DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

28 September 1995

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are four copies of notes to the 20-21 September 1995 subject meeting held at the Kansas Army Ammunition Plant.

The next meeting is scheduled for 24-25 October 1995 at the Kansas Army Ammunition Plant. On 24 October 1995 there will be a public information session to be held at the Parsons Public Library. The meeting start time for 25 October will be approximately 8:00 A.M. or earlier. Any additions, deletions to the agenda discussed at the last meeting and/or proposed agendas should be provided to this office by 18 October 1995

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Jerry Riley
Administrative Contracting Officer

ENCLOSURE

Installation Restoration Program
Solid Waste Management Units and 700 Area Consent Order Meeting
September 20 - 21, 1995

Update on Governmental Budgeting

The EPA budget will be cut between 23 and 34%. There may be a furlough of federal employees and federally funded personnel during the first part of October. This may cause some changes in the schedule after that time.

The COE stated that IRP funding had been cut from 450 million to 240 million. Contract funds may be held up due to the governmental budget debate.

The KDHE stated that their budget will shrink by 2 to 3 %. The furlough will affect the federally funded personnel at the KDHE.

Update on the 700 Area Human Health Risk Assessment

A number of issues regarding calculation methods were discussed and resolved.

Lead modeling was discussed. The KDHE stated that regulations have been drafted that limit lead in soil to 400 PPM for residences and 1000 PPM in industrial settings. The purpose of the Risk Assessment (RA) modeling is to provide a comparison.

Due to the changes in the Risk Assessment the schedule date for a final RA is ~~December~~ November 15 , 1995. ~~A draft RA will be distributed before the holidays~~. JP

Ecological Risk Assessment

The field work for the Ecological Risk Assessment (ERA) is planned to be performed during 1997. Preliminary reporting will take place during 1996.

An EPA document will available in 1996 that will provide guidance in problem formation among other items. Ecological updates are available from the EPA. A current one deals with significance of end points and their selection. Law will be the point of collection for information of all ERA material and will disseminate information as it available.

An agenda was distributed to the attendees for discussion of this effort through the work plan phase. The agenda was separated into four tasks.

Task 1 is a site description. This task will yield a report.

Task 2 is a site reconnaissance visit. This visit will yield a conceptual site model. Exposure pathways and concentrations will be considered.

Task 3 will characterize potential ecological exposures and effects related to the assessment end points. This task will yield a report.

Task 4 is the draft of a work plan including field sampling and modeling.

Transient species will be taken into account. The COE stated that they need a broad scenario for budgeting purposes. Task 4 should be complete in FY 1996. Various information resources were discussed.

The COE stated , depending on funding , that LAW would have a scope of work by the end of October. Negotiations on this would be complete by the first of December. The EPA stated that they would prefer field work would begin on or about October 1 , 1996.

Community Relations Plan/Fact Sheet

The date for the first Public Information Session will be October 24, 1995 at the Parsons City Library.

Comments are due on the fact sheet by September 25, 1995. A final fact sheet will be due October 2,1995. Mr. Lemons will come to KSAAP in the first half of October to handout fact sheets and talk to the media.

Law will be responsible for all notifications.

Interim Measures Study

A draft report has been sent out for comment. No advisories were recommended. Data from the water and sediment samples will be in the next submittal. This is expected to be done by mid-October. The Interim Measures Study will be attached to SWMU report that Law will produce.

Data Management Issues

It was decided that Phase I data will be input into Oracle by the new contractor.

Law and Radian will discuss database formats the last week of September by telephone and report the agreement reached at the next meeting.

Data from Phase I was discussed. This data is censored. Phase II data will be reported uncensored. Censored data will be used in all Risk Assessments.

RFI Work Plan Comments/Responses - Law

EPA comments to section 10 regarding the draft SAP will be resolved by telephone. All other work plan comments have been resolved. Final work plans will be completed by October 5, 1995 with the possible exception of section 10 in the plan by Law. This possible exception will not impede progress of field work. Topographic maps of KSAAP on CD-ROM were provided to both Law and Radian.

The draft work plans (SAPs) do not provide for installation of any wells upgradient of the installation. The COE proposed that the contractors cost in 10 to 15 wells for this purpose. Locations and the number of wells would be determined at a later date. These wells would be installed during the Phase II field work. There would be a background groundwater study similar to the background metals study. This work plan would contain a rigorous discussion of the various parent materials the wells are installed in.

It is possible that in two or three years cyclic sampling may be required at some of the wells installed during the SWMU investigations.

IDW Plan

KDHE has provided guidance regarding borehole and monitoring well abandonment procedures. This will be a plan written by Radian and reviewed by Law. The COE committed to the payment of IDW disposal costs to DZI.

PCB Issues

DZI stated that PCBs have been managed according to regulations as long as regulations on this subject have existed.

Transformer pads may be surveyed in 1997. This may be driven by DERA. The EPA stated that RCRA would not drive this survey. TSCA would be the applicable regulations. The EPA stated that they would see how this subject is handled at other facilities.

During the field work of Phase II PCBs will be sampled for on an "as suspected" basis. The PCBs will be sampled for using field kits.

IRP Schedule

The schedule was discussed and changes or additions have been made to the schedule.

October Meeting Agenda Items

Agenda items tentatively proposed for the October meeting are the 700 Human Health Risk Assessment Report, a follow up to the Public Information Session, any outstanding Work Plan Issues, Background Groundwater SAP including proposed locations of wells, the Interim Measures Report, a report on data management, and an update on progress of the Ecological Risk Assessment committee.

Meeting frequency will be discussed at the December meeting.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

6 September 1995

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are four copies of notes to the 23-24 August 1995 subject meeting held at the EPA Region VII Office.

The next meeting is scheduled for 20-21 September 1995 at the Kansas Army Ammunition Plant. The meeting start time will be approximately 10:00 A.M. Please note that the revised schedule in enclosure is in error for the scheduled meeting date. Also, please provide this office by 13 September 1995 with your proposed agenda for the next meeting.

All reviewers are reminded to get any outstanding comments to the Corps of Engineers AE as soon as possible. The 700 Area Human Health Risk Assessment comments are due by 11 September 1995.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Don Bailey
for Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

ENCLOSURE

Installation Restoration Program
Solid Waste Management Units and 700 Area Consent Order Meeting
August 23 - 25, 1995

Update on Department of Army Initiatives on Budgeting

In the future the SWMU Investigation will be funded by SWMU group. This will be driven by the Relative Risk Site Evaluations. The current efforts will not be affected. 700 Area will remain a "1A". Phase II will be completed and design will be funded. This change is driven by funding cuts.

The EPA is also facing a funding cut of 15 to 34%. This would require cuts in EPA contractor staff. This would result in probable difficulties in meeting review deadlines.

The KDHE is expecting some of the same kind of obstacles.

Update on the 700 Area Human Health Risk Assessment

Radian submitted the draft Human Health Risk Assessment (HHRA) in mid-July. No comments have been received to date. All of the values derived in the tables are being checked. This is due to a change in software and the presence on some values that did not appear correct. No major changes are expected. An overview of the draft results was presented.

The KDHE asked for a discussion of sodium hydroxide in this document or in a separate paper. The KDHE also asked for a comparison of the data from this effort with the data from the AEHA Risk Assessment. These were agreed to previously by Radian. KDHE asked for a map to be attached showing contamination contours of 400 ppm , 1000 ppm , and 2000 ppm of lead. Radian stated a map similar o this is available in another document. KDHE agreed to the attachment of that map. Discussions took place on statistical matters. A reference to the non-potability of the groundwater was discussed. The reference should be deleted or justified. Cleanup levels were discussed. At this point a representative of the KDHE provided representatives of KSAAP with cleanup levels for lead for either further industrial use or a more stringent level that prevent any future remediation required by 120 CERCLA. 120 CERCLA states that any federal facility has a responsibility to remediate if excessed. Groundwater monitoring required by the Consent Order would be continued under the Corrective Action section of the RCRA Part B Permit. Remediation of the groundwater is not expected by the KDHE.

The KDHE will provide draft comments. After Radian receives and reviews these comments Radian will contact the KDHE to reach resolution.

The schedule for the 700 Area investigation is now as follows. Comments are due to Radian by September 11. Responses are due on these comments by September 29. A revised HHRA will then be delivered October 31. A telephone conference would then be held on November 15 to discuss the HHRA.

The COE will pick up groundwater monitoring and additional work for five to seven years.

Community Relations Plan/Fact Sheet

A draft fact sheet was provided. The draft fact sheet did not contain a facility map with areas of concern (SWMUs). Story boards for public meeting presentation were discussed as a tool.

The draft fact sheet has the COE logo. It should have the IOC logo.

Comments should be provided to NTC by September 1. The fax number is (404) 421-3593.

Other verbal comments were made concerning potential contamination and active production areas. The verbiage on 700 Area should be expanded to include the Consent Order. References to Sunflower Army Ammunition Plant should be deleted. It was also noted that there would be at least a thirty day comment period for the Corrective Measures Study.

KDHE has not reviewed this document.

DZI will provide the mailing list to NTC.

Update on the Fish/Pond Study

Law will have a letter report complete September 21 or 22 comparing levels of contaminants found to thosen published by the FDA or the Kansas Department of Wildlife and Parks. Law will provide water and sediment results to Radian. There were no fish in Pond 28. The EPA was concerned because of a lack of bottom feeders in the sampling effort. Concern was also expressed about consumption rates.

