

Per the Federal Facility Agreement for Iowa Army Ammunition Plant, Article X.B.1, the attached document is the final version of the submitted document.

**Iowa Army Ammunition Plant
Community Relations Plan Update
February 2001**

TABLE OF CONTENTS

Executive Summary

Sections:	Page Number:
1 - Introduction	4
2 - Capsule Site Description	5
3 - Community Relations Program Organization	10
4 - History of Community Relations	11
5 - Current Community Comments and Concerns	12
6 - Community Relations Program	14

Appendices:

- A - List of Acronyms/Abbreviations and Glossary of Terms
- B - Environmental program from 1991 to present
- C - Environmental Regulations
- D - Restoration Advisory Board Fact Sheet
- E - 2000 Community Survey Results
- F - Information Resources
- G - Information Repositories
- H - Public Meeting Locations
- I - Comment/Suggestion Form for Future CRP Revisions

Tables:

- Table 1 - Planned Soil Removals by Location, Contaminant, and Volume
- Table 2 - IAAAP IRP Schedule
- Table 3 - Previous Environmental Studies/ Action Documents at IAAAP

Figures:

- Figure 1 - Restoration Sites
- Figure 2 - Superfund Site Restoration Process

EXECUTIVE SUMMARY

BACKGROUND: This is an update for the Public Involvement and Response Plan developed in May 1991 that determined the level of community concerns and interests in the Installation Restoration Program at Iowa Army Ammunition Plant (IAAAP). It also addresses concerns raised by the current Restoration Advisory Board on their effectiveness to keep local communities updated on clean-up efforts at the plant.

This document focuses on clean-up efforts since 1991 and evaluates the effectiveness of past efforts to keep the general public informed of restoration activities at IAAAP. It recommends communication techniques to keep the public informed of the current restoration efforts and recommends methods to involve the public in future clean-up efforts.

PURPOSE: The purposes of this update are to:

- Establish avenues for sharing knowledge and encouraging community participation regarding the environmental restoration activities, both underway and planned.
- Comply with requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).
- Outline specific community relation's strategies for addressing these goals, and to provide mechanisms for maintaining a flexible, "living" document that evolves with changing community needs and concerns.

SCOPE: This update is divided into seven sections with nine appendices. They are:

Section 1.0: Contains a brief introduction to the scope of the update and the authority Under which it is written and implemented

Section 2.0: Contains a brief current site description and history of IAAAP since 1991

Section 3.0: Defines the roles and responsibilities in the development and Implementation of the CRP

Section 4.0: Summarizes past community relation's activities since 1991, and identifies Those that are expected to continue through the present. A community survey was conducted during May/June 2000 to identify the specific concerns, priorities, and personalities of the communities affected by environmental matters

Section 5.0: Highlights the results of the community survey

Section 6.0: Defines the strategy to be carried out in improving two-way communication Between IAAAP and the surrounding communities. It also combines the Update's objectives and activities to form a comprehensive community Relation's strategy in line with that of the Army's Public Affairs Office

Section 7.0: Lists the references and resource material used in the development and preparation of this update

APPENDICES: The following appendices contain supporting information:

Appendix A -- Lists definitions for technical terms and acronyms used in this document

Appendix B -- Describes site history from 1991 to present and physical characteristics of the installation, which have a bearing on environmental restoration, archaeology and cultural resources, and potential biotic receptors

Appendix C -- Describes the regulations and statutes governing the environmental restoration at IAAAP

Appendix D -- Contains a fact sheet on the Restoration Advisory Board (RAB)

Appendix E -- Provides the questions and summary of the responses from the May/June 2000 community survey

Appendix F -- Lists the names, addresses, and phone numbers of key representatives of Iowa Army Ammunition Plant, the Restoration Advisory Board, and federal, state, and local agencies and officials

Appendix G -- Lists the locations of information repositories that contain documents related to IAAAP

Appendix H -- Lists the recommended locations for public meetings

Appendix I -- List mail-in forms for citizens to comment on and respond to the updated community relations plan

The Community Relations Plan (1991) and this update are on file in the information repositories. The update will be periodically revised, depending on activities taking place at IAAAP. Comment/Response forms will be available with all documents for citizens to record their opinion concerning this update. Public comment on this document is welcomed at any time.

1.0 INTRODUCTION

Most citizens want to become better educated on how to participate in decisions that may affect their community. The purpose of this Community Relations Plan Update (CRPU) is to continue to expand avenues for sharing knowledge and to encourage community participation regarding the hazardous waste restoration activities both underway and planned for at the Iowa Army Ammunition Plant (IAAAP), located in Middletown, Iowa. Preparation of a CRPU is also a requirement of the Comprehensive Environmental Response, Compensation, and Liability act (CERCLA, also known as Superfund) under 40 CFR 300.430 and 300.435. The original CRP, dated May 1991, and this update, outline specific community relation's strategies for addressing these goals and assure that the CRP and update are flexible, "living" documents that can adjust to evolving community needs and concerns

In this update, IAAAP presents community relations objectives and strategies to promote public awareness about environmental restoration efforts at IAAAP. Decisions about CRPU efforts are based on public input collected during the community surveys. IAAAP will implement this update upon review by the U.S. Environmental Protection Agency (EPA), the Iowa Department of Natural Resources (IDNR), and with input from IAAAP's citizen-based Restoration Advisory Board (RAB).

Environmental activities at IAAAP are regulated by the EPA under CERCLA, and monitored by the Army under the Department of Defense (DOD) Installation Restoration Program (IRP).

1.1 ORGANIZATION OF THE CRP

The Army originally developed IAAAP's CRP in May 1991. The plan was developed to meet the specific needs of the communities that surround IAAAP and those communities that are affected by the groundwater contamination attributed to the site. This update reevaluates those needs and updates the CRP accordingly. This update is divided into seven sections and nine appendices.

The Points of Contact for this update and related information are the IAAAP Administrative Officer (PAO) -(319) 753-7600 or the IAAAP Environmental Restoration Program Manager (319-753-7130).

2.0 CAPSULE SITE DESCRIPTION

The purposes of the following sections are to provide additional information describing the location, missions, history of IAAAP, and to provide an update to the information published in the Community Relations Plan of May 1991. It will also review, in general, the nature and extent of environmental programs at the installation since 1991, including the objectives of IAAAP's restoration activities.

A synopsis of historical environmental restoration is provided in Appendix B.

2.1 SITE DESCRIPTION

IAAAP is located in southeastern Iowa in the southern portion of Des Moines County, which borders Lee County to the south and Henry County to the west. The installation borders the town of Middletown and is approximately 10 miles west of Burlington; the county's most populated city, located on the west bank of the Mississippi River. (See Appendix A, Figure A-1)

IAAAP is located on U.S. Highway 34, which runs east and west through Iowa from Illinois to Nebraska. U.S. Route 61, which runs north and south on the western shore of the Mississippi River, is accessible approximately 10 miles to the east in Burlington. The Great River Bridge on Highway 34 in Burlington spans the Mississippi River, connecting southeast Iowa with west central Illinois.

Regional transportation needs are met by air, bus, and rail transportation services. The Burlington Airport, southwest of the city, provides freight and passenger services, the Burlington Northern Railroad and AMTRAK provide rail services, and the Burlington Trailways and Hawkeye Express provide bus transportation throughout the region.

The facility is a government-owned, contractor-operated (GOCO) military industrial installation under the jurisdiction of the U.S. Army Operations Support Command, headquartered in Rock Island, Illinois. Its primary mission is to manufacture, load, assemble and pack (LAP) ammunition items. The facility is currently operated by American Ordnance, Limited Liability Corporation and currently employs 756 personnel. In addition, there are four other private contractors operating other businesses on the site: East Camden & Highland Railroad Company has railcar storage, GE Capital Railcar does railcar repair, Advanced Environmental Technology is planning a hazardous waste treatment facility and there is the IOP Federal Credit Union.

IAAAP was established in July 1941 as the Iowa Ordnance Plant. The plant's mission was to load, assemble, and pack 75 millimeter (mm) and 155 mm artillery shells and 100 pound to 1,000 pound aerial bombs. The original cost of the plant was \$30 million. It produced munitions for World War II until August 1945, and munitions for military activities in Southeast Asia in the 1960s and early 1970s. Activities continued at a reduced level during peacetime. The former Atomic Energy Commission operated at Line 1 from 1949 through the mid-1970s. Plant operations reverted to U.S. Army control from 1946 until 1951. The plant has been a GOCO since 1951. (See the CRP dated May 1991 for a more detailed history, pages 1-3 to 1-4).

Since the original CRP dated May 1991, IAAAP continues to be an active Army production facility. IAAAP possesses extensive ammunition manufacturing capabilities with special emphasis on the cast loading of large caliber artillery projectiles, guided missile warhead loading, press loading of munitions and the assembling of specialized munitions involving the integration of electronic components with precision explosive components. Today IAAAP currently produces detonators, demolition blocks, cratering kits, 155-mm rocket-assisted artillery projectiles, 8-inch rocket-assisted projectiles, and 120-mm tank rounds. Rocket warheads are produced for the Patriot, Copperhead, Hellfire, Stinger, Chaparral, Hawk, TOW I and TOW II rockets. Additionally, components are manufactured for the RAM 155-mm remote anti-armor mine, GATOR antitank and antipersonnel mines, and the Ground Emplaced Mine Scattering System. It has been determined that past disposal practices at IAAAP have released hazardous substances into the environment. The Army's primary concern is the protection of human health and the environmental restoration of the site.

2.2 DEMOGRAPHICS AND EMPLOYMENT

In 1998 Des Moines County had a population of 42,000. The current population of Burlington, which is estimated by the Burlington/West Burlington Chamber of Commerce, is approximately 26,565 and the Middletown population is approximately 400. Additional communities near IAAAP include, to the east, West Burlington (1998) population of 3,190; to the northeast Mediapolis (1998) population 1,650; to the northwest, Danville (1998) population 1,000 and New London (1998) population 2,043; and to the south, the small unincorporated communities of Augusta and Wever. Middletown, Danville, Wever, and Augusta are primarily rural communities, with IAAAP being the largest single source of employment. Incorporated towns are governed by council/manager or council/mayor structures.

Located in Des Moines County, IA, IAAAP's work force is dominated by residents of Middletown, Danville, New London, Mt. Pleasant, West Burlington, Burlington, and Ft. Madison. Some workers commute to IAAAP from Illinois and Missouri. Due to its continuity of operations and consistently large payroll, the site has developed support from many business and community leaders. Also, since it has been operational since WWII, numerous current and former workers residing in local communities have developed and maintained loyalty and identification with the installation.

Des Moines County's industrial base centers in diversified manufacturing that includes production of antenna systems, batteries, cattle and hog feeders, safety paper, chemicals, cleansing compounds, desks, gypsum, electronic instruments and components, furniture, medium voltage switchgear, mattresses, millwork, oil, lubricants, paint, paper boxes, printing, spark pugs, industrial tractors, turbines, burial vaults, and potato chips. Regional agricultural crops include corn, soybeans, and pasture grasses. Beef, dairy cattle, hogs, and poultry are also raised on the area farms.

Major regional industries in 1998 identified by the Burlington Area Development Corporation included:

Over 1,000 Employees

American Ordnance LLC (Iowa Army Ammunition Plant)
Great River Medical Center

500 to 1,000 Employees

Burlington Community School
Case Corporation
Federal Mogul (Champion Sparkle Plug)
General Electric
Visa Bakery, Inc.

200 to 500 Employees

Burlington Northern/Santa Fe Railroad
City of Burlington
CSI Employment
Des Moines County
Exide Corporation
Hope Haven Development Center
Hy-Vee
LaMont Limited
Pzazz! Motor Inn
Raider Precast Concrete, Inc.
Southeastern Community College
U.S. Gypsum
Wal-Mart Stores, Inc.
Winegard Company

75 to 200 Employees

Aldi, Inc.
Antenna craft Company
APAC Customer Services and Sales
Burlington Basket Company
Chittenden & Eastman Company
The Hawk Eye
Manpower Temporary Services
Precision Resistive Products (PRP)
Tuthill Corporation – Murray Turbo Division

Numerous newspapers serve Des Moines County, including dailies such as the “Des Moines Register” and “Burlington Hawk Eye” and weeklies such as the “Des Moines County News” and the “Shoppers Spree”. Burlington radio stations include KBUR-AM, KGRS-FM, KKWD-FM, and KCPS-AM. KJMH-TV, Channel 26, in Burlington is the first television station to serve specifically the Burlington, Ft. Madison, Mt. Pleasant, and Western Illinois markets. Regional television viewers have access to Central Cable TV, which provides 30 channels including network stations in the Quad City area of Davenport, Rock Island, and Moline.

