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NSTC GREAT LAKES, IL  
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LETTER REGARDING RECOMMENDATIONS FOR DRAFT HEALTH RISK ASSESSMENT  
REPORT FORT SHERIDAN IL  
10/24/1995  
DEPARTMENT OF THE ARMY

AT - 119  
14.2



**DEPARTMENT OF THE ARMY**  
HEADQUARTERS FORT McCOY  
SPARTA, WISCONSIN 54656-5000



REPLY TO  
ATTENTION OF

24 October, 1995

BRAC Environmental Coordinator

Mr. Mark Schultz  
Navy Public Works Center  
Building 1A, Naval Training Center  
Great Lakes, IL 60088-5600

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Dear Mr. Schultz:

During yesterday's special BCT meeting at the U.S. Environmental Protection Agency, Region V offices you requested assistance in evaluating two risk assessment results: the ambient air risk assessment results documented in the Draft Health Risk Assessment Report (USACHPPM, 1995), and the air modeling risk assessment results conducted and presented by the USEPA. In both cases the risk falls within the 10-4 to 10-6 risk range. Within this range a risk management decision is made whether or not remedial action is to be taken.

I provide the following information to assist you in briefing and making a recommendation to your command staff:

1. A similar risk level was calculated and is reported in the 1992 Draft Final Remedial Investigation/Baseline Risk Assessment Report (RI), Ft. Sheridan. This risk is based on a chronic (30 year) exposure. Even though many parts of the 1992 report generated extreme criticism, this level of risk was recognized by the Army (and apparently by their inaction, the regulatory agencies and the Navy) to justify closure of the landfill, but not to pose an immediate health threat to justify moving the residents. This remains the Army's position today.
2. The Army is undertaking an expedited ("interim") remedial action to close this landfill. Closure construction is scheduled to begin Spring 1997. Moving residents at that time may be more justifiable as the effect of landfill dewatering on gas production is uncertain. Additionally, other health and safety risks may result from construction activities.
3. The Army conducted additional air sampling at Landfill 7 in August, 1995, and did not detect vinyl chloride, the site's primary risk driver, at the perimeter. Even though not detected, the potential risk due to vinyl chloride was calculated using half the quantitation limit (as agreed during the 2 October, 1995 conference call) to be only 10-6 for a 5 year, 28 hour/week exposure.
4. USEPA's air modeling risk calculations are based on a chronic (30 year) exposure. According to Ms. Jenny Ross of your office, the maximum number of years non-commissioned officers would live in the landfill residences is 5 years. However, USEPA has stated that some

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animal studies suggest that the toxicity of vinyl chloride is not linear with exposure.

6. In yesterday's meeting, the USEPA stated this risk level (10-5) would not be high enough to justify action from the USEPA's Regional Emergency Response Team. Based on the ambient air analysis by USACHPPM, the USEPA air modeling results, and on current toxicological information, the IEPA stated they did not believe there is an immediate concern warranting moving residents at this time since a remedial response to close the landfill is underway.

7. Because Landfill 7 is being closed under CERCLA, a decision to move the residents, based entirely on environmental risk, may constitute a removal action. The most recent risk calculations (both USACHPPM's and USEPA's), based on the August 1995 data, resulted in a similar risk as that reported in the 1992. Conducting an emergency or time-critical removal action may appear to be inconsistent with the NCP. A non time-critical removal action is a lengthy process requiring a Engineering Evaluation/Cost Analysis (EE/CA).

If you have any questions, please feel free to call me at (708) 926-7201.