RFI Work Plans Comments/Responses - Law

The issue of background groundwater was discussed. One background well currently exists at the northeast corner of the 100 Area. Law proposes one additional well in that area. Discussion of shallow and deep background wells followed. It was proposed that the geologists look at this issue and, as part of this plan, propose an approach to address this before the next meeting.

At this point it was noted that field work would probably begin in January or February for both sampling efforts.

The Huntsville COE made comments to both plans regarding unexploded ordnance. This will be added to the work plans where appropriate. To avoid any unnecessary risk it was decided not to perform any intrusive sampling in any of the landfills. More monitoring wells would be installed. Two more downgradient monitoring were discussed. Twenty feet will be the avoidance interval. Magnetometer testing will be performed to determine safety during drilling.

Micropurging was discussed. There is no minimum number of well volumes to be removed but parameters must be stable. Dedicated pumps were discussed but not approved.

Air rotary drilling is unacceptable to the EPA. References to air rotary drilling will be deleted. Four-inch cores will be taken. Storage for these cores will be provided by DZI.

All other EPA comments were resolved.

The overlap of SWMU 22 and 11 were explained to the KDHE. The KDHE requested total petroleum hydrocarbons be included at several locations.

The Phase I data will be used in the Ecological Risk Analysis.

All other KDHE comments were resolved.

Law agreed to the COE request to sample for PCBs and dioxin at the soil surface and at depth.

A revised map of the active landfill will be sent to KSAAP for review showing locations for proposed new wells.

All other COE geologist comments were resolved.

USACHPPM comments were discussed. The use of any residential scenario is opposed by USACHPPM. This position was unacceptable to the regulatory community because it narrows the range of values considered. No USACHPPM personnel were present to discuss the matter. The EPA Lead Work Group will not be requested at this time because the EPA representative did not consider their input necessary. Lead is not considered a "major" COPC for this portion of the investigation but will be included by request of the EPA. The approach law will use will be the same as the approach in use for the HHRA.

The General Baseline Risk Assessment was discussed. Law will produce some general approaches for further discussion. Scoping changes may be required. The COE stated that a risk assessment should be understandable by "anyone". The COE stated that SWMU- specific human health risk information is needed for use in requesting funding in the future.

Scope Ecological Risk Assessment

Data from biological efforts in or near KSAAP appears to be limited to the threatened and endangered species survey completed at KSAAP within the last year. This risk assessment would not be SWMU-specific.

The EPA stated that there is a sequential process for this in the regulations, beginning with planning, proceeding to characterization (report), from which a decision can be made regarding the need for further efforts. Law was tasked to provide an outline of this process by the next meeting. A committee chaired by Steve Wharton, EPA, was formed including Sandy Smith, Radian; Jeff Margolin, Law; and Randy Carlson, KDHE. Mr. Wharton stated that the decision point could be reached during 1996.

RFI Workplan Comments/Responses - Radian

Sampling locations for field screening, surface soil samples, and soil borings were discussed. Concurrences were reached. The KDHE has been encouraged to economize by their upper management. This has driven some of their comments.

Radian will explain their well numbering system to Law to provide consistency between the wells installed by both contractors.

The EPA was concerned with SOPs for sampling. Law and Radian will coordinate sampling methodologies. The EPA would like a cross reference table showing locations of different procedures located in the contractors sampling and analysis plans.

A drawing will be provided showing a schematic of a ditch and sump model.

KSAAP needs to notify the EPA of the "newly discovered" sumps north of building 1006.

At some point the transformer management program will be discussed with DZI. This discussion should take place before the next monthly meeting.

The Phase I Report recommended no further action at the sludge drying beds. Steve Wharton will get guidance on metals levels in sewage sludge. A decision will be made regarding further sampling and monitoring wells at this SWMU.

Monitoring wells will be drilled with a hollow-stem auger through the overburden. After the overburden has been drilled wet-rotary will be used.

The EPA stated not to rely on either groundwater or soil analytical results to characterize the soil cuttings.

The EPA gave the following procedure for backfilling boreholes. If groundwater, mottling, or bedrock is encountered the hole will be backfilled with dry bentonite pellets (not hydrated) to within three feet of the ground surface. The remaining three feet will be backfilled with soil cuttings. If none of the above is encountered the hole will be backfilled with compacted soil.

The COE geologist's comments were discussed through Comment # 40. The remaining comments will be discussed in a teleconference August 30.

The final Sampling and Analysis plans are due October 2,1995.

JUL 1995
Received
Bureau of
Waste Management

FACT SHEET

The Kansas Army Ammunition Plant is located in rural Labette County. The plant property consists of approximately 13,700 acres of land situated one mile southeast of Parsons, Kansas. The plant manufactures various types of munitions for the U.S. Military. Day & Zimmerman, Inc. (DZI), the civilian operating contractor, is responsible for the daily operation and maintenance of the plant.

The U.S. Government has performed a comprehensive evaluation of its current munitions program for the military. This program is called the Government Excess Munition Reduction Program. The program has identified excessive number of munitions in the military's arsenal which must be destroyed before these munitions experience signs of deterioration. When munitions are stored for a lengthy period of time there is a high probability that the explosive contents may begin to deteriorate. Once this occurs, the munitions can be hazardous for those that come in contact with them.

During the 1970's, the Kansas Army Ammunition Plant (KAAP) manufactured cluster bombs (SUU-30). These bombs consisted of submunitions or clusters that were packaged in a larger canister or bomb. Each canister contained approximately 100 individual cluster bombs. The explosive material used in each device was cyclotol. Cyclotol is a mixture of TNT and cyclonite. Between .18 and .61 pounds of clycotol is contained in each cluster. The reduction program has placed cluster bombs on the list for destruction. These munitions are presently located at various U.S. Military installations. The U.S. Military will be responsible for shipping the munitions to KAAP, using Burlington Northern Railroad.

KAAP maintains a site within their property boundaries to properly dispose of munitions that must be destroyed for various reasons. This site is located in an isolated portion of the plant and is more than 3,500 feet from the plant property boundary. DZI provided information on the standard procedure for disposal of munitions of this type. The cluster bombs are first removed from the canisters and then hauled to the designated disposal site for detonation. The cluster bombs are then carefully placed in an open pit. A five-pound charge of explosive material is placed on top of the exposed bombs. Operators carefully cover the munitions with a minimum of two feet of soil. Each denotation will consist of a five-pound charge of explosive and forty-five pounds of cluster bomb explosive. DZI reports that there will be twenty detonation pits, with each pit charged and detonated twice per day. After detonation, the operators search the area for unexploded munition and other debris materials. Unexploded munitions are placed in the pit again for detonation. Debris materials are collected and disposed of at the plant's landfill.

Detonating munitions using explosives is subject to the open burning regulations. As provided for in K.A.R. 28-19-45 open burning is prohibited in the state, unless it can be demonstrated that the burning is in the public's interest. DZI has submitted a request to KDHE to dispose of between 2,000 and 5,000 cluster bombs at KAAP and requested an exemption under the provisions of K.A.R. 28-19-47 for the disposal of the munitions by open burning/detonation. The written request has met the requirements for obtaining an exemption from the open burning regulations and KDHE is proposing to approve the request.

Department of Health and Environment

Notice of Proposed Approval Action

The Kansas Department of Health and Environment (KDHE) is proposing to approve a request from Day and Zimmerman, Inc., (DZI) the operating contractor at Kansas Army Ammunition Plant (KAAP), Parsons, Kansas, to dispose of ammunition received from off-site locations by means of open burning/detonation. These munitions are being disposed of as part of the U.S. Government Excess Munition Reductions program.

KAAP is located in a rural area one mile southeast of Parson, Kansas. The plant has been a manufacturer of ammunition for the U.S. military. The facility maintains a site within their property boundaries for detonating munitions manufactured at the facility. KAAP proposes to dispose of between 2,000 and 5,000 rounds of cluster bomb canisters by open burning/detonation at the existing plant site. In order to dispose of these munitions in this manner, DZI is required to obtain approval from KDHE to dispose of the munitions by open burning/dentonation, under the provisions of K.A.R. 28-19-47.. KDHE has received an application from DZI requesting an exemption from the state's general prohibition on open burning to dispose of the cluster bombs.

A fact sheet describing the destruction of the cluster bombs by open burning/detonation is available for public review during normal business hours at the KDHE, Bureau of Air and Radiation. Building 283, Forbes Field, Topeka, and at the KDHE southeast district office, 1500 West 7th Street, Chanute. To obtain or review the fact sheet, contact Don Schuyler, (913) 296-1574, at the KDHE central office, or Lynn Ranabargar, (316) 431-2390, at the KDHE southeast district office.

Questions regarding the proposed activities should be directed to Don Schuyler, KDHE, Bureau of Air and Radiation, Building 283, Forbes Field, Topeka, Kansas 66620, (913) 296-1574. Written comments on the proposed approval action should be directed to Gary Miller, KDHE, Bureau of Air and Radiation, Building 283, Forbes Field, Topeka, Kansas, 66620. Written comments must be received by the close of business August 21 in order to be considered in formulating a final decision in this matter.

James J. O'Connell
Secretary of Health
and Environment

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

5 July 1995

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are four copies of notes to the 14 June 1995 subject meeting held at Kansas Army Ammunition Plant.