Medical facilities include the Great River Medical Center, four intermediate care facilities (nursing home), and the Mental Health Unit in Mt. Pleasant. The Southeast Iowa Homemaker-Home Health Aide Service, Inc. and Home Health Care provide home health services ranging from medical to protective and respite needs. Burlington also has three skilled nursing facilities, the Burlington Medical Center, the Klein Center and the St Francis Continuation Care and Nursing Home Center.

Numerous public and private elementary and secondary schools exist throughout the county, including the K through 12 Danville Community School, along with 10 elementary, 4 middle, and 2 high schools in Burlington/West Burlington.

The Burlington Community School District is the ninth largest district in Iowa, with an enrollment of approximately 5,000 students. The Middletown School closed several years ago, and students from that town now attend school in Burlington on Danville.

Southeastern Community College (SCC), located in West Burlington, offers a comprehensive 2-year program of studies including Arts and Sciences courses and vocational-technical training. Coursework also can be completed at the SCC campus for classes offered from Western Illinois University, St. Ambrose College, and Iowa Wesleyan College. Additional colleges and university near Des Moines County include Iowa Wesleyan College in Mt. Pleasant; Knox College in Galesburg, IL; Western Illinois University in Macomb, IL; and Monmouth College in Monmouth, IL.

Regional recreational and social opportunities are diverse. Hunting for quail, turkey, and deer is a popular regional sport, while the lakes plus the Mississippi River offers fishing for catfish, crappie, and bass. The Des Moines County Conservation Board manages the Starr's Cave Preserve and Geode State Park west of Burlington, which offers 1,573 acres of woodlands for camping and hiking.

Regional parks with picnic facilities include Crapo Park, Dankward Park, Perkins Park, Sunnyside Park, Mosquito Park, and Riverfront Park. In addition, there are two public golf courses in the county and two bowling centers. Community Field, which seats 3,500, is the home of the Burlington Bees, professional baseball team, which competes in the Class A Midwest minor league.

A major regional event that attracts visitors from Iowa, Illinois, and northern Missouri is the 6-day-long Burlington Steamboat Days and American Music Festival, which begins the second Tuesday in June of each year. The activities include daily performance of country, rock, big band, rhythm and blues, and jazz on the Miller Outdoor Stage and Memorial Auditorium. Additional festival activities include fireworks, river cruises, the Shoquoquon Sailboat Regatta, and the Snake Alley Art Fair.

2.3 RESTORATION PROGRAMS AND REGULATIONS

2.3.1 FEDERAL REGULATIONS

CERCLA, which was passed by Congress in 1980, amended by the Superfund Amendments and Reauthorization Act (SARA) in 1986, and implemented through the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), provides regulatory authority to the U.S. Environmental Protection Agency (EPA) for environmental restoration of sites where hazardous substances have been released to the environment.

The main steps of an environmental restoration program typically include: Preliminary Assessments, Site Investigation, Remedial Investigation, Feasibility Study, Proposed Plan, Record of Decision, Remedial Design, and Remedial Action. These steps for IAAAP are detailed in Appendix B.

EPA added the IAAAP to the National Priorities List (NPL) in 1989. The NPL is the EPA's list of sites that appear to pose the greatest threat to human health and the environment, based upon the site assessment process.

The CERCLA process was implemented at IAAAP through the Federal Facilities Agreement (FFA) for site cleanup signed in 1990 by the Army and the EPA, following public comment. The FFA provides the framework for CERCLA response actions, including investigation and cleanup of contamination. The state of Iowa declined to participate as a signatory party to this FFA.

Community involvement in the CERCLA process is required. Community relations activities for IAAAP have included: periodic public meetings, public comment on the FFA, the community interviews conducted in 1990 (documented in Section 2.3 of the 1991 CRP), the publication of the CRP in 1991, establishment of public information repositories (listed in Appendix G) public tours, disseminating information on environmental issues through press releases to the local media, slide show presentations, and establishment of a Restoration Advisory Board (RAB) in 1997.

2.3.2 ARMY PROGRAM

In 1975 the DoD began a program to identify and investigate potentially hazardous sites at military installations. In 1980, the Installation Restoration Program (IRP) was developed. The IRP is authorized by the Defense Environmental Restoration Program (DERP) and is modeled after EPA's CERCLA. Both of the laws establish the legal requirements for identifying, investigating and remediating inactive hazardous waste sites. The Army follows EPA guidelines in conducting investigation and restoration work in the program.

The Department of Defense (DoD) established the Defense Environmental Restoration Account (DERA) to address sites under CERCLA, and as amended by SARA that are within the responsibility of DoD. The Defense Environmental Restoration Account was renamed Environmental Restoration, Army (ER, A). The Army, as an agency within the DoD, is the lead

agency for implementing the interim remedial action at IAAAP. As the support agency, the EPA oversees cleanup activities conducted by the Army to ensure that the requirements of CERCLA/SARA and the National Contingency Plan (NCP) have been met.

2.4 OBJECTIVES OF ENVIRONMENTAL RESTORATION

The objectives of CERCLA at IAAAP are to:

- Evaluate the nature and extent of the releases of hazardous waste or constituents;
- Evaluate facility characteristics
- Identify, develop and implement an appropriate corrective measure or measures to protect human health and the environment

The objectives of the Army's IRP at IAAAP are to:

- Comply with existing federal and state statutes and regulations;
- Cleanup contaminated sites as quickly as feasible to protect human health and the environment;
- Promote and encourage community involvement during each phase of the environmental restoration process.

3.0 Community Relations Program Organization

The Community Relations Program is implemented by the IAAAP in consultation with regulatory agencies and in response to community concerns. Each of these groups provides input and/or oversight in varying degrees to the activities and presentation materials that constitute the Community Relations Program.

3.1 Roles and Responsibilities

IAAAP holds lead responsibility for developing, maintaining, and updating the installation's Community Relations Program, including this CRP. These activities are typically initiated through the Administrative/Public Affairs Office, with support and oversight from the Operations Support Command's (OSC) Public Affairs Team. Activities include, but are not limited to, public programs, presentations, and materials for distribution.

The United States Environmental Protection Agency (EPA) provides technical and non-technical review of materials referencing permitted activities that are intended for public information. The EPA reviews this material for technical content, factual accuracy, and concurrence with EPA-established community relations' guidelines. Materials may include news releases, brochures, newsletters, reference information, and other presentation materials. EPA monitors and ensures IAAAP's compliance with federal regulatory requirements. The EPA is also a member of the IAAAP Restoration Advisory Board.

The Iowa Department of Natural Resources (IDNR) is a limited partner in IAAAP environmental restoration activities. They receive copies of all draft and final documents for information and their file. The IDNR is a member of the IAAAP Restoration Advisory Board.

The Iowa Department of Public Health (IDPH) may review some materials intended for public information from a public health standpoint. IDPH may also assist in the development of activities and/or materials for the community to ensure appropriateness for the intended audience and cohesiveness with other community health-based issues. The IDPH is a member of the IAAAP Restoration Advisory Board.

The surrounding communities provide the focus and directions of IAAAP's Community Relations Program through input during community interviews, public meetings, public comment periods, RAB meetings, through correspondence, and through local officials. Program organization is intended to channel this input into a Community Relations Program that will best serve the needs and concerns of the surrounding communities.

4.0 HISTORY OF COMMUNITY RELATIONS

Historically, IAAAP's community relations activities related to environmental restoration had been limited until 1989, when the CRP was in development. The final version of the initial CRP was released in 1991. Recent community relations' activities have included:

- Restoration Advisory Board formed in 1997 at the community's request to provide input into ongoing environmental restoration projects, and to satisfy regulatory requirements (see the fact sheet at Appendix D)
- Tours of IAAAP clean up sites to local high school science classes by IAAAP's environmental specialist
- Earth Day Tours of the installation

Other ongoing community relations activities implemented since 1991 have included: preparation and issuance of news releases and fact sheets; responses to oral and written inquiries about installation activities; media interviews; direction, coordination, and /or assistance with special activities, tours, and briefings on IAAAP for local and state officials and other interested citizens; setting up the IAAAP Hotline information number; and holding public meetings when significant progress is made at IAAAP. All of these activities are expected to continue.

IAAAP's administrative officer plans IAAAP community relation's activities. The administrative officer receives support from the IAAAP environmental specialist and the OSC environmental and public affairs offices. The activities described above all pertain to environmental restoration at IAAAP and are prepared for on-site personnel and residents of the local communities.

Since the publication of the first IAAAP CRP in 1991, the surrounding communities are becoming better informed and educated about the installation's environmental restoration. The nature and complexity of IAAAP's mission, and news media scrutiny of environmental issues have raised public awareness and concern about environmental and potential public health impacts due to past and present IAAAP operations. This CRP update will address and reflect the changing community concerns. Comments, issues and concerns are addressed in Section 5.0. Strategies for addressing these comments, issues and concerns are discussed in Section 6.0.

5.0 CURRENT COMMUNITY COMMENTS AND CONCERNS

The most usable and effective community involvement plans are those, which take into account the specific concerns, priorities, and personalities of the communities involved. To obtain this information, Iowa Army Ammunition Plant (IAAAP) conducted a simple random survey of the residents near plant in Middletown, IA.

The purpose of the survey was to assess the public's environmental concerns associated with a government facility, and estimate public awareness of the IAAAP's Restoration Advisory Board (RAB). The data collection was in the form of a mailed survey. The target population was focused on the residents living around the installation along with those individuals that either work at or visit the installation. The sampling technique was a simple random sample taken from the telephone listing with the probability of selection considered equal within each household. In addition, the surveys were also available to members of the public upon request. This fact was publicized in the newspaper.

The sample size was not predetermined but set at the number of returned surveys. 2007 surveys were mailed in May of 2000. The Army requested that the surveys be returned in two weeks. The analysis includes all 169 surveys that were returned by the end of June, 2000.

5.1 THE SURVEY RESULTS

About 85 percent of the respondents were aware that the Restoration Advisory Board (RAB) existed at the IAAAP. About 15 percent of the respondents learned about the RAB through the survey process.

Over 70 percent of the respondents learned, for the first time, about the RAB from the local newspaper (Hawk Eye), followed by the survey instrument itself, and then a friend (15 percent and 2 percent respectively).

Over 70 percent of the respondents think that the local newspaper is the best way to keep them informed. The radio was second with 4 percent, followed by e-mail and a Web site (3 percent and 2.4 percent respectively).

Almost 90 percent were aware that environmental restoration work was underway at IAAAP. 40 percent of the respondents would go to IAAAP and 30 percent to the RAB if they had environmental questions.

In general the respondents had not talked to the IAAAP, RAB, Local, State, or Federal officials about the environmental issues at the IAAAP. About 11 percent of the respondents had talked to IAAAP officials, 5 percent talked to the RAB, and lesser percentages to other agencies

The top three environmental concerns of the respondents were Groundwater, Surface Water, and Air Quality. 62 percent of the respondents cited groundwater as their number one environmental concern; 14 percent listed it as a second or third concern. Surface water and air

quality were the other top environmental concerns, each being listed in the top three by over 50 percent of the respondents.

A rating scale of 1 to 10 was used, with 10 being the best, to rate how well the IAAAP was doing with regards to: safeguarding the health of residents in their community, safeguarding the environment, complying with regulations, and keeping the public informed about environmental activities at the IAAAP. For the ease of sampling for both the survey developer and the survey taker a scale of 1-10 was selected. The value of (1) equaled "inadequate" and the value of (10) to equaled "adequate". Everything in between was a relative measure of both. The people surveyed who chose to answer question 8 were then given the opportunity to identify how they felt knowing that a number closer to (1) indicated inadequate and a number closer to (10) indicated adequate. Any answer below (5) could indicate that improvements could be made, while answers greater than (5) indicate acceptance of the existing process. During the analysis of the responses the responses were combined, with a value of 1-3 given an "inadequate" rating and combined responses with a value of 8-10 given an "adequate" rating.

- 28% of the respondents felt the IAAAP is doing an inadequate job at safeguarding the health of the residents in their community, while 28% of the respondents felt that the IAAAP is doing an adequate job at safeguarding the health of the residents in their community.
- 28% of the respondents felt the IAAAP is doing an inadequate job of safeguarding the environment, while 27% felt they are doing an adequate job of safeguarding the environment.
- 28% of the respondents felt the IAAAP is doing an inadequate job of complying with regulations, while 36% felt they are doing an adequate job of complying with regulations.
- 33% of the respondents felt the IAAAP is doing an inadequate job of keeping the public informed, while 35% felt they are doing an adequate job of keeping the public informed.

THE COMMENTS

Of the 169 surveys returned, 36 had "Other Comments." Comments were categorized as follows:

- 18 – Concerned
- 8 – Cover-ups
- 7 – Positive comments
- 2 – Don't Know, Liability, Political, Request for Information
- 1 – Balanced, Explanation, Operating Errors, Restoration, Suggestion

Here are several of the most motivating/telling/useful comments:

I have watched this with great interest as I lived at the IOP residential area from 1950 to 1969 -- my father worked for the government during this time. He went to the area to fish, hunt, and mushroom hunt, etc and he died 2 years ago of a rare blood disease. I often wonder, what I was

exposed to drinking the water, swimming in the pool and eating many things from my parents garden.