Sincerely,



Colleen Reilly  
BRAC Environmental Coordinator  
Fort Sheridan

cc:

Mr. Paul Lake, IEPA  
Mr. Owen Thompson, USEPA -  
Mr. Tim Hyland,  
Ms. Vera Wang, NEHC  
Mr. Al Balliett, Ft. McCoy  
Mr. Tim Johnson, Ft. McCoy

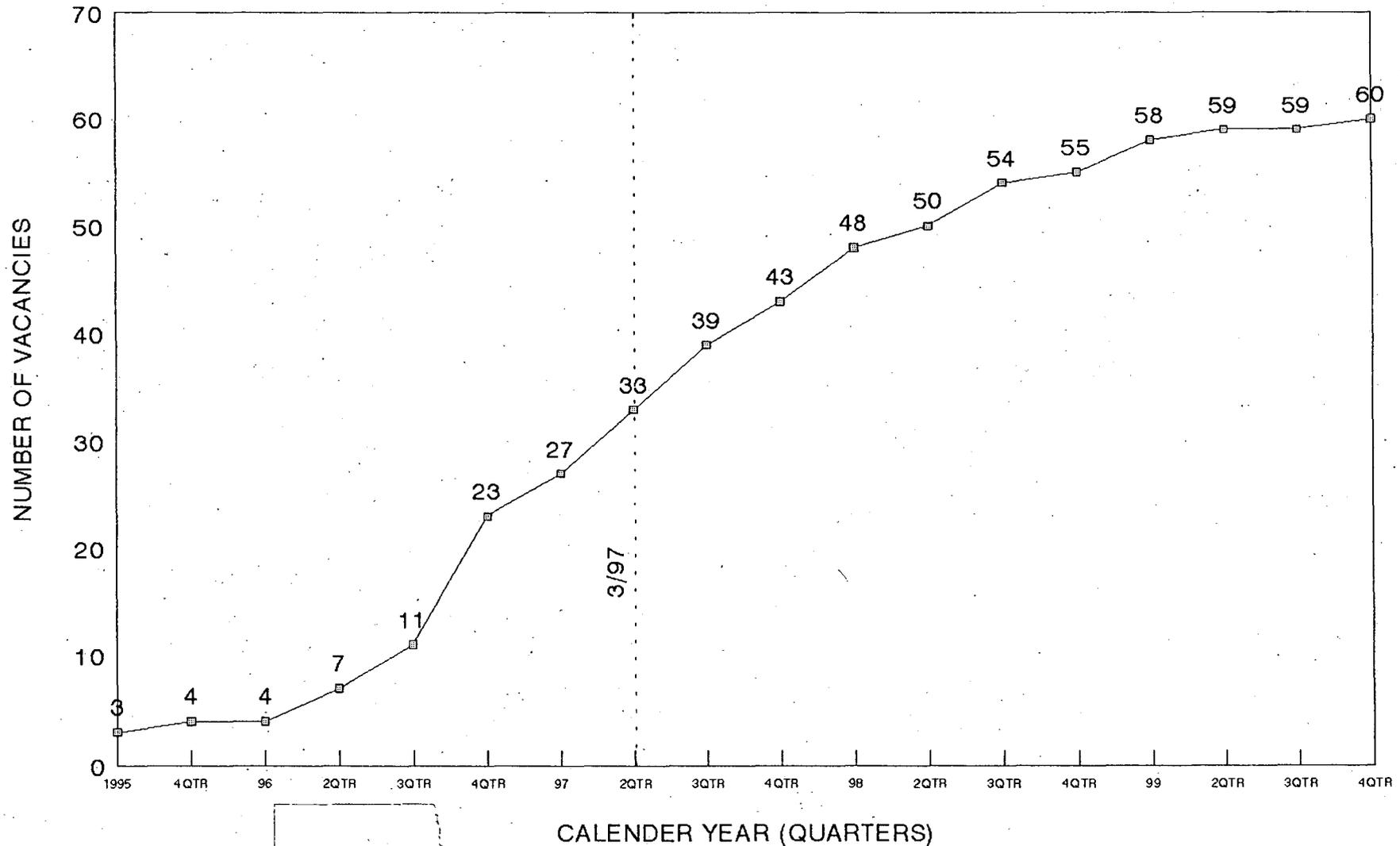
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# PROJECTED VACANCY DATES

## FORT SHERIDAN HOUSING



RISK REDUCTION OPTIONS

OPTION 1 - PHASEOUT HOUSING AT CURRENT SCHEDULE

- \* Communicate risks to the residents
- \* Press for Increased interim controls
  - 1) Gas vent filtration
  - 2) Additional cap cover material
- \* Phaseout remaining housing for landfill repairs as originally scheduled (MAR 97)