The next meeting is scheduled for 9 and 10 August 1995 at EPA Region VII Office in Kansas City, Kansas. The meeting start time will be approximately 10:00 A.M. A tentative agenda for the next meeting is provided in the notes. Additions and/or changes to the agenda should be provided to this office by 27 July 1995.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Jerry Riley
Administrative Contracting Officer

ENCLOSURE

Copy Furnished(wo/encl.):
DZI ENV ENG/C. Smalley

IRP Meeting
at the
Kansas Army Ammunition Plant

June 14, 1995
(Minutes)

RISK ASSESSMENT FOR 700 AREA

First order of business was to visit Pond #6.

The Risk Assessment for the 700 Area is well underway.

Steve Lemons related to all a letter that was submitted to the Secretary of Agriculture making allegations that cattle are grazing on contaminated soil and that people are suffering adverse health effects from consumption of this beef. At this point, the claims are unsubstantiated, but they are receiving a lot of attention. There is a possibility that some sampling will occur on site.

All agreed that the next IRP meeting would be **August 9** instead of July 12.

INTERIM MEASURES STUDY UPDATE

The interim measures study update was covered when everyone visited the area this morning. More discussion followed. There will be a pond and vegetation analysis conducted next should anyone wish to observe. If you do wish to observe, prior arrangements should be made with KSAAP.

COMMUNITY RELATIONS UPDATE

Comments were received from KSAAP and DZI on the community relations update and it is being revised now. Once revised, a copy will go out to everyone. That should be available by the end of next week; probably the 23rd.

DATA MANAGEMENT

The decision was made to go the Oracle database, because Oracle is compatible with GIS. Both Radian and Law Environmental have said that they prefer Oracle. Oracle is basically is a database that allows you to very easily select what portions of the data you need to do statistical analysis.

We are trying to make the two QUAPs similar by having a third party write them for both Radian and Law.

Emphasis was placed on the fact that both Radian and Law Environmental have budgets to work under. Discussion followed.

SWMU DRAFT SAMPLING AND ANALYSIS PLAN

The workplan was distributed. Comments have not been received, as of yet, but it has only been about a week. Most hadn't had a chance to look at it. It was requested that comments by turned in by July 18. The ecological risk assessment was discussed.

GIS DEMONSTRATION

The past couple of meetings that we have had in Kansas City have brought up the topic of geographical information systems as a way to manage some of the data that we get out of our investigations, and relay that data, especially

...alytical data, to something out in the field. Mark Flanagan, GIS in Austin, Texas, shared some GIS application information concerning gathered environmental data that could be applied to KSAAP.

AGENDA FOR AUGUST MEETING

- Update Analytical Information - IMS
- RA Comment Response Discussion
- SAP WP Comment Response Discussion
- Ecological RA Discussion

June 14, 1995 KAAP Meeting - Parsons

Vince Williams of Law gave a demonstration on fish sampling at Pond 6 (a 40+ pound grass carp was caught at this pond during sampling). To date, 8 ponds have been sampled, all yielding bass, but only 4 with suitable bottom-feeders. Pond 28, the 700 Area SW Pond, was not fished. Due to shallow conditions, the boat could not be put in the water. Only bass were collected from Pond 15, the pond south of the 700 Area. Fish sampling will be completed on 6-19 thru 6-22. We are welcome to attend.

Vince Reynolds, Radian gave an update on the HBRA. The 700 AREA was divided into 6 "hexants" to establish COPCs. These hexants were based on contaminant likelihood and drainage patterns.

Vince proposes fugitive dusts from the s and sw area be eliminated from consideration as a pathway for receptors in the 700 Area.

1) Dust emissions are probably minimal due to the distance to the pond areas, moisture conditions of the soil, and vegetative cover.
2) Emissions at the 700 Area will probably not even be a significant factor in the total risk.

Ecological risk assessment - Steve Lemmons made a list of contacts to help establish the scope (what we want to protect and why). Steve also emphasized KDHE needs must be met as well as EPA. EPA, COE, KDHE will have preliminary meeting to develop scope and designate animals of concern, then update group at next meeting. Steve seemed anxious to spend the several (someone said 25) millions of dollars budgeted for the ECO risk.

Mark Flanagan of Radian gave a nice GIS presentation; apparently COE wants to invest in this process.

Scheduling:

Draft of HBRA report due on 7/6.

Next meeting to be 8/9, KC -
- update of fish/pond analytical
- 700 AREA HBRA comment and response discussion
- eco risk update
- public relations plan update

DAY & ZIMMERMANN, INC.

GOVERNMENT SYSTEMS GROUP
KANSAS DIVISION

JUN 1995
Received

June 20, 1995
EE:RM950111.CDC

Mr. Bill Bider
Director, Bureau of Waste Management
Kansas Department of Health and Environment
Forbes Field, Building 740
Topeka, Kansas 66620-0001

Dear Sir:

Subject: Request for Approval to Bring Excess SUU-30 Ammunition On-Plant at Kansas Army Ammunition Plant (KSAAP) for Thermal Treatment to Support U.S. Government Military Munitions Reduction Requirements

Day & Zimmermann, Inc. (DZI), Kansas Division, hereby requests approval be granted by the Kansas Department of Health and Environment (KDHE) to allow approximately 2,000-5,000 rounds of SUU-30 dispensers to be shipped to Kansas Army Ammunition Plant (KSAAP) for thermal treatment in the next year, with additional quantities to follow in subsequent years. This effort is in support of the U.S. Government's program to eliminate excess munitions from the country's stockpile.

The U.S. Senate Appropriations Subcommittee has designated KSAAP as the appropriate site to perform this treatment program because many of these items were originally produced at KSAAP. Attached is a copy of the Subcommittee minutes of the Appropriations Bill confirming that decision. The effort will consist of open detonation of grenades removed from approximately 2,000-5,000 SUU-30 dispensers the first year, with possible follow-up work of 2,000-5,000 units each of the next two years. Cyclotol, the explosive involved in this activity, is currently used in other production efforts at KSAAP.

This treatment effort will generate approximately $5,000,000 into the community the first year, with possibly $10,000,000 additional in the next two years. The activity will strengthen the labor force at KSAAP, and boost the Parsons area economy.

Your prompt response to this request will be appreciated. Senator Dole's office is currently awaiting our confirmation that this work can be performed at KSAAP, and our response is due in his office by Wednesday, June 21, 1995. Please accept our apologies for the short timeframe of this request.

EAST U.S. HIGHWAY 160 ♦ PARSONS, KANSAS 67357-9106 ♦ (316) 421-7400 ♦ FAX (316) 421-7477

Subject: Request for Approval to Bring Excess SUU-30 Ammunition On-Plant at Kansas Army Ammunition Plant (KSAAP) for Thermal Treatment to Support U.S. Government Military Munitions Reduction Requirements

If your have any questions concerning this request, our point of contact is Carolyn J. Smalley, telephone 316/ 421-7434.

Respectfully,

Steve Kosman

STEVE W. KOSMAN
Director of Engineering

SWK/CJS/ram

Attachment a/s

(In thousands of dollars)

	Budget		House		Committee recommendation		Senate compared to:		House compared to:	
	Qty.	Amount	Qty.	Amount	Qty.	Amount	Qty.	Budget amount	Qty.	House amount
ROCKETS										
SHORT RANGE ANTI-TANK WEAPON (SRAW)		7,761		7,761				-7,761		-7,761
ROCKET, HYDRA 70, ALL TYPES		107,850		107,850		107,850				
OTHER AMMUNITION										
DEMOLITION MUNITIONS, ALL TYPES		23,356		93,356		23,356				-70,000
GRENADES, ALL TYPES		4,167		15,167		4,167				-11,000
SIGNALS, ALL TYPES		687		687		687				
SIMULATORS, ALL TYPES		9,388		9,388		9,388				
MISCELLANEOUS										
AMMO COMPONENTS, ALL TYPES		5,222		5,222		5,222				
UPGRADE/IMPROVEMENT OF ATK										
CAD/PAD ALL TYPES		7,084		7,084		7,084				
ITEMS LESS THAN $2 MILLION		776		776		776				
EOD EXPLOSIVE ITEMS										
AMMUNITION PECULIAR EQUIPMENT		4,645		4,645		4,645				
ITEMS LESS THAN $2.0M (AMMO)		537		537		537				
FIRST DESTINATION TRANSPORTATION (AMMO)		4,713		4,713		4,713				
GENERAL REDUCTION						-48,000		-48,000		-48,000
TOTAL, AMMUNITION		826,231		966,731		651,844		-25,617		-314,887
AMMUNITION PRODUCTION BASE SUPPORT										
PRODUCTION BASE SUPPORT										
PROVISION OF INDUSTRIAL FACILITIES		44,429		60,000		44,429				-15,571
COMPONENTS FOR PROVE-OUT		2,238		2,238		2,238				
LAYAWAY OF INDUSTRIAL FACILITIES		26,774		86,172		26,774				-59,398
PROVING GROUND MODERNIZATION		1,361		1,361		1,361				
MAINTENANCE OF INACTIVE FACILITIES		48,142		48,142		48,142				
CONVENTIONAL AMMO DEMILITARIZATION		95,469		110,000		102,969		+7,500		-7,031
LAAP FLEXIBLE MANUFACTURING CENTER										
M483 TO M864 CONVERSION										
PRIOR YEAR SAVINGS										
RADARM										
TOTAL, AMMUNITION PRODUCTION BASE SUPPORT		218,413		307,913		225,913		+7,500		-82,000
TOTAL, PROCUREMENT OF AMMUNITION, ARMY		844,644		1,274,644		877,761		+33,117		-396,883

COMMITTEE ADJUSTMENTS

Cartridge, 25 mm, all types.—The budget request includes $21,935,000 for the procurement of M–793 [TP–T] and M–910 [TPDS–T] 25 mm ammunition in fiscal year 1995. The Committee recommends providing $46,935,000, an increase of $25,000,000 above the budget request.