My husband died of leukemia Sept 99. We feel drinking the water or living next to the IAAAP for 50 years and experiencing the testing of bombs could definitely been a factor. I did report his conditions & others have too but no response. So the time it took to fill this out could be taxpayers' money spent for another fruitless study.

8A. (Safeguarding health of residents) Antiquated waste treatment -- impurities released into streams and creeks.

8B. (Safeguarding environment) Waste treatment handled by individuals coming to work drunk and on drugs, sleeping on duty, falsifying govt. documents -- lax supervision. Many red water spills not reported.

8C. (Complying with environmental regulations) How would you know? Waste water (records? --illegible) not reliable; supervisor covers mistakes; people threaten other people's lives and well being. I was forced to resign from this dept. (powerhouse)

8D. (Keeping public informed) Definitely not.

I don't feel that the environmental cleanup teams are searching for radioactive waste materials at the right depth. It is common practice for this waste to be buried at a much greater depth 20 to 25' feet. There is a much better chance of discovering the source of the groundwater pollution if they look at this depth.

6.0 COMMUNITY RELATIONS PROGRAM STRATEGY

Community participation is an important aspect of a site's restoration. Only through the combined efforts of the communities, state and federal agencies, and the IAAAP can effective restoration plans be identified and implemented. The IAAAP's community involvement program includes objectives and strategies that are responsive to public comments, and the issues and concerns described in Section 5.0. The strategies are:

1. Maintain open lines of communication with the surrounding communities on environmental issues.
2. Inform and educate the surrounding communities and local public officials about environmental restoration activities as they occur.
3. Solicit input from the surrounding communities on environmental restoration efforts.

6.1 COMMUNITY RELATIONS PROGRAM OBJECTIVES

The objectives for each strategy of IAAAP's community relations program are as follows:

Strategy1: Maintain open lines of communication with the surrounding communities on environmental issues.

Objective 1A: Facilitate two-way communication among the surrounding communities and IAAAP on environmental issues. All written materials will emphasize the various avenues for community members to easily receive information, have questions answered, or convey comments. Since the survey found that 70% of the respondents thought the newspaper is the most effective medium for communication, information will consistently be sent to the local newspapers. Technical information will be explained as clearly and concisely as possible to increase the public's understanding of the Army's Installation Restoration Program (IRP), the Federal Superfund Program, and IAAAP's IRP. Organized opportunities for the public to comment on IAAAP's presentation materials, programs and/or events will be publicized. Community input and inquiry are encouraged at any time via telephone, written correspondence, or visits to IAAAP. Efforts to maintain open two-way communications are part of the IAAAP plan to make the surrounding communities active partners with IAAAP in the restoration process. In addition, IAAAP has an active Restoration Advisory Board (RAB). This board is a citizen-based advisory group that provides the input that the installation needs for community-based decision-making and is responsive to community needs and concerns. The RAB is also charged with the responsibility of passing information about environmental restoration on to the community it represents.

Objective 1B: Maintain communication with local officials and environmental interest groups. Members of local governments are valuable contacts for both the citizens of Des Moines County and IAAAP. The cooperation between local officials and IAAAP is necessary to ensure a harmonious working relationship and a reliable flow of information. Local officials will be on the environmental mailing list, invited to RAB meetings, and open houses, and will be given information/tours upon request. Because protecting the health and the environment of the surrounding communities is a priority expressed by most citizens during community interviews, the IAAAP will communicate regularly with environmental interest group representatives interested in protecting the community.

Objective 1C: Provide information to surrounding communities about potential impacts on human health or the environment. IAAAP will inform the surrounding communities of public health issues and environmental issues when information becomes available through field investigation or other processes. Efforts will be coordinated with the Iowa Department of Public Health. Information on former Atomic Energy Commission (AEC) operations at IAAAP will be forwarded to the Department of Energy (DOE) because DOE has the primary responsibility for the former AEC sites. IAAAP will provide DOE contact information upon request.

Strategy 2: Inform and educate the surrounding communities and local public officials about environmental restoration activities as they occur.

Objective 2A: Educate the surrounding communities about the Superfund process, the Army's IRP, and IAAAP's IRP. Information will be readily provided on the Superfund process, the Army's IRP and IAAAP's IRP as requested or required. In addition, the surrounding communities will be given information about: a) past remediation/restoration activities and the reasoning behind finishing or closing IRP sites including maps, schedules and the results of tests; b) the investigation and restoration of each of the IRP sites; and c) how all of these activities fit into IAAAP's overall restoration effort. This will include enough detail that citizens do not develop unreasonable expectations about the timing or scope of restoration plans.

Strategy 3: Solicit input from the surrounding communities for the development of appropriate environmental restoration efforts.

Objective 3A: Provide a forum for citizens' input into IRP activities at the installation.

Community input and participation is an important aspect of successful site restoration. IAAAP's RAB is a citizen – based advisory group that provides the input to the installation for community – based decision making that will be responsive to community needs and concerns. The RAB is also charged with the responsibility of passing information about environmental restoration to the community it represents. Progress reports on corrective action processes and technical support to the RAB are key factors in promoting informed and valuable reviews and comments from this group. The May/June 2000 survey found that 90% of the respondents were aware of the restoration work at IAAAP and 89% were aware of the existence of the RAB. RAB meetings are open to the public and a public comment/question period is on each agenda.

6.2 COMMUNITY INVOLVEMENT ACTIVITIES

The activities described below are designed to address the community issues summarized in Section 5.0 and to meet the community relations' objectives discussed in Section 6.2 above. Following each activity are the specific required objectives.

6.2.1 Activities

Designate a central contact person at IAAAP. The IAAAP Commander has designated the Administrative Officer (see Appendix F) as IAAAP's contact person. He is responsible for preparing accurate, consistent, and timely responses to questions from citizens, civic leaders, and local officials and for coordinating non-routine responses with the Commander. He is also responsible for implementing this Community Relations Plan Update. Providing a central contact person who represents IAAAP allows concerned citizens and official's access to an installation official for site inquiries and concerns. It further allows the installation to address promptly any community concerns as they arise, resulting in direct communication that enhances opportunities for community input into the restoration process. (Objectives 1A, 1B, 1C, 2A)

Maintain an information repository. IAAAP has established three information repositories to enable the community to have access to information regarding installation and IRP activities and to stay informed of findings at the sites. Documents such as work plans, technical reports, proposed remediation plans, site fact sheets, updates, along with RAB and other public meeting minutes are located in each repository. Appendix G provides addresses and telephone numbers for each repository. (Objectives 1B, 1C, 2A).

Maintain a mailing list of individuals and organizations interested in receiving information about IAAAP. A list of local residents and officials, and also other individuals, community groups, or government officials interested in IRP activities will be maintained by the IAAAP. The Army actively solicits additions to the mailing list at public meetings and will add those who call IAAAP with questions. Contacts on the mailing list receive copies of the installation's newsletter, fact sheets, and other information updates as they develop. The mailing list is updated

continually throughout the restoration process. Anyone who wishes to be added to the list should contact the Administrative Officer at IAAAP (see Appendix F). (Objectives 1B, 1C, 2A).

Conduct community interviews/informal discussions as necessary. IAAAP will interview volunteers or conduct surveys periodically in order to stay informed about changing community perceptions, needs, and concerns and to update this CRP. Interviewees/survey recipients may be identified at public meetings or by telephone, mail contact, or word-of-mouth. The confidential interviews/surveys will be used to develop presentation materials and programs, to evaluate the effectiveness of IAAAP's community relations program (and this CRP update), and to provide information for future revisions of the CRP. (Objectives 1A, 1B, 2A, 3A)

Support the IAAAP Restoration Advisory Board (RAB). An active RAB exists at IAAAP and is comprised of an IAAAP co-chair, a community co-chair, representatives of the Iowa Department of Natural Resources (IDNR), the Iowa Department of Public Health (IDPH), the Environmental Protection Agency (EPA), and interested community members. The RAB was formed using Department of Defense RAB Guidelines and community input, and will recruit new members periodically to ensure a diverse community representation; recruitment will be monitored by the installation commander. RAB meetings are open to the community and will be announced in a timely manner to the public through local newspapers. The RAB functions in an advisory capacity to IAAAP, who provides financial, administrative and leadership support (Army Co-Chair) to the RAB. (Objectives 1A, 1B, 2A)

Provide clear and accurate information about site boundaries. The approximate locations of IAAAP's IRP sites are shown in Figure 1. More exact boundaries and/or changes may be shown in fact sheets and technical documents dealing with individual sites that will be available on the website and at the information repositories. In addition, a large viewing map may be generated and placed on display at public meetings. (Objectives 1A, 1B, 2A)

Send news releases to local media. To ensure that the general public receives the results of site activities, notification of upcoming meetings and public comment period, and other site-related information, IAAAP may send news releases or public notices (as appropriate) to newspapers, radio and television stations servicing the area. News releases and/or public notices will be issued at the completion of significant technical and non-technical milestones to individuals on the facility mailing list and members of the news media. News releases will also be posted on the website and sent to the members of the RAB. (Objectives 1A, 1B, 1C, 2A)

Conduct tours of the installation. Tours of the installation are available through the Administrative Officer to private citizens and public groups as requested. Handouts and other visual aids may be included as part of a tour. Open houses, which includes tours of restoration sites, are held once a year, usually around Earth Day in May. (Objectives 1A, 1B, 1C, 2, 3)

Distribute a newsletter on installation activities. IAAAP currently publishes The Eye newsletter. The newsletter summarizes, in non-technical language, activities pertaining to IAAAP environmental restoration. It may include information regarding the current status of all IRP sites, articles on such activities as the start or completion of field work, interim actions, remediation, the submittal of draft and final documents to regulatory agencies, summaries of

sampling and test results, health risk information and results, RAB meetings, announcements of upcoming public meetings, and new materials in the information repositories. The newsletter, published several times annually, is sent to all individuals on IAAAP's mailing list, is available at public meetings, and is posted on the IAAAP RAB Website. (Objectives 1A, 1B, 1C, 2)

Revise this Community Relations Plan Update. IAAAP will revise this CRP update periodically to reflect significant changes in the level and nature of community concerns during IRP environmental restoration activities. Revisions will evaluate the effectiveness of previous community relations activities for IAAAP based on consultations with the RAB. It will also include input from ongoing community interviews/surveys, and will propose additional or modified activities, if necessary. The nature, extent, and frequency of CRP revisions will be determined by IAAAP. (Objectives 3, 1A, 1B)

Provide clear and accurate information about the location and boundaries of each IRP site. Because of the confirmed off-site migration of contamination and the presence of civilians at IAAAP, all written and graphic materials will make clear where each IRP site is located. More exact boundaries and/or changes may be shown in fact sheets and technical documents dealing with individual sites that will be available on the website and at the information repositories. In addition, a large viewing map may be generated and placed on display at public meetings.

IAAAP will inform the surrounding communities of the schedule for conducting field investigations and other activities that involve the mobilization of workers and equipment in advance of the beginning of those activities. This advance notice will ensure that people are not surprised by the presence of field personnel and can help IAAAP anticipate increases in public interest that may occur when on-site activities occur.

Provide residents with timely follow-up explanations of sampling and test results. Concise and easily understood information will be made available to the surrounding communities on the outcome of technical activities. On the rare occasions when information cannot be released to the public (i.e., due to government classifications), a clear and simple explanation as to why information cannot be released should be provided.

Provide information on Technical Assistance for Public Participation (TAPP) and Technical Assistance Grants (TAGs). IAAAP will provide information on TAPPs and TAGs to any interested party. The Army TAPP program provides community members of the RABs independent support through the use of government purchase orders. These members may apply to the Installation Commander for independent assistance in interpreting scientific and engineering issues with regard to the nature of environmental hazards and restoration activities at the installation. The EPA's TAG program enables groups of interested citizens to obtain assistance in interpreting and understanding data generated during the remedial process. TAGs provide up to \$50,000 to community groups wishing to hire consultants to interpret sampling results, reports and other documents. The group must match Twenty percent of the requested funding amount. The matching funds may come from cash or in-kind contributions and originate from any non-federal source. TAGs cannot be used to duplicate field or laboratory work. They can only be used to understand or interpret existing documents and activities conducted at the site. The EPA must be contacted for TAGs. It is not an Army program. (Objectives 2, 3)

6.2.2 REGULATORY TECHNICAL MILESTONES

The following activities will be implemented by IAAAP to the extent possible, as required or relevant, to assist the community in understanding IAAAP's environmental restoration program activities. The milestones and associated activities are listed in the order the milestones are likely to occur.

Provide opportunities for the public to review Feasibility Studies (FS) and develop and distribute information about the remediation plan upon the completion of a Draft Feasibility Study. IAAAP will publish a public notice announcing the availability of the documents in the information repositories and will include a brief summary of the proposed plan. The notice must also announce a public comment period of at least 30 days.

