

1/22/01 CAFB 01

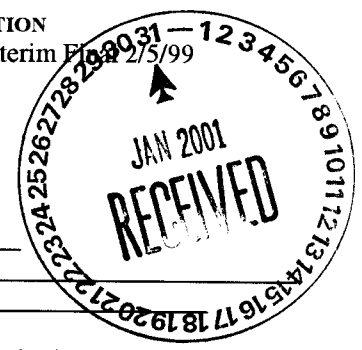
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DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

**RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)**

Current Human Exposures Under Control



Facility Name: Cannon Air Force Base
Facility Address: Cannon AFB, NM 88103
Facility EPA ID #: NM 7572124454

1. Has all available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been considered in this EI determination?

- If yes - check here and continue with #2 below.
- If no - re-evaluate existing data, or
- if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Are groundwater, soil, surface water, sediments, or air media known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	—	—	<u>MCLs/nitrate</u>
Air (indoors) ²	—	<u>X</u>	—	_____
Surface Soil (e.g., <2 ft)	—	<u>X</u>	—	_____
Surface Water	—	<u>X</u>	—	_____
Sediment	—	<u>X</u>	—	_____
Sub surf. Soil (e.g., >2 ft)	—	—	—	_____
Air (outdoors)	—	<u>X</u>	—	_____

_____ If no (for all media) - skip to #6, and enter “YE,” status code after providing or citing appropriate “levels,” and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s): Cannon AFB has submitted a Class 3 Permit Modification Request to remove the following sites from the Part B Permit: SWMUs 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 16, 32A, 33B, 34, 38, 39, 46, 47, 49, 50, 51, 55, 57, 61, 62, 63, 72, 74, 75, 76, 77, 78, 79, 81, 82, 83, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 96, 98, 104, 105, 106, 107, 113, 124, 125, 126, 127, 128; AOCs C, D, F, G, H, 36, and DP-33. These sites are thought to present no unacceptable risk based on sampling and risk analyses. Details of previous investigations and results are documented in Hazardous and Solid Waste Amendments/Corrective Action-Related Permit Modification Request No Further Action Proposals, July 2000, URS Corporation. Of the remaining sites, the only one of concern is Fire Training Area 4 made up of 4 SWMUs 109, 110, 111, and 112. SWMUs 110, an underground waste oil tank, and 112, an OWS have been removed but xylene up to 290 ppm and TPH up to 14,400 ppm remain in vicinity of SWMU 109. Phase II RCRA Facility Investigation Report Fire Training Area No. 4, Harza, Inc. 1997. Currently a CMS is under way. SWMUs 31 and 108 have been investigated and remain in use. SWMU 31, the Aerospace Ground Equipment Maintenance Pad., may require some remediation in the future but there is no exposure because the site is covered with concrete pavement. SWMUs 48 a & b are tanks which were removed and investigated as detailed in Appendix II RCRA Facility Investigation RFI Report. LRL Sciences, Inc., 1993. SWMU 95 was investigated in Phase I Remedial Investigation Report, Cannon AFB, New Mexico, Woodward Clyde Consultants, Oct 1992. SWMUs 101 and 102, the wastewater treatment lagoons and effluent discharge present some ecological risk in a CMS currently being finalized. SWMU 97 investigation results are found in Remedial Investigation (RI) Report Landfill No. 25 SWMU 97 IRP Site LF-25 Final Report, Radian Corporation, Jun 1994. SWMU 103, the wastewater playa lake, was investigated and found to have low levels of TPH in sediments in RCRA Facility Investigation Appendix III SWMUs- Phase I Cannon Air Force Base, New Mexico, Woodward Clyde Consultants, Feb 1994. AOC A was assessed to be clean in Installation Restoration Program Phase II-Confirmation/Quantification, Stage 1, Cannon AFB, New Mexico, Radian Corporation Sep 1986. AOC E met MSSLS as detailed in Final Report CERCLA Site Inspections at Areas of Concern (AOCs) E, F, G, and H Cannon AFB, New Mexico. Woodward Clyde Consultants, Mar 1999. AOC I was demolished and the OWS removed with no contamination as detailed in Closeout Report/Contamination Assessment SWMU 129-Facility 244 Aboveground Tank Storage Area Cannon Air Force Base Clovis, New Mexico, Parallax,

Incorporated July 19, 2000. AOC B, the site of a JP-4 fuel spill of about 400 gallons in 1980, has never had any soil sampling done below the asphalt covering the site. Although it presents no risk because of the asphalt pavement, it probably will have to have some drilling, sampling, and analytical results done to justify removal from the Part B Permit.

Footnotes:

¹ "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

² Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between “contamination” and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential Human Receptors (Under Current Conditions)

“Contaminated” Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food
Groundwater	no	no	no	no			no
Air (indoors)							
Soil (surface, e.g., <2 ft)	no	no	no	no	no	no	no
Surface Water	no	no			no	no	no
Sediment	no	no			no	no	no
Soil (subsurface e.g., >2 ft)				no			no
Air (outdoors)	no	no		no	no	no	

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated”) as identified in #2 above.
2. enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential “Contaminated” Media - Human Receptor combinations (Pathways) do not have check spaces (“___”). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

 X If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter “YE” status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

 If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

 If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code

Rationale and Reference(s): Pathway is not complete for groundwater nitrate contamination because there are no supply wells in the area contaminated above the MCLs.

³ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **“significant”**⁴ (i.e., potentially “unacceptable” because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable “levels” (used to identify the “contamination”); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

_____ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s): _____

⁴ If there is any question on whether the identified exposures are “significant” (i.e., potentially “unacceptable”) consult a human health Risk Assessment specialist with appropriate education, training and experience.

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Cannon AFB facility, EPA ID # NM7572124454, located at Clovis, NM under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by (signature) Sanford D. Hutseff Date Jan 22, 2001
(print) Sanford D. Hutseff
(title) Environmental Engineer

Supervisor (signature) Daniel A. Barnett Date 22 Jan 01
(print) Daniel A. Barnett
(title) Chief, Environmental Flight
(EPA Region or State) Region VI

Locations where References may be found:

Civil Engineer Complex, Building 355, File Room
Cannon Air Force Base, New Mexico 88103

Contact telephone and e-mail numbers

(name) John Pike
(phone #) (505)784-1092
(e-mail) john.pike@cannon.af.mil

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.