



DEPARTMENT OF THE ARMY  
ST. LOUIS DISTRICT, CORPS OF ENGINEERS  
9170 LATTY AVENUE  
BERKELEY, MISSOURI 63134  
August 27, 1999

REPLY TO  
ATTENTION OF: Formerly Utilized Sites Remedial Action Program Project Office

Mr. Dan Wall  
U. S. Environmental Protection Agency  
Region VII, Superfund Branch  
726 Minnesota Avenue  
Kansas City, KS 66101

**SUBJECT: POTENTIAL CONTAMINANTS OF CONCERN (PCOC) ASSESSMENT  
MEMORANDUM**

Dear Mr. Wall:

References:

- a. Environmental Protection Agency (EPA). 1989. Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final. Office of Emergency and Remedial Response, Washington, DC, EPA/540/1-89/002.
- b. EPA 1992. Supplemental Guidance to RAGS: Calculating the Concentration Term, EPA, Office of Emergency and Remedial Response Toxics Integration Branch, Washington, DC.
- c. EPA 1997. Technology Support Center Issue: The Log-normal Distribution in Environmental Applications. Office of Solid Waste and Emergency Response, Washington, DC. EPA/600/R-97/006.

The subject document is attached at Enclosure 1 for your review and comments. This document plan assesses nonradiological risk within the St Louis North County Sites. Please return your comments to my office no later than September 20, 1999.

The Potential Contaminants of Concern Assessment Memorandum (PAM) the selection of normal versus log-normal statistics to calculate an exposure term. The traditional approach for calculating the exposure point concentration for risk assessment purposes has been to base the calculation of the upper confidence limit on the mean (UCL95) assuming a log-normal distribution (unless there is strong evidence to the contrary). In accordance with Reference C, the calculated log-normal UCL95 may be grossly overestimated when the sample sizes are relatively small (e.g., less than 30). Therefore, the PAM tests the data distribution for both the log-normal and the normal distribution with the distribution displaying the better fit for each chemical data set being selected for calculation of the UCL95. This approach was used subject to the following special cases:

- (a) When neither distribution was a good fit at the 95% confidence level, the normal distribution was used as the default when calculating the UCL95
- (b) For very small sample sizes (e.g., 6 or less data points), the normal distribution was used as the default when calculating the UCL95

- (c) When data reflected a large percentage of non-detected concentrations (50% or more), then the normal distribution was used as the default to calculate the UCL95.

As the tested distribution may be different from the true population distribution in these special cases, the UCL95 is derived in accordance with reference 1c using a normal distribution to calculate the UCL95. Reiterating, EPA guidance demonstrates that calculation of the log-normal UCL95 as previously recommended (i.e., with the H-statistic; Reference 1b), can lead to unacceptably large values for the UCL95. Thus for these special cases the PAM defaulted to the calculation of the UCL95 based on the normal distribution.

Consistent with established practice, after the UCL95 was determined, a comparison of the UCL95 and the maximum detected concentration was made and the smaller concentration was then used as the exposure point concentration for risk assessment purposes (Reference 1a).

The approach used tested the distribution to determine the best fit. Data log-normally distributed were evaluated using log-normal statistics. When the distribution was indeterminant, normal statistics were used to avoid grossly overestimating the exposure concentrations. These overestimated values typically resulted in using the maximum detected result as the concentration. The approach used is consistent with current EPA guidance. The statistical approach utilized for this assessment is fully documented and explained in detail in Chapter 4 of the PAM.

Please contact Mr. Dennis Chambers at (314) 524-3329 if you have any questions with regard to this document.

Sincerely,



Sharon R. Cotner  
FUSRAP Program Manager

1 Encl

CF: Mr. Robert Geller, MDNR

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# Administrative Record for the Formerly Utilized Sites Remedial Action Program (FUSRAP) North St. Louis County Sites

St. Louis County, Missouri

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**US Army Corps  
of Engineers**  
St. Louis District®

Volume 3.10  
Site Management –  
Reference Documents

# Cataloging Form

{Technical/Project Managers fill in C through G, K through Q. RM completes other fields}

A. Document ID Number: Assigned by database 675

B. Further Information Required?: ☐

C. Operable Unit (Choose One):

USACE ☐  
St. Louis Sites ☐  
Downtown ☐  
North County ☒  
Madison Sites ☐  
Inaccessible Areas ☐  
PRP ☐  
Oversight Committee ☐