The Committee provides the additional $25,000,000 only for the procurement of M–919 high velocity, improved armor penetrating 25 mm cartridge for which no production was budgeted for by the Department in fiscal year 1995.

OTHER ADJUSTMENTS

155 mm M–203A1 red bag prop charge.—The Committee supports the Senate Armed Services Committee's direction to transfer at least 17,000 M–203A1 red bag propelling charges to the Marine Corps. As a result of this transfer, no funds will be required by the Marine Corps in fiscal year 1995 for the purchase of new M–203A1 charges.

Conventional ammo demilitarization.—The Committee provides $102,969,000, an increase of $7,500,000 to the budget request, but an amount $7,031,000 below the House allowance. The Committee provides the increase of $7,500,000 only to accelerate the procurement of a plasma furnace which is now being evaluated by the Army.

Further, of the funds appropriated for conventional demilitarization, the Committee directs that $5,000,000 be made available for the demilitarization or repack of the existing inventory of SUU–30 dispensers. The Committee understands that the Kansas Army Ammunition Plant is the most appropriate facility to conduct this program and expects the Air Force to execute this program at the Kansas Army Ammunition Plant.

Prior year savings.—The Committee recommends a general reduction of $48,000,000 reflecting fact-of-life changes to prior year ammunition programs as identified by the Senate Armed Services Committee.

William Langer plant.—The William Langer plant is a Government-owned, contractor-operated facility that manufactures precision items such as jewel bearings, which are used in avionics and inertial guidance systems, and dosimeters, which measure exposure to nuclear radiation. The plant is also developing the capacity to produce, on a large scale, fiber optic cable connectors known as ferrules. The Committee recognizes that the plant is located in Rolette County, ND, one of that State's most economically depressed areas, and that approximately 60 percent of the plant's employees are native Americans. The Committee further recognizes that the plant is entering a transition year and that it faces two potential challenges: privatization and conversion to a facility capable of both competing in commercial markets and meeting unforeseen future Federal needs.

As such, the Committee directs the Department of Defense to take such steps as may be necessary to assist the plant in its transition from a Government-owned military supplier to a more commercially oriented firm that also remains a viable part of the de-

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

24 May 1995

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed Are three copies of notes to the 10-11 May 1995 subject meeting held at EPA Region VII office in Kansas City, Kansas.

The next scheduled meeting is 14 June 1995 at the Kansas Army Ammunition Plant, The meeting start time will be approximately 10:00 A.M. A tentative agenda for the next meeting is provided in the notes. Additions and/or changes to the agenda should be provided to this office by 8 June 1995.

On 15 June 1995 a field demonstration of the Interim Measure Study (Fish/Pond) will be given.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

ENCLOSURE

Copy Furnished(wo/encl.):
DZI ENV ENG/C. Smalley

AGENDA
Kansas Army Ammunition Plant
Installation Restoration Program Meeting
Kansas City, Kansas
May 10-11, 1995

700 Area Consent Order
May 10, 1995

Introduction of USACHPPM and COE Center of Expertise Representatives	Steve Lemons
USACHPPM/COE Perspective on Risk Assessment	Mr. McAtte
700 Area Human Health Risk Assessment (Update/Discussion/Resolution)	Radian/COE/KDHE
Update 700 Area Milestones	Radian/COE/KDHE
Open Issues (700 Area)	Open

Solid Waste Management Units
May 11, 1995

Interim Measures Study (Fish/Pond) Comments/Discussion/Resolution	Law/COE/EPA
SWMU Workplan Status (General Investigation)	Law/Radian
Production Area Building Inspection	Gary Shaw
Community Relations Update	Lynden Peters
Open Issues (SWMU)	Open

Prepare Agenda for June Meeting

Installation Restoration Program
Solid Waste Management Units and 700 AREA Consent Order Meeting
May 10 & 11, 1995

Introduction of USACHPPM and COE Center of Excellence Representatives

Steve Lemons introduced Matt McAtee, USACHPPM and Cheryl Davis, COE, HTRW MCX to meeting. They will be providing risk assessment review and support for this effort. Neither will function as a go between. USACHPPM has experience in performing risk assessments as well as review and recommendations to protect human health. Steve Lemons stated he will provide a copy of the Consent Order to both individuals.

700 Area Human Health Risk Assessment Issues

This effort has been delayed due to changes requested by the KDHE. The main focus of these changes are to provide a residential use scenario. Mr. Lemons stated that the COE/DOD would fight the imposition of residential clean up levels in court. The Army has levels and procedures for closure of facilities.
Steve Travis stated that the KDHE had explained why a residential scenario is required by the KDHE. This is to provide a range of values to help determine an appropriate level of remediation as opposed to background, which the KDHE could require. Mr. Travis stated this was not a new issue. To date no one has provided the KDHE any documentation outlining the future use of KSAAP. Mr. Lemons stated that he would provide this. Mr. Lemons further stated that the future use of KSAAP will be "inactive" , there will be no structures razed, and there will be no part of the facility excessed. Mr. Travis stated the KDHE will require the residential scenario in the human health risk assessment before considering the Consent Order in compliance.
Mr. Wharton discussed the possibility of deed restrictions and the effect of these restrictions on cleanup levels. Mr. Wharton asked how the KDHE would finish this effort after cleanup levels were set. Mr. Travis stated that after a remedial design has been agreed to the Consent Order would be considered complete. Further activities would performed under the RCRA Part B Permit.

700 Area Human Health Risk Assessment Work Plan Comments

As a preface to the discussion of comments on the draft work plan Dr. Reynolds made several points. It was mentioned that the focus of this effort needs to be on completion and that a risk assessment is a tool in this effort. Timeliness was encouraged. A copy of all comments were provided with the responses. These responses are considered to be final by Radian. Dr. Reynolds then asked if the residential scenario would be required on other SWMUs. Dr. Reynolds stated that this scenario may be proved out in the 700 Area effort for use in other areas or to be used in extrapolations. Mr. Lemons restated that KSAAP would remain open. Mr. Wharton asked for a copy of the AR referenced by Mr. Lemons that required the Army to clean up to residential levels in the event KSAAP is excessed.
Dr. Reynolds then asked for group consensus on review of comments.
Regarding statistical approaches used in this effort a memorandum of agreement exists between Radian, COE, and KDHE. KSAAP does not have a copy of this document.
In the original work plan the drainage ditches were to be evaluated together. There are reasons to evaluate the ditches separately. The original plan will be followed.
There was discussion of evaluating concentrations of metals in beef tissue and grass. This is outside the scope of Radian's effort. Mr. Wharton asked CHPPM if there were any studies relevant to this. CHPPM did not know but would check. This document might not be the last one on this subject but this effort should proceed. This should be viewed in the context of the small area contaminated that may be grazed versus the much larger area of uncontaminated grazing area. This along with the fact that beef liver consumption is a very small portion of total beef consumption may provide a basis for not considering beef inspection.
KDHE requested a discussion on uncertainty BCF's.

Regarding Comment #54, to reduce the number of chemicals of concern it was agreed that Radian use 1/10 th of the EPA Region III levels. KDHE wants to see a comparison of Region III and Region IX on the chemicals of concern. Concurrence for elimination of contaminants of concern will be requested before the end of the study.
In this study only Radian data will be used. AEHA data will be discussed in the Uncertainty Analysis section. Radian will validate or invalidate any of the "high hits"
After Radian explained their response to Comment #63 (e), the KDHE concurred.
To resolve Comment #65 it was suggested that data from the Interim Measures Study be attached as an addendum when the data is available. The ERL will be contacted for their input. Catfish were suggested as a species to model. Radian will try.
As a scenario, the "farm family" will be used.
Radian did not have a way to perform Comment #69.
In regard to Comments #72 (a) and #74, dermal exposure is outside the scope of work for Radian.
KDHE concurred with Radian's response to comments regarding transport. This subject may be reconsidered at a later date. IMS results will have an impact on this.
At this point Mr. Lemons asked if there is a need for additional scope. Radian will respond within two weeks. KDHE does not want a Phase II Risk Assessment and doesn't foresee a need to fill data gaps. If a major concern turns out to be borderline more information may be needed. Negotiations will take care of some uncertainties. CHPPM voiced a concern that a risk assessment based solely on modeling could be considered inadequate.
The issue of transport was raised in regard to Comments #65 and #91. This issue is beyond Radian's scope of work. KDHE agreed for the present.
Public comment as a driving force for more effort was discussed. KDHE did not believe that public comment was necessary on this document.
KDHE plans to use 1x10E-6 as an accumulated pathway risk for carcinogens and 0.33 as a hazard quotient for each systemic toxin.
Comment #41 was in regard to lead levels of exposure. 500 ppm. for residential and 1000 ppm for industrial were discussed. KDHE proposed 400 ppm. Soil pH was discussed as it related to metal contamination.

700 Area Milestones

Per Steve Lemons Radian will provide a schedule. The final Risk Assessment work plan will be mailed out May 19, 1995. The draft Risk Assessment report will be done July 6, 1995.

Open Issues

Steve Travis and Radian will discuss some issues.
Steve Travis had no comment on the letter regarding well replacement in the 700 area.
An agenda will be determined at a later date.
Mr. Wharton asked if a different meeting schedule might be more appropriate.