OPTION 2 - ACCELERATE PHASEOUT SCHEDULE

- \* Communicate risks to the residents
- \* Immediate phaseout of housing at Chatfield Court and units 835 & 836  
*28 UNITS (WINTER 95)*
- \* Phaseout remaining units as originally scheduled (MAR 97)

OPTION 3 - IMMEDIATE PHASEOUT OF RISK REDUCTION AREA

- \* Communicate risks to the residents
- \* Immediate phaseout of all housing units in risk reduction area  
*42-96 UNITS (WINTER 95)*

RECENT ACTIONS/INFORMATION

- \* EPA MODEL COMPLETED  $1.6 \times 10^{-5}$  RISK CALCULATED
  - Risk based upon exposure 24 hr/day for 30 yr
  - Exposure times influenced by factor of safety for other uncertainties
  - Calculated exposures for worst case chemical (vinyl chloride)  
(100% emissions via gas vents; 10% via gas vents and 90% via landfill cap; and 20% via gas vents and 80% via landfill cap)
- \* INFORMAL CONCURRENCE FROM IEPA AND EPA THAT RISK DOES NOT APPEAR TO POSE AN IMMEDIATE NEED TO MOVE RESIDENTS
- \* USEPA CONCERNED ABOUT POTENTIAL HEALTH RISKS TO INFANTS AND PREGNANT WOMEN
- \* USEPA WOULD LIKE RESIDENTS TO HAVE A CHOICE TO MOVE, IF POSSIBLE
- \* IEPA AND USEPA WILL PROVIDE A FORMAL STANCE TO THE NAVY COMPARATIVE RISKS, OTHER PRECEDENTS, RECOMMENDATIONS FOR REDUCED RISK
- \* EPA REVIEWED OTHER CLEANUP SITES FOR PRECEDENTS
  - Two similar sites (one site in Wauconda, IL)
  - No interim actions proposed (only final remedy)
- \* MANY UNCERTAINTIES EXIST WITH ARMY AND USEPA RISK ASSESSMENT
  - Location of gas emissions
  - Worst case concentrations (limited sampling events)
  - Causes of indoor concentrations
- \* EPA IS MORE COMFORTABLE WITH FIXABILITY OF LANDFILL (CAP REPAIR)
- \* USEPA EMERGENCY RESPONSE SCREENING LEVEL WELL ABOVE MODELLED LEVELS (2.0 MICROGRAMS/M<sup>3</sup> VS 0.027 MODELLED = TWO ORDERS OF MAGNITUDE)
- \* USEPA HAS OFFERED TO BE PRESENT AND ASSIST WITH PRESENTATIONS TO RESIDENTS (TOWN HALL MEETING)
- \* ARMY (CHPPM) MAY BE AVAILABLE FOR TOWN HALL MEETING
- \* RISK COMMUNICATION PLAN BEING DEVELOPED BETWEEN NAVY/ARMY (IEPA/USEPA SUPPORT)