Hold a public information meeting to discuss the FS/Proposed Plan. A public meeting will give community members an opportunity to participate in the progress of corrective measures. The public notice will be published in the IAAAP The Eye newsletter and in local newspapers announcing any public meeting to discuss the FS. The public meeting would present the proposed alternatives for remediating the site and the Army's preferred plan for addressing site restoration. This meeting will also serve as an opportunity for citizens to discuss their concerns on the proposed alternatives with facility personnel. Meeting proceedings will be transcribed and placed in the information repositories. Other meetings, workshops, and/or open houses may be held as needed. Suggested locations for public meetings are listed in Appendix H.

Announce the closure of an IRP site. When the corrective action program for an IRP site is completed and approved by the regulatory agencies, IAAAP will announce the IRP site's closed or finished status either through a fact sheet, The Eye newsletter, and/or in a news release sent to the local media. Closure of an IRP site may require a permit modification, and the community involvement activities described previously for that activity would be followed.

APPENDIX A

List of Acronyms and Glossary

AMC	Army Materiel Command
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act 1980
CRP	Community Relations Plan COC contaminant of concern
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DoD	Department of Defense
EPA	Environmental Protection Agency
FS	Feasibility Study
FFA	Federal Facilities Agreement
FWMP	Fish and Wildlife Management Plan
GOCO	Government-Owned, Contractor-Operated
HAL	Health Advisory Levels
HSWA	Hazardous and Solid Waste Amendments of 1984
IRA	Interim Remedial Action
IRP	Installation Restoration Program
ISS	Installation Services Support
ISV	In-site volatilization
NTC	Non – Time Critical
NCP	National Contingency Plan
NPL	National Priorities List
OSC	Operations Support Command
OU	Operating Units
PA	Preliminary Assessment
PP	Proposed Plan
RA	Remedial Action
RD	Remedial Design
RPM	Remedial Project Manager
RAB	Restoration Advisory Board
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act of 1986
SI	Site Investigation
SWMU	Solid Waste Management Unit
TNT	Trinitrotoluene
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Center
VOC	Volatile Organic Compound

GLOSSARY

Administrative Record – All documents containing information that the government uses to select response actions, and to impose administrative sanctions for violations of CERCLA and Title III of SARA, the Emergency Planning and Community Right-to Know Act. This paper trail includes correspondence, the RI/FS, the Record of Decision, and public comments. This public record includes documents of a final nature that are primary and secondary to the Federal Facilities Agreement.

Aquifer – An underground geologic formation or group of formations composed of materials such as sand, soil, or gravel that can store and supply usable amounts of groundwater to supply wells and springs. Most aquifers used in the United States are within a thousand feet of the earth's surface.

Biotic receptor – Any organism that will take materials into its system.

Cleanup – Actions taken to deal with a release or threatened release of hazardous substances that could affect public health or the environment. The term is often used broadly to describe various response actions of phases or removal or remedial responses.

Comment Period – A time period for the public to review and comment on various documents and actions.

Community Relations Plan (CRP) – Formal plan for community relations activities at a facility. The CRP is designed to ensure opportunities for community involvement at the facility, determine activities that will provide for such involvement, and allow citizens the opportunity to be informed and educated about the facility.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) – This federal legislation of 1980, which addresses contamination from past disposal activities, established a federal program to finance the cleanup of contaminated waste sites, to set guidelines for cleaning the sites, and to establish a system of legal responsibility for site cleanup. CERCLA is commonly known as Superfund.

Defense Environmental Restoration Account (DERA) – A transfer account, established by the Defense Appropriation Act of 1984, that funds the Installation Restoration Program for active installations and the Formerly Used Defense Sites Program for formerly owned or used installations. The account also funds the other goals of the Defense Environmental Restoration Program. Currently known as ER, A

Defense Environmental Restoration Program (DERP) – Provides centralized program management for the cleanup of DoD hazardous waste sites consistent with the provisions of CERCLA. The goals of the program are: (1) the identification, investigation, research and development and cleanup of contamination from hazardous substances, pollutants and contaminants; (2) correction of other environmental damage which creates an imminent and

substantial endangerment to the public health, welfare or to the environment; and (3) demolition and removal of unsafe buildings and structures.

Endangered Species – Those wildlife and plant species that have been determined by the U.S. Fish and Wildlife Service or state Agency to be endangered or threatened.

Environmental Cleanup – Environmental cleanup is a general term used to refer to environmental site investigation and cleanup.

Environmental Restoration – Environmental restoration is used to describe activities such as site investigation, cleanup, and remedial action leading to the restoration of a facility to its original state or condition prior to facility activities.

Environmental Restoration, Army (ER, A) – The Army established support funds for Installation Restoration Program. These funds are intended to assist installations in meeting environmental clean up requirements. Formerly known as DERA.

Explosives – Any substance or article, including a device, which is designed to function by explosion (i.e., extremely rapid release of gas and heat) or which, by chemical reaction within itself, is able to function in a similar manner.

Explosives – Related Compounds – Any compounds that are either used in the manufacture of explosives or compounds that become by-products or degradation products as the result of the manufacture or destruction of explosives.

Facility (as stated in CERCLA) – Any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, aircraft or any site or area where a hazardous substance has been deposited, stored, disposed of, placed or otherwise come to be located; but does not include any consumer product in consumer use or any vessel.

Feasibility Study – This study develops and evaluates final cleanup actions based on data collected during the RI.

Federal Facility Agreement – An agreement between the EPA and the federal facility, which defines how the cleanup of the facility will be administered and managed.

Geophysical Survey – The intent of a geophysical survey is to provide high resolution mapping of shallow (upper 10 to 15 feet) buried material, lagoons, and trenches that were used to dispose of wastes and other contamination anomalies. A geophysical survey is usually conducted in a grid arrangement or linear profile over the selected site area.

Groundwater – Water found beneath the earth's surface that fills pores between materials such as sand, soil, or gravel. In aquifers, groundwater occurs in sufficient quantities that it can be used for drinking water, irrigation, and other purposes.

Hazard Ranking System (HRS) –The method EPA uses to determine which sites should be listed on the National Priorities List (NPL) under CERCLA. The HRS ranks sites by means of a mathematical rating system that combines the potential to release, with the severity/magnitude of the potential impacts, and the number of people who may be affected. Using the scores, EPA and the states list sites by priority and allocate resources for site investigation, enforcement, and cleanup. Sites with the highest scores appear on the NPL.

Hazardous Substance –Any material that poses a threat to public health and/or the environment. Typical hazardous substances are materials that are toxic, corrosive, ignitable, explosive, or chemically reactive.

Hazardous Waste – Any solid waste, or a combination of solid wastes, which because of its quantity, concentration, physical, chemical, or infectious characteristics may cause, or significantly contribute irreversible, or incapacitating reversible, illness that pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Information Repository – A file and/or location containing current information, technical reports, reference documents and other materials pertaining to investigation of a facility .The information repository is typically located in a public building that is convenient and easily accessed by local residents, such as a public school, city hall, or library.

Installation –All contiguous property under the control of the Iowa Army Ammunition Plant.

Installation Restoration Program (IRP) –The IRP is an environmental cleanup program for military installations. It was created by the U.S. Department of Defense in 1975. This program focuses on the cleanup of contamination from past activities. It includes research, development, and demonstration of innovative and cost-effective site cleanup technologies.

Interagency Agreement –See Federal Facility Agreement.

Interim Measure –Cleanup or control measure implemented when there is an immediate threat to human health and the environment.

Maximum Contaminant Level (MCL) –The maximum permissible level of a contaminant in water, which is delivered to any user of a regulated water system.

Media of Concern –That part of the environment affected by a release, including groundwater, surface water, soil, soil gas and ambient air.

Metals –Elements or compounds, which may be reactive, leachable, and toxic.

National Contingency Plan (NCP) –The basic policy directive for federal response actions under CERCLA. It sets forth the Hazard Ranking System and procedures and standards for responding to releases of hazardous substances, pollutants, or contaminants. The plan is subject to regular revision.

National Priorities List (NPL) –A list of site designated as needing long-term environmental cleanup. The purpose of the list is to inform the public of the most serious hazardous waste sites in the nation. EPA revises the list periodically to add new sites or to delete sites following cleanup.

Parts Per Billion (ppb) –An expression of concentration representing the volume of a solid or liquid contained in a larger volume of another solid or liquid. Equivalent terms are micrograms per kilogram (ug/kg) and micrograms per liter (ug/l). An example: one drop of liquid in an adult-size swimming pool.

Parts Per Million (ppm) –An expression of concentration representing the volume of a solid or liquid contained in a larger volume of another solid or liquid. Equivalent terms are milligrams per kilogram (mg/kg) and milligrams per liter (mg/l). An example: one drop of liquid in a child-size wading pool.

Point of Exposure – The location in the environment at which contact is made between a receptor and a hazardous constituent.

Preliminary Assessment (PA) – The process of collecting and reviewing available information about a known or suspected waste site or release.

Propellants – Explosive composition used for propelling projectiles and to generate gases for powering auxiliary devices.

Proposed Plan (PP) – A document prepared in conjunction with the FS to provide the public with detailed information about the recommended choice for clean up action.

Receptor Populations –Those human populations and environmental systems (wildlife and plants) that could potentially be exposed to hazardous constituents emanating from a solid waste management unit.

Record of Decision (ROD) –The ROD identifies the remedial alternative chosen for implementation at a Superfund site. The ROD is published by the government after completion of the RI/FS.

Regulatory Compliance Values – Any values or standards that have been promulgated by government agencies including federal, state, city, etc., that establish emission, discharge, disposal, treatment or cleanup levels for compounds and characteristics of air, water, and solid materials.

Release – The spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of hazardous wastes or constituents into the environment (including the abandonment or discarding of barrels, containers, or other closed receptacles/ Q containing hazardous wastes or hazardous constituents).

Remedial Action (RA) –The RA involves the construction, operation, and implementation of the final cleanup remedy. Long-term RAs require continued monitoring, operation, and maintenance for a number of years.

Remedial Design (RD) – An RD involves the actual design of the selected cleanup remedy. It includes development of engineering drawings and specifications for site cleanup.

Remedial Investigation (RI) – An RI is an extensive field investigation. Its purpose is to characterize the nature and extent of contamination at a site. The RI also assesses the risks posed by on-site contamination to human health and the environment.

Remediation – Actions consistent with permanent remedy taken instead of, or in addition to, removal actions in the event of a release or threatened release of a hazardous substance into the environment. Remedial actions prevent or minimize the release of hazardous substances so that they do not migrate to cause substantial danger to present or future public health or welfare, or the environment. This is the process of reducing and/or eliminating contamination from media (soil, surface water, groundwater, air).

Restoration Advisory Board (RAB) – A citizen-based committee made up of community citizens, a community co-chair, Army representatives, an Army co-chair, and representatives of the EPA, IDNR and IDPH. The purpose of the group is to "enable the early and continued flow of information between the affected community, DoD, and environmental oversight agencies." The RAB ensures that "all stakeholders have a voice and can actively participate in a timely and thorough manner in the review of restoration documents and activities." (DoD/EPA RAB Implementation Guidelines).

Route of Exposure – The pathway(s) by which a hazardous constituent travels from its initial release, through the environmental media (groundwater, surface water, soil, soil gas and ambient air) to a receptor population.

Semi-Volatile Organic Compounds (SVOCs) – Compounds that do not have the tendency to volatilize as readily as VOCs.

Site Investigation (SI) – Documented site visited conducted after the Preliminary Assessment to gather specific information to determine whether further investigation is warranted.

Soil Vapor – A gas released from the degradation of a contaminant found in soil or groundwater. Also known as soil gas.

Solid Waste Management Units (SWMUs) – Any discernible unit which has been used for the treatment, storage, or disposal of solid waste at any time, irrespective of whether the unit is or ever was intended for the management of solid or hazardous waste, also any discernible unit at which solid wastes have been placed at any time. Such units include any areas at a facility at which solid wastes have been routinely and systematically released.

Superfund Amendments and Reauthorization Act (SARA) – This legislation of 1986 reauthorized and significantly strengthened CERCLA.

U.S. Environmental Protection Agency (EPA) – The federal agency charged with responsibility for administering and enforcing the nation's environmental laws.

Volatile Organic Compounds (VOCs) – VOCs are a group of chemicals that have a tendency to evaporate when exposed to air. Due to this tendency, VOCs disappear more rapidly from surface water than groundwater. Since groundwater does not usually come in contact with air, VOCs can be present in groundwater for many years.

APPENDIX B

ENVIRONMENTAL PROGRAM UPDATE

See the 1991 CRP for a detailed history of the installation (Section 1.2) and of the environmental studies up until 1991 (Section 1.3).

The primary environmental concern at IAAAP is the contamination attributable to past operating practices. Explosives-contaminated wastewater and sludge was discharged in uncontrolled, on-site lagoons and impoundments.