Interim Measures Study

The schedule for this effort is as follows. Comments on draft work plan will be responded to by May 22, 1995. A telephone conference may be scheduled for May 25, 1995. Law plans to be in the field with a final Work Plan June 5, 1995. This approach was all right with the EPA. A demonstration was discussed.
Equipment was discussed.
Sampling protocols and sample splits were discussed. MRD will receive the QA samples.
Clarification will be provided on pages 3-1 and 15-7 and table 15-7 and the map on page 4-3.
It was suggested that data from this effort be compared to data from other sources in this region.
A question of analysis methods was raised, method 8280 versus method 8290. The COE will get back to the EPA on this question.
In regard to omission of detected chemical, this will be done on a case by case basis.

A number of other comments will be addressed by the chemist for Law.

The first report on this effort will contain data and exceedances of FDA or KDHE guidelines.
The laboratories under contract to Law for this will be KDHE certified.
For this effort cancer risk in children will not be considered.
Parameters for what could be considered a good faith effort were agreed on.
The EPA wants a list of "P Chem" in any medium and specifically fish in the final report. The EPA and KDHE will provide a list of parameters to be considered in addition to those listed in Table 8-1. Law will provide data for dissolved oxygen.

SWMU Workplan Update

Mr. Lemons stated that the notice to proceed was sent to both contractors April 28, 1995. He then requested that the EPA shorten their review to six weeks. The EPA agreed to this. The draft work plan will be done June 5, 1995. The date the comments are due has changed. The comments are due to the contractor July 18, 1995. The work plans will also include a general discussion of the human health risk assessment for each SWMU group. Mr. Lemons also discussed a possible need for Fate/Transport studies on several ponds.
The contractors provided brief updates of their progress.

Production Area Building Inspection

Gary Shaw provided an overview of the inspection. Potential pathways such as elevator shafts and floor cracks were inspected. A well survey will be completed by the next meeting. Groundwater contamination was discussed. There will be a building inspection report memorandum and will be included in the final report.

Community Relations Update

NTC has been at KSAAP to discuss their approach and to make contact with community leaders. A draft work plan will be sent out by May 19, 1995. The facility mailing list is being updated.

Open Issues

Data management was discussed. The QAAP has a section on this subject. This must be resolved before the Phase II plan can be finalized. Law would prefer to lead on the issue due to their large portion of the SWMU effort. Law and Radian will present what they have worked out to the COE. KDHE has no standard data base.
Radian will make a presentation about GIS for the 900 area including the time required.

Agenda Items

700 AREA
- Update of Risk Assessment Progress

SWMU
- Data Management Issues
- Demonstration of GIS
- Work Plan Discussion
- Community Relations Update
- Presentation of IMS update and Field Presentation

Other Issues

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

27 April 1995

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Received
APR 1995
Waste Management
Bureau of
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed Are three copies of notes to the 12 April 1995 subject meeting held at EPA Region VII office in Kansas City, Kansas.

The Next scheduled meeting is 10-11 May 1995 at the EPA Region VII office. The meeting start time will be approximately 10:00 A.M. No Agenda for the next meeting was discussed at the 12 April meeting. If you have topics that need to be discussed at the next meeting please datafax them to this office by 3 May 1995. The datafax number is 316-421-7387.

The Draft Work Plan for the Interim Measure Study was distributed on 14 April 1994. Comments to this plan will be discussed at the 10-11 May meeting. Request an advanced copy of your comments be provided to Law Environmental in sufficient time for them to provide a discussion on the issues at the meeting.

Per Mr. Steve Lemons, Kansas City District Corps of Engineers, issues are still being worked out between the Corps, Radian and the Kansas Department of Health and Environment on the 700 Area Baseline Risk Assessment. The 1 June 1995 delivery date for the draft report may slip to 3-4 July 1995.

Mr. Steve Travis 27 April 1995
Subject: RCRA Facility Investigation - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

ENCLOSURE

Copy Furnished(wo/encl.):
CEMRK-ED-TD/S. Lemons
DZI ENV ENG/C. Smalley

INSTALLATION RESTORATION PROGRAM
SOLID WASTE MANAGEMENT UNITS
AND 700 AREA CONSENT ORDER MEETING
APRIL 12, 1995

Attendees: See Attachment 1

Phase II Contract Award by COE to AE - Steve Lemons, COE, stated that funds have been obligated to Law and Radian in the past and the effort will actually be done by contract modifications rather than award of new contracts. Mr. Lemons said that the modifications should be completed by the end of the week. The modification will only be for preparation of the Phase II Work Plans. Actual field work, etc. will be negotiated and contracted at a later date, sometime after the August 9, 1995 monthly meeting. Mr. Lemons stated that there will be funds available to do all the work required for the Solid Waste Management Units (SWMUs) as well as the 700 Area Consent Order for the next five to six years. He also stated, that a CBD announcement will be made for a site-specific contract at KAAP and that the contract could possibly take place by the last quarter of 1996.

Mr. Lemons also stated that due to contractual obligations there will be two work plans for Phase II in lieu of a single work plan as previously discussed. John Barron of Law Environmental recommended that Radian and Law have joint writing and review sessions to prepare the work plans. Jim Clary of Radian concurred with John's recommendation.

Steve Wharton, EPA, stated that he wants everyone to try to minimize the amount of time required to prepare and review work plans, to conduct field work, to prepare and review reports, etc. He also stated that he wants the monthly meetings to be working, decision making meetings, not just discussions.

Steve Lemons informed the group that he is going to try to get a commitment from AMCCOM, CHPPM, and Huntsville to attend a review meeting of the Phase II Work Plans.

Interim Measures Study - Lynden Peters, Law Environmental, informed the group that the Draft Work Plan would be distributed April 14, 1995 on schedule and that the field work is scheduled to be initiated during the first part of June. Initiating the field work on schedule will depend on receipt of comments and modification of the Work Plan in accordance with the comments. Water and sediment samples will be collected first and followed by the fish samples since the collection of the fish will possibly stir up the water and sediment. All parties agreed to this method.

Data Management - Steve Wharton asked about setting up a data management system for the information that has already been gathered. He said that maybe KAAP through the COE through whoever needs to look at the current format of the information compared to

where KAAP will need to go with the information. He said that a good computerized system could effectively be used to help make decisions and with the ecological risk assessment information. If a system is established it will have to be maintained and updated regularly. At the conclusion of the regular meeting, a meeting on data management systems was held. A copy of Lynden Peters' notes of the meeting is included as Attachment 2.

Community Relations Plan - Steve Wharton asked Glen Parish if KAAP is required to have a RAB. Glen replied that since a Community Relations Plan was going to be prepared, a RAB was not necessary. Law Environmental updated the attendees on the status of the Plan. Kurt Jones, NTC, has been in the hospital with pneumonia and has not been able to conduct the onsite information gathering visit to KAAP and was unable to attend the monthly meeting. Plans are for Mr. Jones to perform the onsite visit in early May and distribute a summary to reviewers prior to the May meeting. Law also plans to have Mr. Jones attend the May monthly meeting.

Building Inspections - The COE has contracted with Radian to perform the building inspections in the production areas as previously requested by the EPA. Radian indicated that they will be at KAAP the week of May 1 to perform the inspections.

Update of Fate/Transport Tables - Jim Clary, Radian, gave an update of additional information collected since the March meeting. Jim stated that based upon efforts conducted at Cornhusker, it has been determined that TNT is not as mobile in groundwater as RDX and HMX which have migrated in excess of two miles while TNT has traveled 1/2 mile. Steve Wharton asked Jim if he has any information from the Navy. Steve has a document that references a TNT study done by the Navy. For the next meeting, Jim is to review all literature received and have a summary of fate/transport information gathered thus far.

Status of Series "1" Wells - Julia Kisser, COE, stated that her letter to KAAP/KDHE has been completed and is in review for signature at the COE. Steve Travis, KDHE, stated that when the KDHE receives the letter recommending the addition of two wells south of 700 Area and the removal of the two wells associated with the current landfill, the KDHE will send a reply to KAAP. Julia told Steve that the approach of the letter was different than that previously discussed and that during her review of the data it was determined that some additional wells, including 5-4, has had elevated levels of barium. Steve replied that he would wait to make any comments until after he had received the letter and discussed it with Mark Duncan. He also asked Steve Lemons to find out where in the COE system Julia's letter is and see that it is distributed.

700 Area Risk Assessment - Radian informed the group that the Risk Assessment is behind schedule since most of the comments were late. As of the meeting, comments had not been received from the KDHE and EPA which will impact meeting the June 1 delivery date. At the meeting, KDHE provided Radian with a "draft" of their comments and EPA indicated that Radian should receive their comments the following week. Steve Lemons

stated that neither CHPPMS nor AMC want the residential scenario to be in the human health risk assessment. He requested that the KDHE and EPA send letters or a joint letter to KAAP/COE requesting the use of the residential scenario. Both regulatory agencies agreed to supplying said letter. It was decided to break into smaller groups to discuss the KDHE's comments to the Risk Assessment and the Data Management Program. A copy of Radian's notes from the Risk Assessment meeting is included as Attachment 3.

