup>2</sup></b>	<b>Reduce the Consumption of Water</b>	Maintenance - R. L. (Bob) Asbury/ L. B. (Brent) Henderson/M. D. (Mel) Suttle	<ul style="list-style-type: none"> <li>Install flow meters on five production wells during FY08 for improved water balance tracking (to meet requirements of metering and annual 2% reduction through 2015 (per EO 13423 2(c))).</li> </ul>	<p>Install flow meters by 9/30/08.</p> <p><i>Additional Expected Funding to complete:</i> Flow meters have been purchased and are on site. Mechanical and Electrical installation responsibility TBD (According to Maintenance staff it can be performed internally at a minimal cost)</p>
<b>A10 &amp; A9 Natural Resource Consumption<sup>3</sup></b>	<b>Reduce the Consumption of Water &amp; Chemical Use<sup>4</sup></b>	Legal - J. A. (Alan) Jones/J. R. (Jeff) Flowers	<ul style="list-style-type: none"> <li>Obtain State approval for use of a "mixed oxidant" system to replace existing chlorination process for the Plant's water distribution system.</li> </ul>	<p>Obtain State approval for the use of a "mixed oxidant" system by 4/15/08.</p> <p><i>Additional Expected Funding to complete:</i> No additional cost identified, LOE only.</p>



The End