The Army has conducted numerous investigations at the site from 1980 to the present, and the FFA was signed in 1990. Then a Preliminary Assessment (PA) and Site Investigation (SI) were conducted to identify areas of potential contamination; this resulted in the finding 43 areas of known or suspected contamination. In August 1991, an SI was conducted for each of the 43 areas. Limited soil, sediment, groundwater, and surface water sampling was conducted in an effort to determine whether chemical constituents were present, at levels of concern, at suspected source areas and in associated migration pathways. The data obtained during the PA/SIs was used to supplement previous information and to develop the list of areas to be investigated within Remedial Investigation (RI). The presence of chemical constituents above the analytical reporting limits indicated a need for further evaluation.

The Army conducted Phase 1 of RI from July through November 1992. The investigation included: an expanded characterization of the background levels of metals in soils; a soil gas sampling effort in order to discern the extent of contamination by volatile organic compounds (VOCs); base-wide surface water and sediment sampling; base-wide groundwater sampling; installation of temporary groundwater monitoring wells (piezometers); off-post residential well sampling; field screening for metals and explosives in soils; and fixed laboratory analyses of approximately 20 percent of the field screening samples collected and analyzed. The results of the off-post-residential well sampling effort indicated the presence of explosives in excess of EPA health advisory levels (HAL) in five of the wells sampled. Contaminated wells were located southwest of the site near the town of Augusta, and off-site in the Brush Creek watershed. As an interim action, the Army provided affected residences with bottled water. They then contracted with the local public water supply company to have the potential impacted residences located south of the IAAAP boundary connected to the rural water supply district.

Results of the Phase I RI were used to refine the soil and groundwater investigation in the Phase II, which commenced in April 1993. During the Phase II RI, 13 soil borings were advanced to depths of approximately 15 feet below the ground surface to obtain additional information on their subsurface conditions. A total of 80 groundwater-monitoring wells were placed at the site during the RI. During the placement of each well, soil samples were obtained at the soil/groundwater interface and submitted for fixed laboratory analysis. Following the placement of the monitoring wells, each well was sampled for chemical constituents indicated by the previous data and knowledge of the past operational and waste handling practices of each site.

The Army submitted the Draft RI Report, with data from the Phase I and Phase II RI, in 1993 to the EPA for review and comment. It was subsequently determined that the collection of additional data was necessary to complete the site characterization. The Follow – On Sampling field effort was conducted in April through August 1995. The purpose was to obtain additional data to characterize the nature and extent of the on-site contamination. This field effort consisted of: the placement of 28 additional soil borings and 26 groundwater monitoring wells; soil sample collections adjacent to previously ensampled wastewater sumps; shallow soil samplings to verify the positive results from the soil gas sampling during Phase I of RI, and the collection of stream gauging data and shallow groundwater levels to characterize the hydraulic connection between surface water and shallow groundwater. Following the additional field sampling effort, the Draft Final RI Report was submitted in November 1995. The Army received and incorporated comments from EPA. The Revised Draft-Final RI Report, dated May 21, 1996, was accepted as final in accordance with the FFA.

Due to the complexity of the environmental problems at IAAAP, the site was divided into the Operating Units (OUs) to facilitate project management. These are:

1. Soils OU (#1) – addressing the contamination in the soils.
2. Groundwater OU (#3) – addressing the contamination of groundwater both within the boundaries of IAAAP and off-site.
3. Installation-wide OU (#4) – addressing the closure of the CAMU, institutional controls, previously non - addressed areas of soil contamination, VOC-contaminated media, and ecological risks.

OU#2 was originally established for the Non-Time Critical (NTC) soils removal action, but was subsequently merged into OU#1 for simplicity and completeness.

The actions and studies being completed to address groundwater contamination (OU#3) are: the Supplemental Remedial Investigation data for Line 800 Pinkwater Lagoon; the Off Site Groundwater Investigation; the Contaminant Source Assessment; and an Ecological Risk Assessment Addendum. Long term groundwater monitoring continues on a semiannual basis.

Based on the data collected at the site, the Army has initiated non-time critical (NTC) removal actions at IAAAP to address soil contamination, including: the Pesticide Pit, the Explosives-Contaminated Sumps, the former Fire Training Pit, the Inert Landfill, the Line 1 impoundment, the Line 800 Pink Water Lagoon, the North Burn Pads, the North Burn Pads Landfill, the East Burn Pads, and part of Line 5A/5B. These removal actions were completed between 1994 and 2000.

Approximately 150 cubic yards of pesticides-contaminated soils were excavated in the spring of 1995 from the former Pesticide Disposal Pit and disposed of at an approved off-site waste disposal facility.

Explosives – contaminated soils associated with over 50-abandoned wastewater sumps also were excavated in the spring of 1995. These contaminated soils were temporarily stored in a lined

stockpile near the Inert Landfill at IAAAP and were moved to the Soil Repository for permanent disposal in the spring of 1997.

An NTC removal action to address as estimated 1,000 cubic yards of soils contaminated with VOCs from the various fuel and solvent sources at the former Fire Training Pit was completed in 1997. The Army used Low Temperature Thermal Desorption and soil vapor extraction to complete this cleanup.

In the fall of 1996, the Army began activities to construct a low permeability cover on the 17-acre Inert Landfill site. The cover consisted of a genet drainage layer and a low permeability geomembrane with an appropriate vegetative cover. The liners prevent infiltration of precipitation into the landfill material and the subsequent transport of contaminants from wastes to groundwater. Industrial and municipal-type wastes had been disposed in the Inert Landfill by the Army prior to the advent of current-day waste management regulations. The migration of contaminants leaching from these wastes to the groundwater represents a continuous source of contamination that will be mitigated by the construction of the cover.

The Line 1 impoundment and line 800 pink Water Lagoon are considered to be the greatest sources of explosive contamination at IAAAP. As part of the NTC removal actions, soils have been sampled, analyzed, and segregated according to the risk or contaminant level detected. Depending on the concentration of explosives in the excavated soils, the soils have been place in one of three areas: in the Soil Repository constructed adjacent to the Inert Landfill; in the designated Corrective Action Management Unit (CAMU), also adjacent to the Inert Landfill; or beneath the cap at the Inert Landfill as random fill to achieve final grade. Contaminated soils at the Line 1 Impoundment and the Line 800 Pink Water Lagoon were excavated and segregated in August of 1997. Site restoration activities were completed in early 1998.

In addition to those areas where NTC removal actions have been undertaken, the Army has identified 15 additional areas were soils are containing chemical constituents at concentrations greater than the cleanup goals for the site. The evaluation of potential remedial alternatives and the identification of a preferred alternative to address these areas have been addressed in the final Soil Record of Decision (ROD) dated August 1998. A listing of the areas proposed for cleanup within the scope of the soils OU interim remedial action and their respective contaminant types is presented at Table 1.

In 1999, the Agency for Toxic Substances and Disease Registry issued their Public Health Assessment for IAAAP. They concluded that the groundwater contamination from IAAAP poses no public health hazards because: 1) contaminant concentrations were too low; 2) past exposure to the general public was extremely limited; and/or 3) interim actions have minimized or prevented exposures.

Iowa AAP IRP Schedule

(Based on current funding constraints)

		Completed Phase			Underway Phase		Future Phase	
		FY00	FY01	FY02	FY03	FY04	FY05	FY06+
IAAP-001	RI/FS							
	IRA							
	RD							
	RA							
	LTM							
IAAP-002	RI/FS							
	RD							
	RA							
	RA(O)							
	IRA							
	LTM							
IAAP-003	RI/FS							
	RD							
	RA							
	RA(O)							
	IRA							
	LTM							
IAAP-004	RI/FS							
	RD							
	RA							
	IRA							
	LTM							
IAAP-005	IRA							
	LTM							
IAAP-006	RI/FS							
	RD							
	RA							
	IRA							
	LTM							
IAAP-007	IRA							
IAAP-009	IRA							
IAAP-010	RI/FS							
	RD							
	RA							
	RA(O)							
	IRA							
	LTM							
IAAP-011	RD							
	RA							
	IRA							
IAAP-012	RA							
	RA(O)							
	LTM							

Table 2

Iowa AAP IRP Schedule

(Based on current funding constraints)

		Completed Phase			Future Phase			
		FY00	FY01	- FY02	FY03	FY04	FY05	FY06+
IAAP-015	RI/FS							
IAAP-016	RI/FS							
	RD							
	RA							
	RA(O)							
	LTM							
IAAP-019	IRA							
IAAP-020	RI/FS							
	RD							
	RA							
	RA(O)							
	IRA							
	LTM							
IAAP-021	IRA							
IAAP-029	RI/FS							
IAAP-030	IRA							
IAAP-032	RI/FS							
	RD							
	RA							
	IRA							
	LTM							
IAAP-036	LTM							
IAAP-037	LTM							
IAAP-039	RI/FS							
	RD							
	RA							
	RA(O)							
	LTM							
IAAP-040	IRA							
IAAP-044	RI/FS							
	RD							
	RA							
	RA(O)							
	LTM							
IAAP-045	LTM							

Table 2

TABLE 1
Contaminants by volume in cubic yards

Site	Metals	Explosives	Metals/ Explosives	SVOCs	Radio-nuclides	Explosives/ SVOCs	PCBs	TOTAL
Line 1 (R01)	219	4,853	1,486	587	266			7,411
Line 2 (R02)	885	769	294					1,948
Line 3 (R03)	546	1,884	835		119	109		3,493
Line 3A (R04)		1,352	684					2,036
Lines 4A & 4B (R05)	153							153
Lines 5A & 5B (R06)	80	626	25					731
Line 6 (R07)	445							445
Line 8 (R09)	476							476
Line 9 (R10)	469							469
Line 800 (R11)	117	1,208						1,325
EDA/East Burn Pads (R12)		21,411						21,411
Demolition Area	753							753
Burn Cages/ West Burn Pads Area (R24)	423	339	689					1,451
North Burn Pads (R25)	41							41
Roundhouse Transformer Storage Area (R28)							599	599
TOTAL	4,607	32,442	4,013	587	385	109	599	42,742

Volumes are in cubic yards

PREVIOUS STUDIES/ACTION DOCUMENTS AT IAAAF

1. U.S. Army Medical Research & Development Command, Aquatic Field Survey, Iowa Army Ammunition Plant, November 1976, Washington, D.C.
2. U.S. Army Toxic & Hazardous Materials Agency, Installation Assessment of Iowa Army Ammunition Plant, Report No. 127, January 1980, Aberdeen Proving Ground, Maryland.
3. U.S. Army Toxic & Hazardous Materials Agency, Aerial Color Infrared Photography Interpretation, Iowa Army Ammunition Plant, September 1979, Aberdeen Proving Ground, Maryland.
4. U.S. Army Toxic & Hazardous Materials Agency, Contamination Survey, Iowa Army Ammunition Plant, July 1982, Aberdeen Proving Ground, Maryland.
5. U.S. Army Corps of Engineers, Underground Pollution Investigation at Iowa Army Ammunition Plant, September 1981, Omaha, Nebraska.
6. U.S. Army Toxic & Hazardous Materials Agency, Follow-On Study of Environmental Contamination at the Iowa Army Ammunition Plant, August 1984, Aberdeen Proving Ground, Maryland.
7. U.S. Army Toxic & Hazardous Materials Agency, Midwest Site Confirmatory Survey Sampling Report for Iowa Army Ammunition Plant, August 1986, Aberdeen Proving Ground, Maryland.
8. U.S. Army Environmental Hygiene Agency, Water Quality Engineering Consultation, Investigation of Groundwater Contamination, Iowa Army Ammunition Plant, September 1985, Aberdeen Proving Ground, Maryland.
9. U.S. Environmental Protection Agency, Region VII, RCRA Facility Assessment of Iowa Army Ammunition Plant, 1986, Kansas City, Kansas.
10. U.S. Army Toxic & Hazardous Materials Agency, Confirmatory Water Sampling, Iowa Army Ammunition Plant, June 1987, Aberdeen Proving Ground, Maryland.
11. U.S. Army Corps of Engineers, Groundwater Quality Assessment, Iowa Army Ammunition Plant, January 1988, Fort Worth, Texas.