D. Site (Optional):

SLDS VPs ☐  
Mallinckrodt ☐  
SLAPS ☐  
SLAPS VPs ☐  
CWC ☐  
HISS ☐  
Madison ☐

E. Area (Optional):

F. Primary Document Type (Choose One):

~~Site Management Records~~ ☒  
Removal Response ☐  
Remedial Investigation ☒  
Feasibility Study ☐  
Record of Decision ☐  
Remedial Design ☐

Remedial Action ☐  
Public Affairs/Community Relations ☐  
Congressional Relations ☐  
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Real Estate ☐  
Project Management ☐

G. Secondary Document Type (see back of form): Correspondence

H. Bechtel Number:

I. SAIC Number:

J. MARKS Number (Choose One): FN: 1110-1-8100e ☐ FN: 1110-1-8100f ☐ FN: 1110-1-8100g ☐

K. Subject/Title: Transmittal of the North County Potential Contaminants of Concern (PCOC) Assessment Memorandum for Review

L. Author: Sharon Cotner

M. Author's Company: PM-R

N. Recipient(s): Dan Wall

O. Recipient(s) Company: EPA

P. Version (Choose One): Draft ☐

Final ☒

Q. Date: 8/27/99

R. Include in the ARF? ☒

S. Include in the AR? ☐

T. Filed as Confidential/Privileged? ☐

U. Document Format (Choose one):

Paper ☒  
Electronic ☐

Photographic ☐  
Audio-visual ☐

Cartographic/Oversize ☐  
Microform ☐

V. Filed in AR Volume Number:

W. Physical Location (Choose One):

Central Files ☒  
Records Holding Area ☐

Microfilm Vendor ☐  
Department of Energy ☐

In ARF ☐  
In AR ☐

X. Associated with Document(s):

## Secondary Document Types

☐ Amendments to Record of Decision (ROD)  
☐ Anomaly Review Board Documents (Management Plan, Correspondence, Standard Operating Procedures, Findings)  
☐ Applicable or Relevant and Appropriate Requirements (ARAR) Determinations  
☐ Archives Search Reports (ASR)  
☐ Briefing Papers  
☐ Chain of Custody Forms  
☐ Community Relations Plan  
☐ Correspondence  
☐ Daily Operations Summary/Situation Reports  
☐ Engineering Evaluation and Cost Analysis (EE/CA) Action Memo  
☐ Engineering Evaluation and Cost Analysis (EE/CA) Approval Memorandum  
☐ Engineering Evaluation and Cost Analysis (EE/CA)  
☐ Explanation of Significant Differences  
☐ Fact Sheets/Newsletters  
☐ Feasibility Study (FS) Reports  
☐ Federal, State, Local Tech. Records  
☐ Final Approved Findings and Determinations  
☐ Final Remedial Design Documents  
☐ Freedom of Information (FOIA) Requests  
☐ Freedom of Information (FOIA) Responses  
☐ Health and Endangerment Assessments  
☐ Interagency Agreements/Memoranda  
☐ Interim Deliverables  
☐ Inventory Project Report (INPR) Risk Assessment Code (RAC)  
☐ Invoices/Contractor Payments/Cost Reports  
☐ Land Grants/Deeds  
☐ Mailing Lists  
☐ News Clippings and Press Releases  
☐ No Further Action Docs (NOFA)  
☐ On-Scene Coordinator Reports  
☐ Proposed Plans for Remedial Action  
☐ Public Meeting Minutes/Transcripts  
☐ Public Notices  
☐ Public notices, Comments Received, Responses to the Comments  
☐ Published Hearings  
☐ Record of Decision (ROD)  
☐ Reference Documents  
☐ Remedial Action Documents  
☐ Remedial Investigation (RI) Reports  
☐ Removal Response Reports (Emergency Evacuation Orders)  
☐ Rights of Entry Documents  
☐ Sampling/Analysis Data and Plans  
☐ Scopes of Work/Contractual Documents  
☐ Site Descriptions and Chronologies  
☐ Site Inspection Documents  
☐ Site Photographs and Maps  
☐ Testimonies  
☐ Title Search Documents  
☐ Work Logs  
☐ Work Plans and Progress Reports  
☐ Work Plans/Site Safety and Health Plans and Progress Reports  
☐ Work Register and Logs