## CURRENT ENVIRONMENTAL ORGANIZATION POSITIONS

ORGANIZATION	CURRENT POSITIONS	RECOMMENDATIONS
NAVY ENVIRONMENTAL HEALTH CENTER (NEHC)	<ol style="list-style-type: none"> <li>1. Not enough data to accurately assess risk.</li> <li>2. Significant concerns with CHPPM's findings.</li> <li>3. Risk at <math>10^{-5}</math> usually would not warrant moving residents.</li> </ol>	<ol style="list-style-type: none"> <li>1. Conduct more air and indoor sampling.</li> <li>2. Complete a traditional full-scale risk assessment.</li> </ol>
NAVY EFA MIDWEST ENVIRONMENTAL	<ol style="list-style-type: none"> <li>1. Concur with NEHC</li> <li>2. Concerned with exposures to children.</li> <li>3. Uncertainties reduce risk by an order of magnitude to <math>10^{-4}</math> which raises concern.</li> </ol>	<ol style="list-style-type: none"> <li>1. Plan for an expedited phaseout of residents adjacent to landfill.</li> <li>2. Conduct aggressive risk communication program.</li> </ol>
ARMY CHPPM	<ol style="list-style-type: none"> <li>1. There is no risk to residents from landfill gases.</li> <li>2. There is no risk to residents from indoor gases.</li> </ol>	No recommendations
ARMY BRAC ENVIRONMENTAL COORDINATOR	<ol style="list-style-type: none"> <li>1. Concur with CHPPM.</li> <li>2. Threatening Navy with CERCLA restrictions and community relations impacts if actions taken.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move residents prior to landfill repair work (3/97).</li> <li>2. Risk Communication</li> </ol>
USEPA REG V REMEDIAL PROJ MANAGER	<ol style="list-style-type: none"> <li>1. Not enough data to accurately assess risk.</li> <li>2. Significant concerns with CHPPM's findings.</li> <li>3. Risk at <math>10^{-5}</math> usually would not warrant moving residents.</li> <li>4. Expressed concerns for infants and pregnant mothers/fetus.</li> <li>5. Expressed concerns with air exposure for these gases - more exposure/no controls.</li> </ol>	<ol style="list-style-type: none"> <li>1. Offer residents opportunity to move.</li> <li>2. Conduct aggressive risk communication program.</li> <li>3. Complete a traditional full-scale risk assessment.</li> </ol>
ILLINOIS EPA REMEDIAL PROJECT MANAGER	Similar to USEPA	Similar to USEPA

## FORT SHERIDAN LANDFILL 7

### UNCERTAINTIES IMPACTING RISK MANAGEMENT DECISION

#### 1) GAS EMISSIONS (CONCENTRATIONS AND FLOW RATES)

- \* Performed testing provides concentration "snapshots" for a limited time and during limited standard conditions
- \* Gas concentrations and flow rates vary with:
  - Seasons
  - Water level in landfill
  - Barometric pressure
  - Wind speed and direction

#### 2) LOCATIONS OF LANDFILL GAS EMISSIONS

- \* Clustered emissions near residences?
- \* Have significant impacts on USEPA's modelling results

#### 3) LENGTH OF EXPOSURE TO RESIDENTS (24 HR VS ONLY WHEN OUTDOORS)

- \* Do houses provide a barrier to outdoor emissions?
- \* Do house ventilation systems cause a concentration of gases to accumulate in the home?

#### 4) ACCURACY OF TOXICOLOGICAL DATA REGARDING HEALTH RISKS FOR DETECTED CHEMICALS

- \* Recent scientific data shows some chemicals are more injurious at lower levels and over shorter durations (Vinyl Chloride)

#### 5) ARE INDOOR DETECTED GASES RELATED TO LANDFILL EMISSIONS OR NORMAL BACKGROUNDS?

## **RISK COMMUNICATION/COMMUNITY RELATIONS STRATEGY**

An aggressive Risk Communication Program is proposed to inform the housing residents and surrounding community of health risks identified and proposed actions. A consultant - PRC has been retained to assist in developing a risk communication plan, preparing information materials (fact sheets, exhibits, etc.), and assisting with community events.

Following is a summary of Risk Communication actions that are proposed independent of Communication Strategy option selected:

- \* Preparation of News Releases*
- \* Preparation of Fact Sheets*
- \* Preparing and distributing flyers*
- \* Conducting an effective presentation to the community*
- \* Conducting a community workshop with exhibits and experts*

**Two strategy options are proposed:**

- 1) Inform residents of risks and action to be taken at the 7 Nov Town Hall meeting.
  - Short audiovisual brief describing results of testing, risks, Navy position, and actions to be taken.
  - Have a walk-around exhibit session after the meeting. Exhibits will be set up and staffed with experts to interface with residents in a small group setting.
- 2) Conduct a risk workshop with residents at the 7 Nov Town Hall Meeting to raise residents awareness of risk assessment processes and issues. Provide results of testing done and options being evaluated. Conduct a follow-up meeting to discuss actions to be taken. Format for these sessions will include short group presentations and exhibit/expert interface in a small group setting.