Table 3

12. U.S. Army Toxic & Hazardous Materials Agency, Petroleum Leak/Spill Area, Iowa Army Ammunition Plant, March 1990, Aberdeen Proving Ground, Maryland.
13. U.S. Army Toxic & Hazardous Materials Agency, Endangerment Assessment/Feasibility Study of Former Line 1 Impoundment and Line 800 Lagoon, Iowa Army Ammunition Plant, July/August 1989, Aberdeen Proving Ground, Maryland.
14. U.S. Army Toxic & Hazardous Materials Agency, Site Investigation of Iowa Army Ammunition Plant, June 1991, Aberdeen Proving Ground, Maryland.
15. U.S. Army Environmental Center, Accelerated Groundwater Quality Assessment for the Ash Disposal Cell in Trench 5 and Line 6, Iowa Army Ammunition Plant, October 1994, Aberdeen Proving Ground, Maryland.
16. U.S. Army Environmental Center, Letter Report Quarterly Groundwater Monitoring Results for Rounds 6, 7 and 8 Ash Disposal Cell in Trench 5, Iowa Army Ammunition Plant, August 1995, Aberdeen Proving Ground, Maryland.
17. U.S. Army Environmental Center, Revised Draft Final Remedial Investigation Risk Assessment Iowa Army Ammunition Plant (11 Volumes), 21 May 1996, Aberdeen Proving Ground, Maryland.
18. U.S. Army Corps of Engineers, Action Memorandum for the Line 800 Pink Water Lagoon, Former Line 1 Impoundment at the Iowa Army Ammunition Plant, Middletown, IA, October 1996, Omaha, Nebraska
19. Industrial Operations Command, March 1997 Annual Report Semi-Annual Groundwater Monitoring of the Inert Disposal Area, Iowa Army Ammunition Plant, March 1997, Rock Island, Illinois.
20. U.S. Army Corps of Engineers, Engineering Evaluation / Cost Analysis (EE/CA) Study Fire Training Pit Iowa Army Ammunition Plant, Middletown, IA, April 1996, Omaha, Nebraska
21. U.S. Army Environmental Center, Proposed Plan for Interim Action - Soils Operable Unit, May 1997, Aberdeen Proving Ground, Maryland.
22. U.S. Army Environmental Center, Draft Final Soils Focused Feasibility Study, 08 May 1997, Aberdeen Proving Ground, Maryland
23. U.S. Army Corps of Engineers, Action Memorandum for the Inert Landfill at the Iowa Army Ammunition Plant, September 1997, Omaha, Nebraska.

24. U.S. Army Corps of Engineers, Ecological Risk Assessment Addendum Iowa Army Ammunition Plant - Draft Report, October 1997, Omaha, Nebraska.
25. U.S. Army Environmental Center, Draft Final Feasibility Study for Operable Unit 1: Contaminate, 10 November 1997, Aberdeen Proving Ground, Maryland.
26. U.S. Army Corps of Engineers, Draft Environmental Protection Plan Iowa Army Ammunition Plant Focused Feasibility Study Soils Removal, Middletown, IA, 14 November 1997, Omaha, Nebraska.
27. U.S. Army Corps of Engineers, Fire Training Pit - - Iowa Army Ammunition Plant Explanation of Significant Differences & Action Memorandum, December 1997, Omaha, Nebraska.
28. U.S. Army Corps of Engineers, Supplemental Groundwater Remedial Investigation Report, December 1997 Omaha, Nebraska.
29. U.S. Army Corps of Engineers, Groundwater Feasibility Study Report, 23 December 1997, Omaha, Nebraska.
30. U.S. Army Corps of Engineers, U.S. Army Interim Soils Action for Operable Unit #1 Record of Decision, March 1998, Omaha, Nebraska.
31. U.S. Army Corps of Engineers, Draft Soils Feasibility Study Report, 16 March 1998, Omaha, Nebraska.
32. U.S. Army Corps of Engineers, Draft Proposed Plan for Operable Unit #1, 17 March 1998, Omaha, Nebraska.
33. U.S. Army Corps of Engineers, Draft Final Ecological Risk Assessment Addendum, Mar 1998, Omaha Nebraska.
34. U.S. Army Corps of Engineers, Draft ROD Non-Significant Differences, 30 April 1998, Omaha, Nebraska.
35. U.S. Army Corps of Engineers, Draft Final Proposed Plan for Operable Unit #1, 4 May 1998, Omaha, Nebraska.
36. U.S. Army Corps of Engineers, Draft Final Soils Feasibility Study Report, 18 May 1998, Omaha, Nebraska.
37. U.S. Army Corps of Engineers, Superfund Proposed Plan for OU#1, 17 June 1998, Omaha, Nebraska.

38. U.S. Army Corps of Engineers, Final Soils Feasibility Study Report, 19 June 1998, Omaha, Nebraska.
39. U.S. Army Corps of Engineers, Draft Record of Decision Soils OU#1, 10 July 1998, Omaha, Nebraska.
40. U.S. Army Corps of Engineers, Draft Interim Groundwater Study Report, 4 August 1998, Omaha, Nebraska.
41. U.S. Army Corps of Engineers, Final Record of Decision Soils OU#1,

August 1998 (signed by EPA Sep 98), Omaha, Nebraska.

42. U.S. Army Corps of Engineers, Demonstration Test Plan for Low Temperature Thermal Desorption of Explosive Soils, 6 November 1998, Omaha, Nebraska
43. U.S. Army Corps of Engineers, Draft Demonstration Test Summary of Results: LTDD of Explosive Contaminated Soils, 17 December 1998, Omaha, Nebraska.
44. U.S. Army Corps of Engineers, Summary Report Pre-Design Excavation Delineation at 5A/5B, Roundhouse RDX Site, IDA Storage Yard, Burning Grounds, December 1998, Omaha, Nebraska.
45. U.S. Army Corps of Engineers, Draft Final Report for Multiple Removal Actions, 11 January 1999, Omaha, Nebraska.
46. Iowa Army Ammunition Plant, Independent Technical Review Questionnaire Response, 28 January 1999, Middletown, IA.
47. U.S. Army Corps of Engineers, Supplemental Groundwater Remedial Investigation Report Line 800/Pink Water Lagoon – Analytical Data Report, March 1999, Omaha, Nebraska
48. U.S. Army Corps of Engineers, DRAFT Monitoring Well Management Plan, 15 April 1999, Omaha, Nebraska.
49. U.S. Army Environmental Center, Independent Technical Review Draft Recommendations Report, 3 May 1999, Aberdeen Proving Ground, Maryland.
50. HARZA Engineering Co., Recommendations for Additional Remedial Investigation Line 800/ Pink Water Lagoon, 10 May 1999, Chicago, Illinois
51. U.S. Army Corps of Engineers, Omaha, Nebraska, Technical Memorandum, Supplemental Investigation, Off-Site Groundwater, Surface Water & Sediment, HARZA Engineering Co., 25 January 2000
52. Operations Support Command, Rock Island, IL, RBCA Tier II Report (Revised), American Ordnance/Trileaf, February 2000
53. U.S. Army Corps of Engineers, Omaha, Nebraska, Well Completion Report, Fall 1999 LTM, HARZA Engineering Co., June 2000
54. U.S. Army Corps of Engineers, Omaha, Nebraska, Long Term Monitoring Report, Fall 1999, HARZA Engineering Co., June 2000
55. U.S. Army Corps of Engineers, Omaha, Nebraska, Well Completion Report, HARZA Engineering Co., July 2000
56. U.S. Army Corps of Engineers, Omaha, Nebraska, Final Remedial Action Report, Fire Training Pit, Environmental Chemical Corporation, October 2000
57. U.S. Army Corps of Engineers, Omaha, Nebraska, Final Remedial Action Report, Focused Feasibility Study Sites - Phase 1, Environmental Chemical Corporation, October 2000

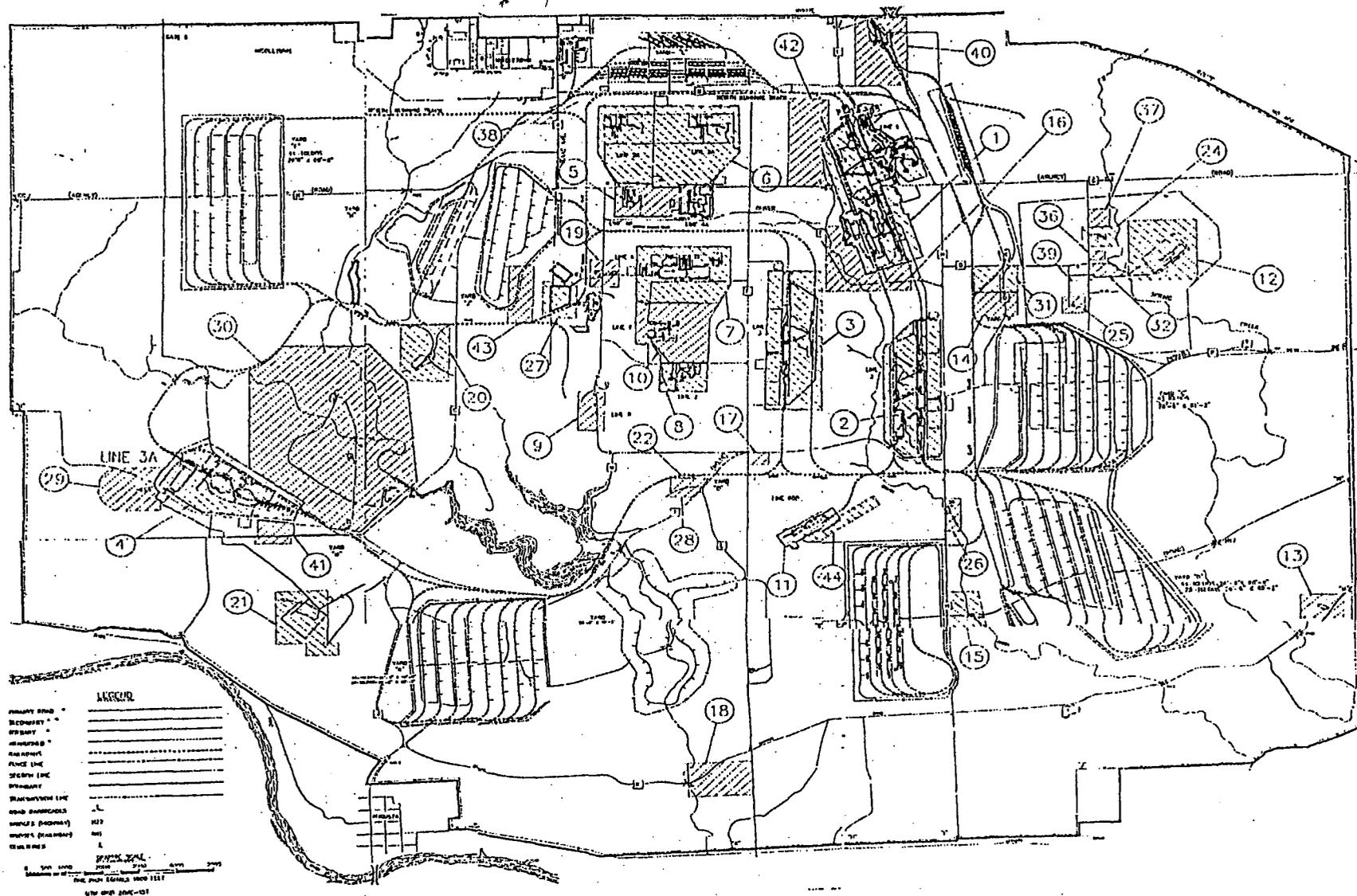


Figure 1

SITE NAME SITE DESCRIPTION

IAAP-001 LINE 1
IAAP-002 LINE 2
IAAP-003 LINE 3
IAAP-004 LINE 3A
IAAP-005 LINE 4A & 4B
IAAP-006 LINE 5A & 5B
IAAP-007 LINE 6
IAAP-008 LINE 7
IAAP-009 LINE 8
IAAP-010 LINE 9
IAAP-011 LINE 800

SITE NAME SITE DESCRIPTION

IAAP-012 EXPLOSIVE DISPOSAL AREA
IAAP-013 INCENDIARY DISPOSAL AREA
IAAP-014 BOXCAR UNLOADING AREA
IAAP-015 OLD FLYASH WASTE PILE
IAAP-016 LINE 1 FORMER WASTEWATER IMPOUNDMENT
IAAP-017 PESTICIDE PIT
IAAP-018 POSSIBLE DEMOLITION SITE
IAAP-019 CONTAMINATED CLOTHING LAUNDRY
IAAP-020 INERT DISPOSAL AREA
IAAP-021 DEMOLITION AREA / DEACTIVATION FURNACE
IAAP-022 UNIDENTIFIED SUBSTANCE (OIL) WASTE SITE

SITE NAME SITE DESCRIPTION

IAAP-024 CONTAMINATED WASTE PROCESSOR
IAAP-025 EXPLOSIVE WASTE INCINERATOR
IAAP-026 SEWAGE TREATMENT PLANT / DRYING BEDS
IAAP-027 FLYASH LANDFILL (BLD. 400-139)
IAAP-028 CONSTRUCTION DEBRIS LANDFILL
IAAP-029 LINE 3A SEWAGE TREATMENT PLANT / DRYING BEDS
IAAP-030 FIRING SITE AREA
IAAP-031 YARD B AMMO BOX CHIPPER DISPOSAL PIT
IAAP-032 BURN CAGES (3) / BURN CAGE LANDFILL
IAAP-036 NORTH BURN PADS (2)
IAAP-037 NORTH BURN PADS LANDFILL

SITE NAME SITE DESCRIPTION

IAAP-038 BUILDING 600-86 SEPTIC SYSTEM
IAAP-039 FIRE TRAINING PIT
IAAP-040 ROUNDHOUSE TRANSFORMER STORAGE AREA
IAAP-041 LINE 3A POND
IAAP-042 ABANDONED COAL STORAGE YARD
IAAP-043 FLY ASH DISPOSAL AREA
IAAP-044 LINE 800 PINKWATER LAGOON

APPENDIX C

ENVIRONMENTAL REGULATIONS

C.1.0 UNDERSTANDING THE ENVIRONMENT RESTORATION PROCESS

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) are the primary Federal laws governing the investigation and cleanup of contaminated sites. U.S. Department of Defense (DOD) installations typically have multiple contaminated sites regulated by CERCLA. The following section provides a brief summary.