-KAAP

April 25, 1995

APR 1995
Received
Bureau of
Waste Management

Environmental Office
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam

Three copies of subject report for the period 1 January 1995 through 31 March 1995, are enclosed for your use as required by KAAP's RCRA Part B permit.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-EQ/R. Goetzke/encl)
CEMRK-ED-TD/S. Lemons(w/encl)
✓KDHE Hazardous Waste Sec(w/encl)
DZI Env Eng/V. O'Brien(wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTION ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD JANUARY 1 THROUGH MARCH 31, 1995

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of work completed: The EPA invoked the "interim measures" portion of KAAP's permit in regards to the fish tissue portion of the risk assessment. In the January monthly meeting, it was agreed that fish tissue samples will be collected from two species, one predator and one bottom feeder. Fillets as well as whole body samples will be analyzed. Attempts will be made to collect three fish of each species from each pond and the three fish will then be composited for analysis. It was also agreed that the EPA would prioritize analyses to be done in the event that a sufficient amount of fish cannot be collected from a particular pond. During the March monthly meeting, Law Environmental requested permission to remove Ponds 43 and 47 from the study. EPA, KDHE, COE, and KAAP representatives agreed to the removal of these ponds from the study based upon the fact that none of the SWMU drain into the ponds. The draft work plan for the Interim Measures Study is to be completed by April 14, 1995. Comments to the draft work plan are scheduled to be discussed during the May monthly meeting. Law Environmental estimated that upon completion of the review and modification of the work plan, the field work will be completed in four weeks, the analytical results received in two months, and a preliminary report provided to the EPA by September 29, 1995.

   Law Environmental has also been contracted to prepare the Community Relations Plan. Law subcontracted the effort to NTC who will schedule an onsite visit to KAAP during May to gather information necessary to prepare the Plan.

   Radian was tasked with preparing/compiling a repository for fate/transport information pertaining to the explosives used at the SWMU sites. This action has been completed.

   During the March monthly meeting, it was agreed to removed the following analytical requirements:

   SWMU 14 - Old Burning Grounds north of current landfill- Explosive Analyses - No explosives were detected during Phase I.

SWMU 16 - Landfill by Open Detonation Area - PCBs in groundwater. EPA representatives noted that if PCBs are detected in the soil, the groundwater will then have to be analyzed for PCBs.

SWMU 24 - Open Burning Area - Dioxins in groundwater. Same as SWMU 16, if found in soil, will then have to analyze groundwater for dioxins.

2. Summaries of all findings, including summaries of laboratory data: Not Applicable.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify the problems: None.

4. Projected work for the next reporting period: Draft work plans for Phase II should be prepared by Radian for the six production area SWMUs and by Law Environmental for all remaining SWMUs for review and comment. A draft Community Relations Plan is scheduled to be completed for review. Field work for the Interim Measures Study (Fish/Pond Study) should be implemented.

April 24, 1995

Environmental Office
(200-1a)

SUBJECT: Community Relations Plan - Kansas Army Ammunition Plant

Mr. Steve Wharton
U.S. Environmental Protection Agency
Region VII
RCRA Branch
Waste Management Division
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. Wharton

Enclosed for your information is an outline of LAW Environmental, INC. approach that will be followed in preparing a Community Relations Plan for Kansas Army Ammunition Plant. According to LAW a site visit will be scheduled within the next two weeks.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY
Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

ENCLOSURE

COPY FURNISHED(w/encl):

DZI ENV ENG/ C. Smalley
AMSMC-EQ/R. Goetzke
KDHE/ Steve Travis

Proposal

Community Relations Plan
RCRA Facility Investigation-
Kansas Army Ammunition Plant (KAAP), Parson, KS.

1.0 *Brief Introduction*

THE NTC GROUP, INC. (NTC) is pleased to submit this proposal to prepare a community relations plan for the RCRA Facility Investigation at the Kansas Army Ammunition Plant in Parsons, Kansas. NTC is an environmental engineering and marketing, community relations, consulting firm which specializes in the areas of environmental liability management, CERCLA, and the management of remedial actions of waste sites under RCRA. NTC is a minority-owned corporation certified as an 8(a) firm under the Small Business Administration 8(a) program. NTC provides environmental consulting services to both private industry and government agencies.

2.0 *Research - Task I*

THE NTC GROUP, INC. will provide a draft community relations plan for review and input, and a final plan for acceptance by the architectural engineering (A-E), corps of engineers (COE) and KAAP.

The following is considered essential research that must occur in order to develop and acquire adequate data to prepare the community relation plan (CRP):

- A visit to the site area and city of Parsons, Kansas. This visit will consist of three to four people with a duration of three days to gather appropriate information for

the CRP. Resumes of the proposed NTC Team are attached.

- o A decision of who is interested in this site environmental progress and clean up;
- o Determine if there are any sensitive issues or pressure points with the adjacent community, the city, or various interest groups.
- o Develop community background:
  - Community profile,
  - Chronology of community involvement,
  - Summary of community interviews and key community concerns.
- o Develop a list of contacts and interested parties:
  - Federal elected officials,
  - State elected officials,
  - Local officials,
  - U.S. EPA Region VII officials,
  - State agency representative,
  - The media,
  - Citizens groups.
- o Locate appropriate facilities, i.e: library, for repository and public meetings.

2.1 *Preparing a draft for review and acceptance - Task II*

This task will consist of digesting the information collected during Task I and finalizing a draft CRP for review and appropriate input. Exhibit 1, will provide an outline for this CRP project. After review and provided input, the final CRP will be presented for acceptance and execution.

3.0 *CRP Execution - Task III* (Optional for THE NTC GROUP, INC.)

THE NTC GROUP proposes to act as a consultant to the A-E through the RFI phase of this project and assist in the public meeting stipulated in the KAAP scope of work (one for FY '95, '96, '97). THE NTC GROUP proposes to visit the site twice per year to assure proper execution of CRP and to meet with local officials and civic group leaders to ascertain their interest and/or concerns on behalf of the A-E, KAAP, and the CRP process. Additionally, NTC will prepare the initial fact sheet and distribute, and proposes of prepare or consult on the preparation of any subsequent fact sheets.

4.0 *Acceptance*

If this proposal is acceptable, you may indicate your agreement by signing or having a duly authorized officer sign a copy of the proposal acceptance agreement page and return it to:

THE NTC GROUP, INC.
300 Chastain Center Blvd., Suite 395
Kennesaw, GA 30144

Attn: Curtis J. Jones, J.D., R.E.M.

Exhibit 1

TABLE OF CONTENTS

Community Relations Plan
Kansas Army Ammunition Plant (KAAP)
RCRA Facility Investigation

SECTION

A. Overview of the Community Relations Plan

B. Capsule Site Description and History
   1. Site Location and Description
   2. Site History

C. Community Background
   1. Community Profile
   2. Chronology of Community Involvement
   3. Summary of Community Interviews and Key Community Concerns

D. Highlights of the Community Relations Program

E. Community Relations Techniques and Timing

FIGURES

Figure 1: Site Location Map
Figure 2: Layout of the KAAP Site

EXHIBITS

Exhibit 1: Schedule of Community Relations Activities

APPENDICES

Appendix A: List of Contacts and Interested Parties

   A. Federal and State Elected Officials
   B. Local Officials
   C. U.S. EPA Region VII Officials
   D. State Agency Representative
   E. Media
   F. Citizens Groups

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(continued)

APPENDICES

Appendix B: Location for Information Repository and Public Meetings

Appendix C: Glossary and Acronyms

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

22 March 1995

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are three copies of notes to the 14 March 1995 subject meeting held at Kansas Army Ammunition Plant.

The next monthly meeting will be held on 12 April 1995, at the EPA Region VII Office, 726 Minnesota Ave. in Kansas City, Kansas. The meeting start time will be approximately 10:00 A.M. If you have any changes and/or additions to the proposed agenda found in enclosure please let us know by 6 April 1995.

If you have any questions or require additional information Please contact Mr. Glen Parish at 316-421-7596.

Sincerely,

Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

MAR 1995
Received
Bureau of
Waste Management

INSTALLATION RESTORATION PROGRAM
700 AREA CONSENT ORDER AND SOLID WASTE MANAGEMENT UNITS MEETING
March 14, 1995

Attendees - See Attachment 1 for a list of attendees.

Update on Pre-Remedial Design Investigation Final Report - The report was finished in February and provided to KDHE, COE, ACO, AMCCOM, and DZI. Radian provided a copy of the report to the EPA during the meeting. Radian will distribute new covers for the appendices to the report. Steve Travis stated that he will try to read the report and prepare any resulting comments before the April 12, 1995 meeting in Kansas City.

Status of Well Replacement and the Comprehensive Monitoring Evaluation - Julia Kisser discussed the drilling methods used for the Series "1" monitoring wells. She stated that the PE on the project said that he could not remember the use of barium weighted mud during installation of the wells, but that he did know that all of the boreholes were flushed. The concentration of barium in well 6-1 is close to the concentration of barium in well 3-2 which is upgradient from well 6-1. For wells 8-1 and 9-1, groundwater contours indicate that the wells are immediately downgradient from the current landfill. In a write-up that should be completed next week, Julia will recommend that wells 8-1 and 9-1 be removed from the 700 Consent Order Monitoring Well System, but retained for use in the SWMU investigation. Julia indicated that the barium level in well 7-1 cannot be explained and that the KDHE would like a well installed immediately downgradient from 7-1 for comparison purposes. Steve Travis agreed a request should be submitted to remove wells 8-1 and 9-1 from the 700 Area Consent Order Monitoring Well System. He also said that well 6-1 probably won't require replacement but that he will have to discuss the matter with Mark Duncan. He also indicated that the KDHE would like a new well installed in-line with well 7-1 so that parallel monitoring can be conducted for approximately one year. If data indicates, after completion of the parallel monitoring, KAAP can then request permission from the KDHE to remove well 7-1 from the 700 Area Consent Order Monitoring Well System. Steve indicated that the KDHE would like for the well installation to be completed as soon as possible. Julia had previously asked if installation of new wells could be performed in conjunction with new wells required during Phase II of the SWMU Investigation to prevent the cost of a separate mobilization effort.