## RESPONSE ACTION MATRIX

Type of Action	Type of Action		Triggers for Action	Documentation	CR Requirements	Example
	Early	Long-Term				
Time-Critical Removal Action	X		<ul style="list-style-type: none"> <li>Meets one or more removal criteria</li> <li>Action <u>must begin</u> within 6 months to <u>protect human health and the environment</u></li> </ul>	<ul style="list-style-type: none"> <li>Removal Site Evaluation</li> <li>Action Memorandum</li> <li>OSC Report -- within one year of removal completion</li> </ul>	<ul style="list-style-type: none"> <li>Designate spokesperson</li> <li>Notice of availability of AR -- within 60 days of starting action</li> <li>CRP if on-site activities greater than 120 days</li> <li>Public Comment if lead agency determines appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Removal of corroded drums of waste</li> <li>Removal of plating shop waste</li> <li>Removal of free product from groundwater</li> <li>Capping contaminated surface soil</li> </ul>
Non-Time-Critical Removal Action	X		<ul style="list-style-type: none"> <li>Meets one or more removal criteria</li> <li>Planning period of <u>six months</u> or more is <u>available without further threats</u> to human health and the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Removal Site Evaluation</li> <li>EE/CA Approval Memorandum</li> <li>EE/CA</li> <li>Action Memorandum</li> <li>OSC Report -- within one year of removal completion</li> </ul>	<ul style="list-style-type: none"> <li>Designate spokesperson</li> <li>Notice of availability of AR -- by the time EE/CA Approval Memorandum is signed</li> <li>CRP -- before EE/CA completion</li> <li>Public Comment on EE/CA -- 30-45 days</li> <li>Responsiveness Summary -- part of Action Memo</li> </ul>	<ul style="list-style-type: none"> <li>Removal and on-site treatment of contaminated sediments</li> <li>On-site treatment and disposal of contaminated surface soil</li> </ul>
Interim Remedial Action	X		<ul style="list-style-type: none"> <li>Qualitative or quantitative risk assessment indicates action is necessary</li> <li>Exceedance of health-based ARAR</li> <li>Environmental damages</li> </ul>	<ul style="list-style-type: none"> <li>Site Assessment Data</li> <li>Focused Feasibility Study or Proposed Plan that evaluates alternatives</li> <li>Risk Assessment</li> <li>Proposed Plan</li> <li>ROD</li> </ul>	<ul style="list-style-type: none"> <li>CRP</li> <li>Notice of availability of AR -- prior to public comment</li> <li>Public Comment -- 30-60 days</li> <li>Responsiveness Summary -- part of ROD</li> </ul>	<ul style="list-style-type: none"> <li>Alternative Water Supply</li> <li>Groundwater Plume Control</li> <li>Temporary Protective Covers</li> </ul>
Final Remedial Action	X	X	<ul style="list-style-type: none"> <li>Baseline Risk Assessment indicates unacceptable risk</li> <li>Exceedance of health-based ARAR</li> <li>Environmental damages</li> </ul>	<ul style="list-style-type: none"> <li>RI</li> <li>Baseline Risk Assessment</li> <li>FS</li> <li>Proposed Plan</li> <li>ROD</li> </ul>	<ul style="list-style-type: none"> <li>CRP</li> <li>AR established and available -- when RI starts</li> <li>Public Comment -- 30-60 days</li> <li>Responsiveness Summary -- part of ROD</li> <li>Fact Sheets -- throughout the project</li> </ul>	<ul style="list-style-type: none"> <li>Capping landfill and leachate and gas control</li> <li>Groundwater extraction, on-site treatment, discharge to river</li> <li>Lagoon sludge and contaminated soil treatment with on-site disposal of residuals</li> </ul>

CRP = Community Relations Plan

RI = Remedial Investigation

AR = Administrative Record

CR = Community Relations

FS = Feasibility Study

ROD = Record of Decision

EE/CA = Engineering Evaluation/Cost Analysis