C.1.1 CERCLA

CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, establishes a comprehensive framework within which to identify, investigate, and clean up releases of hazardous substances to the environment. CERCLA authorizes the President to take response actions when a release or the threat of a release is discovered. Through Executive Order 12580, signed in January 1987, the President directed the Secretary of Defense to implement investigation and cleanup measures in consultation with the U.S. Environmental Protection Agency (EPA) for releases of hazardous substances from facilities under the jurisdiction of the Secretary. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes EPA's response policy and lays out the key response steps for implementing CERCLA.

DOD refers to the program for meeting its responsibilities under CERCLA as the Installation Restoration Program, or IRP. The IRP is the major element of DOD's environmental restoration program. All DOD installations are included in this program, whether or not they are on the National Priorities List (NPL).

C.1.2 HOW THE PROCESS WORKS

All environmental restoration sites require assessments and investigations to determine the need for cleanup and the selection, design, and implementation of appropriate remedies to ensure protection of human health and the environment. Activities conducted under the environmental restoration program are referred to by the terms investigation, interim action, design, and cleanup. These terms are defined as follows:

- Preliminary Assessment (PA) – The process of collecting and reviewing available information about a known or suspected waste site or release.
- Site Investigation (SI) – Documented site visits conducted after the Preliminary Assessment to gather specific information to determine whether further investigation is warranted

- Remedial Investigation (RI) – An RI is an extensive field investigation. Its purpose is to characterize the nature and extent of contamination a site. The RI Also assesses the risks posed by on – site contamination to human health and the environment.
- Feasibility Study – this study develops and evaluates final cleanup actions based on data collected during the RI.
- Proposed Plan (PP) – A document prepared in conjunction with the FS to provide the public with detailed information about the recommended choice for clean up action.
- Record of Decision (ROD) – Identifies the remedial alternative chosen for implementation at a Superfund site. The ROD is published by the government after completion of the RI/FS.
- Remedial Action (RA) – The RA involves the construction, operation, and implementation of the final cleanup remedy. Long – term RAS require continued monitoring, operation, and maintenance for a number of years.
- Remedial Design (RD) – An RD involves the actual design of the selected cleanup remedy. It includes development of engineering drawings and specifications for site cleanup.

The documentation for the decisions to perform these steps is outlined in Figure 2.

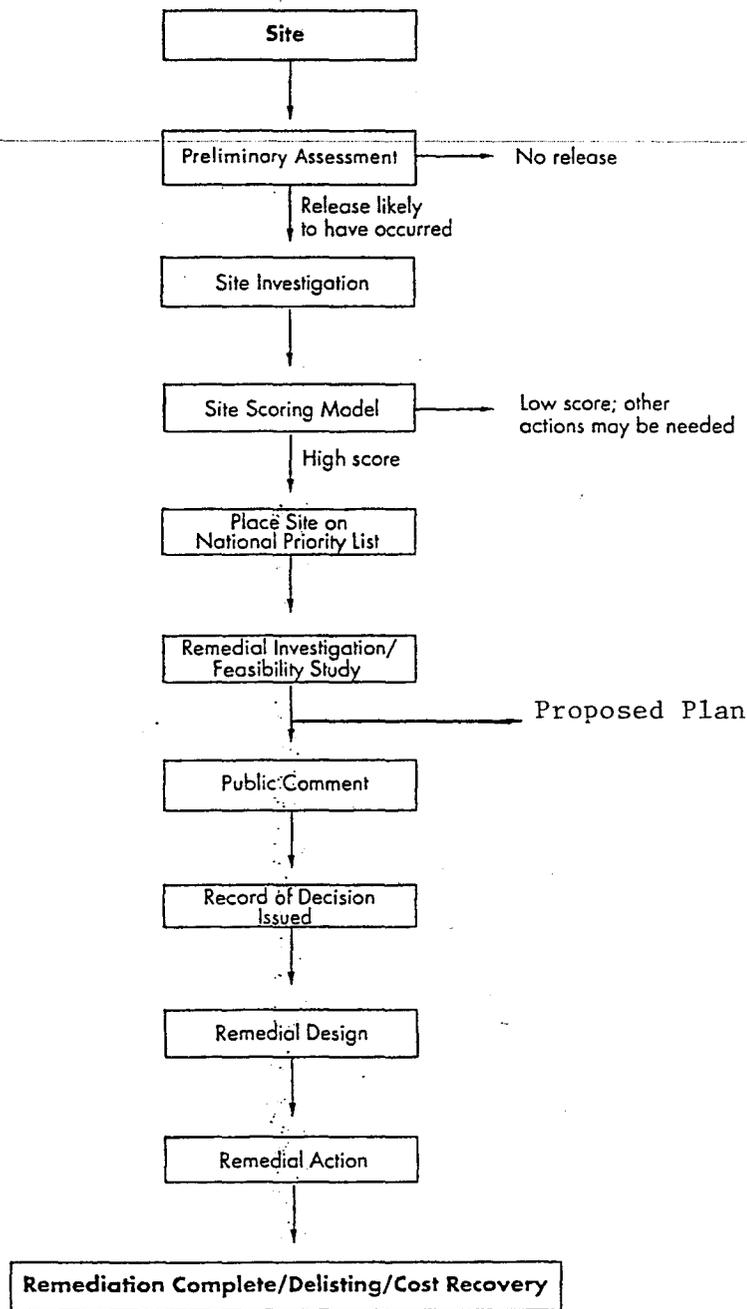
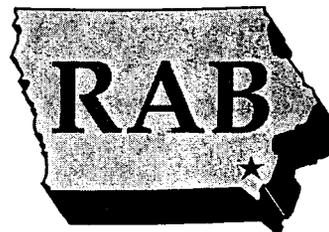


Figure 2
Superfund Site Remediation Process

APPENDIX D

Iowa Army Ammunition Plant Restoration Advisory Board Fact Sheet



Quick Facts

- Organized in August 1997
- 13 community members
- Members are from surrounding towns of Burlington, West Burlington, Danville, Fort Madison, and Wever.
- 4 members from governmental agencies
- Meets quarterly

SITE DESCRIPTION

The Iowa Army Ammunition Plant (IAAAP) is located adjacent to Middletown, Des Moines County, Iowa. The IAAAP is approximately 10 miles west of the largest city in Des Moines County, Burlington, with an estimated population of 27,208 people. The installation consists of 19,011.42 acres. IAAAP is an active U.S. Army Operations Support Command facility operated by the civilian contractor American Ordnance, LLC. IAAAP's current mission is to load, assemble and pack (LAP) ammunition items, including projectiles, mortar rounds, warheads, demolition charges, and munitions components such as fuzes, primers, and boosters. IAAAP was founded in 1941, and has undergone modernization and expansion. Production of supplies for World War II began in September 1941 and ended in August 1945. From 1946 to 1951, the IAAAP was operated by the government to produce ammonium nitrate and store munitions. Ammunition production resumed in 1949 and has continued to the present. The former Atomic Energy Commission operated facilities on the site from 1947 to 1975.

RAB MISSION STATEMENT

The RAB enables the local community and representatives of Government agencies to meet and exchange information about the Iowa AAP's environmental cleanup program. It provides an opportunity for the community to review progress and participate in dialogue, address concerns, and make recommendations to the Commander of the Iowa AAP.

REGULATOR PARTICIPATION

FEDERAL:

- U.S. Environmental Protection Agency, Region VII, Site Assessment and Federal Facilities Section, Superfund Branch, Waste Management Division
- U.S. Fish and Wildlife Service, Region 3, Rock Island District

STATE:

- Iowa Department of Natural Resources

COMMAND ORGANIZATION

MAJOR COMMAND: U.S. Army Materiel Command; Engineering, Housing, Environmental and Installation Logistics, Environmental Quality Division

MAJOR SUBORDINATE COMMAND: U.S. Army Operations Support Command, Rock Island, IL

SUBORDINATE COMMAND: Munitions and Armaments Command, Production Directorate, GOCO LAP/ARTY/40MM/Mortars Team, Iowa/Milan/Lonestar Subteam, Rock Island, IL

INSTALLATION: Iowa AAP Installation Management Division

INSTALLATION RESTORATION PROGRAM (IRP) EXECUTING AGENCY

- U.S. Army Corps of Engineers, Omaha District, North West Division
- U.S. Army Operations Support Command (PROV); Industrial Base Management Center; Restoration Management Team, Rock Island, IL
- U.S. Army Environmental Center, Aberdeen Proving Ground, MD
- U.S. Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, MD

NATIONAL PRIORITIES LIST

The installation was proposed for the National Priorities List (NPL) in August 1989 due to surface water contaminated with explosives leaving the installation boundary. IAAAP's Hazard Ranking Score (HRS) is 29.73. A Federal Facilities Agreement (FFA) signed by the U.S. Environmental Protection Agency (USEPA) Region VII and the U.S. Army became effective in December of 1990. This agreement defines objectives, responsibilities, procedural, and schedule frameworks for implementing the Installation Restoration Program (IRP) at IAAAP.

INSTALLATION RESTORATION PROGRAM

The Installation Restoration Program (IRP) effort is to identify, investigate and mitigate past hazardous waste disposal practices that may have contributed to the release of pollutants into the environment at Army installations/facilities. The IRP cleanup efforts are to be accomplished under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by Superfund Amendments and Reauthorization Act (SARA) of 1986 requirements

and if applicable, consistent with the substantive requirements of the Resource Conservation and Recovery Act (RCRA) corrective action process.

Our program management goals are:

- Identify, investigate, and remediate/cleanup contamination associated with past industrial activities.
- Protect human health and the environment.
- Work with environmental regulators and stakeholders in achieving the above goals, and include members of the surrounding communities in the IRP effort at the IAAAP.

CLEANUP ACCOMPLISHMENTS

Various Studies covering groundwater and ecological risks continue today as the Army prepares to initiate the groundwater portion of the clean-up effort. Soils removals that have been accomplished so far are:

- Line 6
- Former Pesticide Disposal Pit
- Various wastewater sumps
- Former Line 1 Impoundment Area
- Line 800 Pinkwater Lagoon
- East Burn Pads
- North Burn Pads
- North Burn Pads Landfill
- Former Fire Training Pit

Two Army Records of Decision have been signed that cover the removal, placement, and treatment of contaminated soils at the IAAAP.