Status of Interim Measures Study Work Plan - Law Environment was on-site March 13, 1995, to view the ponds included in the study, to check access to said ponds, and to check drainage to and from the ponds. As a result of their visit, Law requested permission to remove Ponds 43 and 47 from the study. Pond 43 drains north from the 1500 Area and there is no drainage from the 2700 Area to Pond 47. EPA, KDHE, COE, and KAAP agreed to the removal of these ponds from the study. Law indicated that the draft work plan will be provided to KAAP by April 14, 1995.

Deed Restriction Discussion - Jim Clary of Radian indicated that Section 120 of CERCLA basically provides for the attachment of a notice to the deed informing potential buyers that hazardous waste has been stored, used, treated, etc. on the property, but not for limiting future use of the land. Steve Travis agreed, stating that he hasn't seen a deed restriction that said "a child care facility could not be built." Steve Wharton pointed out that deed restriction language is in RCRA as well as CERCLA. Steve also stated that another approach is the usage of the ROD to incorporate actually usage restrictions since deed restriction is not an enforcement tool. Steve Travis stated that if deed restrictions are used, the DOA, EPA, and KDHE would have to agree on the final decision.

700 Area Risk Assessment - Contract between COE and Radian has been negotiated and efforts to prepare the work plan are on schedule with distribution of the work plan to be no later than March 24, 1995. In the meeting, Radian stated that they would distribute the copies of the work plan and requested a fast turn around time (one week) on all comments to the plan. Andrea Austin indicated that the one week comment period would not pose a problem for the KDHE. Steve Lemons said he would send CHPPM a copy, but would not let any delay in their response hold up the project. He also stated that he would try to have the COE's response within a week. Captain Schorr told Steve Lemons to notify him immediately, so that he can taken action, if CHPPM presents or will present a problem in keeping the IRP Projects on schedule. All comments to the work plan are to be sent to Steve Lemons who will send a copy to Radian and to everyone else. Jim Clary indicated that if comments are received and resolved in a timely manner, the Risk Assessment effort should be underway by the April meeting. The Draft Report is scheduled to be completed and distributed by June 1, 1995.

Update of Fate/Transport Table - Vince Reynolds distributed revised tables on RDX, HMX, and TNT. Radian is preparing/compiling a repository for fate/transport. Andrea notified the group that the KDHE obtained a copy of the Risk Assessments, Record of Decisions, etc. from the Umatilla site in Oregon. She said that the package contains toxicological profiles on several explosives. KDHE will not impose Umatilla levels on KAAP, but will use the levels as possible guidelines. Dick Medary told Radian that he would provide them with the test method for lead styphnate. Steve Lemons said he did not like the comfort zone of using information from someone else. Jim Clary stated that site specific data would be used to calculate uptake for the 700 Area effort.

Status of the Community Relations Plan - A contract has been negotiated with Law for preparation of the Community Relations Plan. Law is subcontracting the effort to NTC. A draft plan will be completed and distributed by April 14, 1995, unless changes are required based upon KAAP's and/or the public's needs. NTC may not be able to meet with the community in order to meet the April 14, 1995 due date. Lynden Peters indicated that Law will have a representative from NTC at the April meeting to discuss progress on the Community Relations Plan. Carolyn Smalley informed the group that the Parsons Library has agreed to having a repository.

Update of SWMU Phase II Scope of Work - Removal of the following analytical requirements was discussed and approved.

- SWMU 14 - Old Burning Grounds north of currently landfill - Explosive Analyses - No explosives were detected during Phase I.

- SWMU 16 - Landfill by Open Detonation Area - PCBs in groundwater. EPA representatives noted that if PCBs are detected in the soil, the groundwater will then have to be analyzed for PCBs.

- SWMU 24 - Open Burning Area - Dioxin in groundwater. Same as SWMU 16, if found in soil, will then have to analyze groundwater for dioxins.

Future Activities - Steve Lemons stated that he hopes to award the contracts to Radian and Law for preparation of the Phase II Work Plans by the April 4, 1994 schedule date. Steve said however March is the end of the second quarter and although Technical will be able to negotiate by the end of March, Contracts people may not be able to award by April 4. In fact, Contracts may delay the schedule by one to two weeks, but the overall schedule should remain intact. Although the COE cannot direct Radian and Law to start preparing the Phase II Work Plans, both Radian and Law personnel indicated that they would not let the COE's slippage, if it occurs, impact KAAP's schedule.

CHPPM's Involvement - Steve Lemons stated that he would not let CHPPM delay KAAP's schedule for the projects until possibly the 700 Area Risk Assessment and the Phase II Report. He said that there is no requirement for CHPPM to approve the work plans, etc., only the final reports. Steve Travis asked Steve Lemons to obtain a written response from CHPPM that they are aware of KAAP's schedule deadlines and that any delay from CHPPM would result in their comments being out-of-the-loop. Steve Lemons said he would attempt to obtain written documentation from CHPPM and that he would make every effort, even to the point of flying out to CHPPM, to ensure that CHPPM does not delay KAAP's schedules.

Tentative Agenda for the April 12, 1995 Meeting

- Status of Series "1" Replacement Wells and the Comprehensive Monitoring Evaluation

- Status of Risk Assessment Work Plan

- Progress on Interim Measures (Fish/Pond) Study Work Plan

- Update on Community Relations Plan

- Phase II Contract Award by COE/Notice to Proceed to AE

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

RECEIVED
BUREAU OF
FEB 23 1995
WASTE MANAGEMEN

REPLY TO
ATTENTION OF

21 February 1995

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are three copies of notes (encl.1) for the 8 February 1995 meeting held at the EPA Region VII Office. Also enclosed are three copies of revised milestone charts for the RFI SWMU's and 700 Consent Order projects (encl. 2)

The next monthly meeting will be held on 14 March 1995, at the Kansas Army Ammunition Plant. The meeting start time will be approximately 10:00 A.M. If you have any changes to the proposed agenda found in enclosure please let us know by 8 March 1994.

If you have any questions or require additional information Please contact Mr. Glen Parish at 316-421-7596.

Sincerely,

Don Bailey
for Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

SOLID WASTE MANAGEMENT UNITS
AND
700 AREA CONSENT ORDER
MEETING
INSTALLATION RESTORATION PROGRAM
February 8, 1995

See attachment 1 for a list of attendees.

A speaker from USACHPPM was unable to attend this monthly meeting. This speaker was to address risk assessments. A speaker will be requested for next month's meeting.

USACHPPM will not slow the review process; however, USACHPPM did request seven copies of all reports and plans from the beginning of the project. From past experience with USACHPPM, they normally prefer not to use the "hottest" well(s) and they will ask for a central tendency risk evaluation. USACHPPM can't deny a risk assessment. It is possible to go directly to the Army Surgeon General for approval. The EPA has final approval on the risk assessment. Steve Wharton noted that the regulations do not address groundwater as well as they address soil contamination for this purpose. Steve also noted that the risk assessment will be an RCRA document and will be done by the SWMU group. Steve Lemons stated that we would stay with the same schedule.

The EPA is sending a letter to KAAP requesting a work plan by April 14, 1995, for the Interim Measures (Fish/ Pond) Study. Steve Lemons stated that the scope of work for this as well, as for the risk assessment repository, the community relations plan, and the Consent Order risk assessment were given to the COE contracting February 7, 1995. He also stated that February was a training month for contracting and that slippage of the schedule would be necessary. Captain Schorr asked for the person to contact to prevent this slippage. A call was placed later in the morning and Mr. Lemons informed the group that contracting would not cause a delay. Advance copies of the scopes of work were provided to the contractors. Steve Wharton stated that EPA protocols would be used in the Interim Measures Study. Bruce Littel, EPA, is the author of these protocols and can be reached at (913) 551-5043 if any clarification is needed. Steve Travis asked for a copy of the Interim Measures Study work plan. This plan should be complete by the middle of April.

The EPA has received a letter regarding three possible new SWMUs. The Part B permit addresses this subject and an assessment plan could be required. The assessment will be covered by the Phase II work.

The Community Relations Plan scope of work will be as previously discussed and will comply with EPA requirements.

Carolyn Smalley was tasked with checking to see if a KAAP repository still existed at the Parsons city library.

Steve Wharton stated that the EPA has assigned a Hazard Ranking Score (HRS) for facilities listed on the Federal Facilities Compliance Docket. The facilities were then given a score or issued a " no further action" . At this point, KAAP has had some scoring , but is now on hold.

Radian will act as the repository for the Fate/Transport table of contaminants of concern. USACHPPM and USAEC, among others, will provide support for this effort. Steve Travis asked if this could include information on daughter products of various explosives and the effects of naturally-occurring substances on explosives. This would relate to possible treatment alternatives. Biological treatment and composting were discussed as possible treatment options. Characterization of soil needs to be looked at now if KAAP is considering bio-remediation as a treatment option. Soil characterization now may prevent the need for a Phase III or a Phase IV effort. This characterization can be performed on a percentage soil samples instead of all samples. This characterization may be appropriate for the 700 Area effort for explosives contamination.

The 700 Area Consent Order schedule will be modified by the removal of completed items. Major items that have been completed will be on a separate list. This is being done with the concurrence of the KDHE and the EPA.