RAB ACCOMPLISHMENTS

The RAB has been very active since its inception by meeting approximately every month to receive training and provide input to the environmental restoration process. Some of their more notable accomplishments are:

- Presenting Earth Day Displays
- Hosting public tours at the Iowa AAP
- Provide comment and input for Army Records of Decision
- Provide comment and advice for the Army's selection of soil treatment
- Provide comment and advice to the Army and the EPA regarding impacted off post drinking water wells
- Help establish clean up priorities
- Worked with the public, legislative representatives, and numerous governmental agencies to help address Congressional inquiries and concerns

Information Repositories



Burlington Public Library
501 North 4th St.
Burlington, Iowa 52601
(319) 753-1647

Danville City Hall
105 West Shepard
Danville, IA 52623
(319) 392-4685

Iowa Army Ammunition Plant
Visitor's Welcome Center
Building 100-101
Middletown, IA 52638-5000
(319) 753-7710

For More Information



Rodger Allison
Iowa AAP
ATTN: SMAIA-INE
17571 Hwy 79
Middletown, IA 52638-5000

Scott Marquess
USEPA -Region 7
901 North 5th St.
Kansas City, KS 66101
(913) 551-7131
(319) 753-7130

APPENDIX E

SURVEY RESULTS

1. Are you aware that a Restoration Advisory Board (RAB) exists at the IAAAP?
 84.6% YES
 14.8% NO

2. Are you aware that environmental restoration work is underway at the IAAP?
 88.8% YES
 9.5% NO

3. Have you received the information you need to understand the environmental work at the IAAP?
 32.0% YES
 53.8% No

4. How did you first learn about the RAB?

10.7% This survey	1.8% Television
71.0% Newspaper	2.4% Friend
1.2% Meetings	1.8% Radio
1.2% Documents	4.1% Other

5. What would be the best way to keep you informed about the activities of the RAB?

71.0% Newspaper	4.7% Television
4.1% Radio	1.8% Meetings
1.8% Documents	2.4% Websites
3.0% E-mails	3.6% Other

6. If you had concerns regarding the environmental work at IAAAP, where would you go for answers?

29.6% RAB	39.6% IAAAP	
11.8% Local Officials	7.7% State Officials	4.7% Federal Officials

7. What would be your top three environmental concerns?

	Fisheries	Vegetation	Groundwater	Surface water	Air Quality	Wildlife	None	Other
1st Concerns	0.6%	2.4%	62.7%	4.7%	8.3%	4.7%	4.1%	0.0%
2nd Concerns	3.6%	6.5%	11.2%	31.4%	21.3%	6.5%	0.6%	0.0%
3rd Concerns	4.1%	13.6%	2.4%	18.9%	26.0%	11.2%	0.6%	0.0%

8. Have you talked to any of the following agencies regarding the environmental work at the IAAP?

	Yes, I have talked with:	Yes, I have talked with and I am satisfied	Yes, I have talked with and I am not satisfied	No, I have not talked with:
IAAP	0.6%	8.3%	2.4%	83.4%
RAB	0.6%	4.7%	0.0%	89.3%
Community Officials	1.2%	3.6%	0.0%	89.9%
State DNR	1.2%	2.4%	1.2%	89.9%
State EPA	0.6%	1.2%	0.6%	92.3%
Federal FWS	0.0%	0.6%	0.6%	93.5%
Federal EPA	0.0%	2.4%	0.6%	91.1%

9. How do you feel the IAAAP is doing in the following areas – on a scale of 1 – 10?

	Safeguarding the Health	Safeguarding the Environment	Complying with Regulations	Keeping the Public Informed
10	11.3%	10.1%	12.4%	12.8%
9	4.3%	5.0%	12.4%	6.4%
8	12.8%	12.1%	10.9%	15.6%
7	7.1%	10.0%	6.6%	5.7%
6	11.3%	8.6%	7.3%	8.5%
5	18.4%	18.6%	17.5%	15.6%
4	6.4%	7.1%	5.1%	2.8%
3	5.0%	5.7%	2.2%	4.3%
2	6.4%	5.7%	6.6%	11.3%
1	17.0%	17.1%	19.0%	17.0%
Blanks	28	29	32	28
Avg.	5.34	5.31	5.6	5.43

Comments from the survey:

(grouped by topic)

Balanced

I feel everything is being done the best that can be considering the type of material used. The only other thing is to shut down the plant. But we need the products for defense and the area people need employment.

Concerned

I read that "5 nations agree to trash nukes." My hope is that all these wasted materials will be done away with in a safe manner and as soon as possible. It is essential that our ground water and air be safe.

I feel that protection of the environment is far below standard.

Concerned landowner in Augusta Iowa

Clean residue up as soon as possible and as good as possible. Don't let it happen again.

I took a blood test at B.M.C. and my blood checked OK. But the Oak Ridge Dr. said that really don't mean too much as you can come down with beryllium dust later on. I was around quite a bit of plutonium & that was why I wanted the test.

My husband died of leukemia Sept 99. We feel drinking the water or living next to the IAAP for 50 years and experiencing the testing of bombs could definitely been a factor. I did report his conditions & others have too but no response. So the time it took to fill this out could be tax payers money spent for another fruitless study.

We are quite concerned about groundwater contamination as we are residents of Timberline and have a well we get our water from.

I have watched this with great interest as I lived at the IOP residential area from 1950 to 1969 -- my father worked for the government during this time. He went to the area to fish, hunt, mushroom hunt, etc and he died 2 years ago of a rare blood disease. I often wonder, what I was exposed to drinking the water, swimming in the pool and eating many things from my parents garden.

Why do you use IAAAP in reference to the IAAP? Keep on top of pollution.

I think there should be great concern for anyone drinking well water in Middletown or surrounding areas.

Living this close to IAAP, my biggest concern is having my well-water fully tested.

We are concerned about our water, the underground more than surface.

The air quality is my biggest concern. I never had asthma or upper respiratory problems before moving to Iowa 13 yrs ago.

Concerns regarding high levels of radon in the area.

Worked at IAAP in late 60's & early 70's as a truck driver hauling contaminated waste to burning field & sump dump. Severely hurt on line 2 in 1969.

Nobody has any idea what is going on or has been going on inside the fences! All anyone knows is what they (IAAP) wants them to know! There isn't any way for local people to know what we are being exposed to because IAAP only lets out what they want us to know! Which it is part of the armed forces so we don't need to know everything just what affects our water, air, and communities. Why is it that there is so much sickness and cancer in our area? (IAAP)

You started about 25 years too late.

The IAAP supplied rural water to residents south of the plant and are testing subsoil for contaminants in areas south & east of the plant. Will the residents living north of the IAAP receive similar treatment? I live close to the IAAP and feeder creeks on either side of the flow from the direction of the IAAP and into the Little Flint Creek bottom. I am concerned about the quality of subsoil moisture and underground water supplies for my well.

Coverup

Regarding question 8, they are telling the public now, but what about all that went on the last 30 yrs that wasn't told until now.

Disappointed to find out about nuclear weapons cover up story at IAAP -- and that was some spill needing clean up that was improperly handled the first time and needs to be done again at considerable cost/contamination -- sad we cannot trust people making the weapons that are meant to protect us.

In all the recent news releases no mention of the radioactive contamination that is spreading through the local ground water is mentioned or why.

Just be out in the open with people and don't cover up anything

This problem has existed. Why has it taken so long to acknowledge and then do something about it? The IAAP has been polluting the area surface water for as long as I can remember (about 48 years).

Things are looking better as far as wanting to comply to regulations but some of that (most of that) is only due to being in the public eye. It would be nice if the Government would be the

good neighbor. The government doesn't play by the rules everyone else does so we mistrust, when there should be honor.

Government tells people only what they have to keep them satisfied.

Only total openness will be acceptable, so far there seems to be more cover-up than being open with the public. Possibly a new change in command at the IAAP might be in order.

Don't Know

Don't really know enough about the cleanup to make good decisions about what's being done

I knew nothing of this matter until now.

Explanation

I am a RAB member.

Liability

I think that companies that are responsible for contaminating the environment should be liable for the cleanup. I think these companies knew what they were doing.

I am very concerned about health & environmental effects. The first 3 yrs of my life I spent in the H housing at the I.A.A.P. Middletown IA and from 1967 to current time I live only 3 to 4 miles away in Danville IA.

Any possible health effects I may have been exposed to, as a direct cause of the Atomic Energy Commission should be taken care of!

Operating Errors

8A. (safeguarding health of residents) Antiquated waste treatment -- impurities released into streams and creeks.

8B. (safeguarding environment) Waste treatment handled by individuals coming to work drunk and on drugs, sleeping on duty, falsifying govt. documents -- lax supervision. Many red water spills not reported.

8C. (complying with environmental regulations) How would you know? Waste water (records? --illegible) not reliable; supervisor covers mistakes; people threaten other people's lives and well-being. I was forced to resign from this dept. (powerhouse)

8D. (keeping public informed) Definitely not.

Political

I am all for environment, but I feel this is all political started by Sen Harkin.

This is a silly survey -- they have been working on cleaning up at IAAAP since the 70's. It's a political game to make people think they are shocked and concerned with the area & the people that worked there. You had to have your head in the sand to not know what was being manufactured there in the 60's and 70's. And when it was discovered what a danger there was with the waste -- efforts were made to clean up -- How do I know all this and I'm only 44? I pay attention -- even when it's not politically correct. Don't treat the citizens like idiots -- We are not all stupid or easily fooled by political garbage.

Positive

Would be interested in serving on RAB

No problems with work being accomplished.

Am glad to hear that there is environmental restoration work underway. Protecting our environment is _very important especially to people living near the IAAP.

It is obvious the IAAP, EPA & USACE as well as all members of the Restoration effort is willing to do all they can to clean up and protect the environment. Great job!!!

I'm glad someone cares about the world we live in.

Believe current efforts will finally resolve the problem.

Recent open house at IAAP was a good way to get the word out about the environmental work being done. Have talked with people doing well sampling while hunting the IAAP. I believe an all out effort is being made to correct problems.

Remediation

Why was only part of the people close to the IAAP plant paid to hook up to rural water? I feel all people around the plant should have been. I was told there had to be a stopping point and my place wasn't in it.

Thank you.

Request for Information

Please send me information on the activities of the RAB.

At one time I received notice of each meeting and minutes for each meeting.

Suggestion

I don't feel that the environmental cleanup teams are searching for radioactive waste materials at the right depth. It is common practice for this waste to be buried at a much greater depth 20' to 25' feet. There is a much better chance of discovering the source of the groundwater pollution if they look at this depth.

APPENDIX F

INFORMATION RESOURCES

Iowa Army Ammunition Plant

LTC Bruce Elliott
Commander
Iowa Army Ammunition Plant
17571 State Highway 79
Middletown, IA 52638
319-753-7200
DSN 585-7200

Rodger Allison
Environmental Restoration Program Manager
Iowa Army Ammunition Plant
17571 State Highway 79
Middletown, IA 52638
319-753-7130
DSN 585-7130

Darlene Norton
Environmental Coordinator
Iowa Army Ammunition Plant
17571 State Highway 79
Middletown, IA 52638
319-753-7613
DSN 585-7613

Larry Johnson
Administrative Officer
Iowa Army Ammunition Plant
17571 State Highway 79
Middletown, IA 52638
318-753-7600
DSN 585-760

American Ordnance

Jean Brewster
Manager, Environmental & Waste Management
American Ordnance
Iowa Army Ammunition Plant
17575 State Highway 79
Middletown, IA 52638
319-753-7721
DSN 585-772

Federal, State and Local Agencies

Scott Marquess
Project Manager
U.S. Environmental Protection Agency
Region VII
901 N. 5th St.
Kansas City, KS 66101

Ken Hertowski
U.S. Environmental Protection Agency

Region VII
901 N. 5th St.
Kansas City, KS 66101

Dana Blubaugh
Public Affairs
U.S. Environmental Protection Agency
Region VII
901 N. 5th St.
Kansas City, KS 66101

U.S. Army Corps of Engineers

Kevin Howe
Project Manager
U. S. Army Corps of Engineers
CENWO-PM-H
215 North 17th St.
Omaha, NE 68102

State of Iowa Department of Public Health

Donald A. Flater
Chief, Bureau of Radiological Health
Iowa Department of Public Health
Lucas State Office Building
Des Moines, IA 50319-0075

Dan McGhee
Iowa Department of Public Health
Environmental Department
Lucas State Office Building
Des Moines, IA 50319-0075

Mike Guely
Iowa Dept. of Public Health
Lucas State Office Building
Des Moines, IA 50319 – 0075

Federal Elected Officials

Senate

Senator Chuck Grassley
133 Hart Senate Building
Washington, D.C. 20510-1501

Senator Tom Harkin
133 Hart Senate Building
Washington, D.C. 20510-1501

House of Representatives

Third District

Leonard Boswell
1029 Longworth House Office Building
U.S. House of Representatives
Washington, D.C. 20515

State Official
Iowa Senate

District 49
Mark Shearer
Iowa Legislature
Second Floor, State Capital
Des Moines, IA 50319

District 50
Eugene Fraise
Iowa Legislature
Second Floor, State Capital
Des Moines, IA 50319

Iowa House of Representatives

District 97
Dave Heaton
Iowa Legislature
Second Floor, State Capital
Des Moines, IA 50319

District 99
Rick Larkin
Iowa Legislature
Second Floor, State Capital
Des Moines, IA 50319

District 100
Dennis Cohoon
Iowa Legislature
Second Floor, State Capital
Des Moines, IA 50319

APPENDIX G

INFORMATION REPOSITORIES

Burlington Public Library
501 N. 4th Street
Burlington, IA 52601
(319) 753-1647

Danville City Hall
105 W. Shepard Street
Danville, IA 52623
(319) 392-4685

Visitors Welcome Center
IAAAP Administrative Building
Building No. 100-101
IAAAP
17571 Hwy 79
Middletown, IA 52638
(319) 753-7710
Open Monday through Thursday, 7:30 A.M. – 5:00 P.M.

APPENDIX H

PUBLIC MEETING LOCATIONS

Iowa Army Ammunition Plant
17571 State Hwy 79
Middletown, IA 52638

Ramada Inn
2759 Mt. Pleasant Street
Burlington, IA 52601

Pzazz Motor Inn
3001 Winegard Drive
Burlington, IA 52601

The Burlington Apartments
206 North 3rd
Burlington, IA 52601

Starrs Cave Nature Center
11627 Starrs Cave Road
Burlington, IA 52601

**APPENDIX I- COMMENT/SUGGESTION FORM FOR FUTURE
CRP REVISIONS**