The Final Report Pre-Remedial Design Investigation for the 700 Area was received by everyone except the EPA on or before February 7, 1995. This will be corrected by Radian and the COE.

Notes from the teleconference on risk assessment protocol are Attachment 2. A discussion restating the major points of this discussion followed. The 700 Area will be considered in at least 2 separate areas. As a minimum, residential and industrial future use scenarios will be used.

Steve Wharton asked what the role of AMC was at this point. Radian replied that AMC was sent a copy of everything and had not commented on anything to date. Steve Lemons added that AMC typically only participates on decision documents. A flow chart for decision documents and records of decisions is included as Attachment 3.

Steve Lemons stated that the scope of work for the Risk Assessment for the 700 Area Consent Order Investigation would go to the contractor on February 21, 1995. This item was discussed in a teleconference on February 3. KAAP, after requesting to be included in this call at the January meeting, was not included. This conference call was thirteen days late. KAAP requested a copy of the minutes and of the scope of work. The COE will provide this to KAAP. Comments from KAAP will be faxed to the COE February 21, 1995.

Various changes were made in the 700 Area schedule due to the completion date of the scope of work The date for the draft Risk Assessment report remained June 1, 1995. The updated schedules are Attachment 4.

Deed restrictions were discussed. AMC is interested in this concept and CERCLA may require these restrictions should any of the affected areas change ownership.

The tentative agenda for the March 14, 1995, meeting at KAAP is as follows:

- Update Fate/Transport Table
- Pre-Remedial Design Investigation Final Report discussion
- Status on the well replacement issue and the Comprehensive Monitoring Evaluation
- Deed restriction discussion
- Status of the draft Interim Measures Study work plan
- Status of the Community Relations work plan

Law Environmental will be at KAAP March 13, 1995, to check pond access.

MINUTES FOR TELEPHONE CONFERENCE CALL
1400 HRS, 03 FEBRUARY 1995

Participants		
	Radian	Jim Clary, Sandy Smith, Vince Reynolds
	COE	Dave Daniel, Steve Lemons
	Law	Jeff Margolin
	KDHE	Andrea Austin, Steve Travis, Scott Nightingale

1. Questions arose concerning the approaches to take regarding background data. Dave Daniel asked if we should compare the maximum detected to 2X the arithmetic mean. Steve Travis noted that there already exist pretty good data on background levels of various contaminants actually measured across the site. Jeff Margolin recommended doing a means comparison. Dave Daniel noted that this approach might not be able to detect hotspots and suggested that the max detect be compared to the mean plus two standard deviations. A consensus was reached that we would 1) do a means comparison (UCL of background vs. UCL of SWMU) and then 2) compare individual max detects to UTLs.

2. The next issue discussed was toxicity screening. There was a general agreement that tox screening is a good method to reduce the number of chemicals of concern and to reduce effort and cost. Andrea Austin suggested using a risk-based screen with $1x10^{-7}$ for cancer and 0.1 for Hazard Quotients. Jeff Margolin recommended using EPA Region III RBCs since they are updated frequently. Sandy Smith asked if it was appropriate to do the risk screen PRIOR to background comparisons, blanks comparisons, etc. This approach would save a lot of work. Steve Travis agreed that this was a valid approach. Andrea Austin noted that the Region III RBCs do not include fugitive dust considerations. Sandy Smith pointed out that this is really a concern only with certain metals (e.g., nickel, cadmium, lead, mercury). A general consensus was reached that the risk screen could be done prior to background and blanks comparisons.

3. Questions regarding lead were addressed next. Dave Daniel asked about Comment #10, KDHE Comments on the Scope of Work for the KAAP 700 Area Baseline Risk Assessment, dated 10 January 1995. It appeared that the 5 ug/dL lead blood level might be a concern. Jeff Margolin pointed out that

EPA becomes concerned if IEUBK model results suggest that >5% of children would have >10 ug/dL blood lead. Dave Daniel wanted to know the cleanup level for lead. Jeff Margolin volunteered to track this down. Andrea Austin also had some documents which could provide some guidance. She will forward these on to Radian.

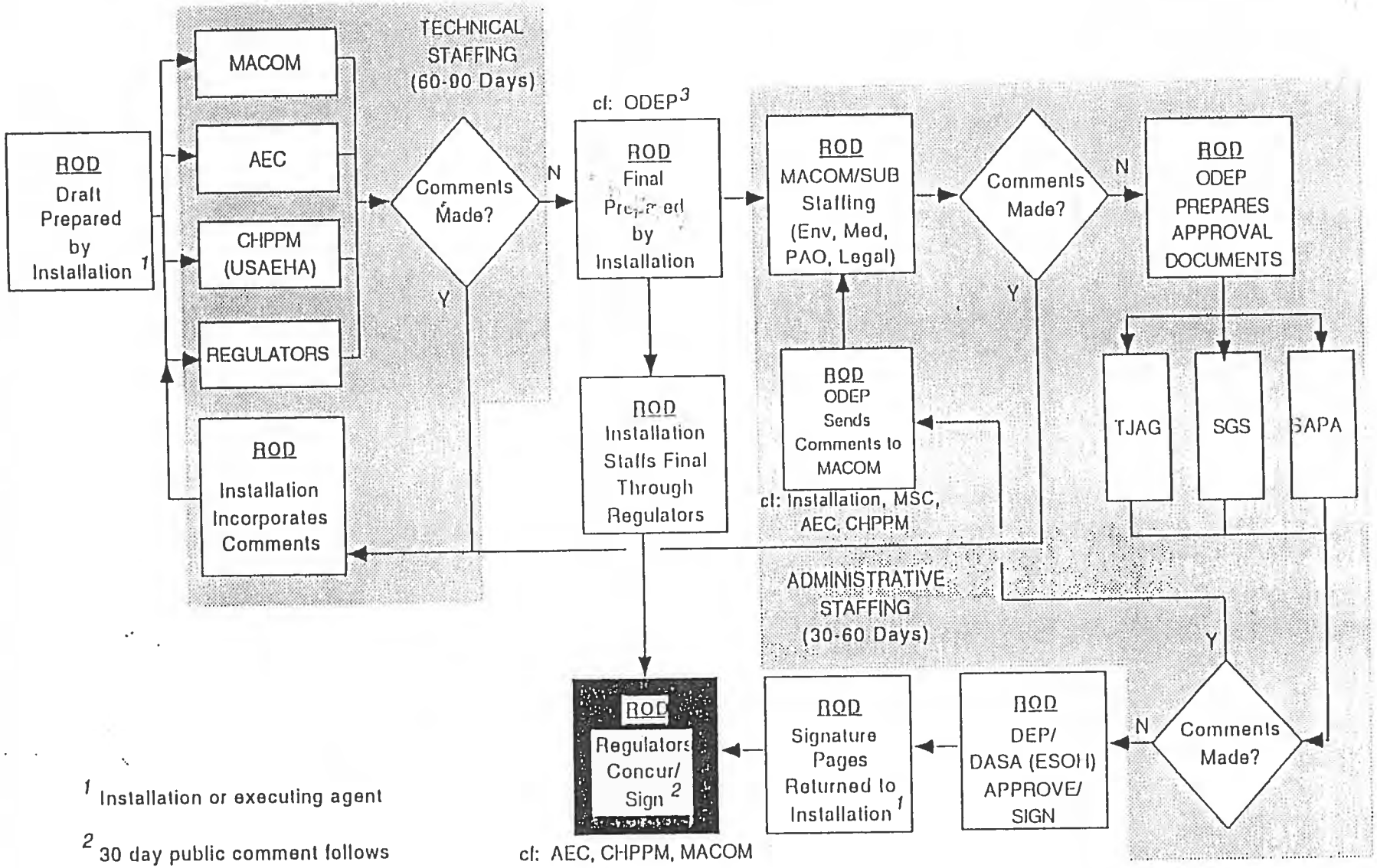
4. Discussion of the exposure scenarios followed. Andrea Austin suggested that the three areas (700 area, Southwest area, and South area) were distinct based upon original source, drainage patterns, different soil particulate properties, etc. Jeff Margolin asked why the areas should be considered separately. Andrea Austin suggested that the residential scenario be used for the 700 area and the subsistence farmer scenario be used for the adjacent areas. Steve Travis thought it would be OK to combine the areas since the residential scenario would be the most conservative. It was decided that there should be two areas: the 700 area; and the combined South/Southwest area. Jeff Margolin recommended calling it all "Future Use". Dave Daniel advised that COE wanted some less conservative scenarios to generate a range of risks. Multiple scenarios would allow greater flexibility for assessing the most reasonable future land uses. There was a lot of agreement with this point of view. There was some discussion regarding an agricultural scenario. It was agreed that a "subsistence agriculture" scenario should not be included since the residential scenario would adequately define the most conservative end of the risk spectrum. It was decided instead to include a more modest agricultural scenario consisting of a "home garden" situation. The "industrial" scenario should be a standard industrial scenario rather than the relatively quiescent situation that now exists.

5. There was some discussion on how to approach the issue of reasonable maximum exposures. In the past, 95% UCL has been used. Andrea Austin has seen some published positions that the 90% level may be adequate. There seemed to be general agreement that 90% was appropriate. Radian will use the arithmetic mean to estimate average risk. Reasonable maximum risks will be calculated off the UCL.

RECORD OF DECISION

*STAFFING PROCEDURE**

*Does not apply to FUDS; see DERP/FUDS Manual



1 Installation or executing agent

2 30 day public comment follows

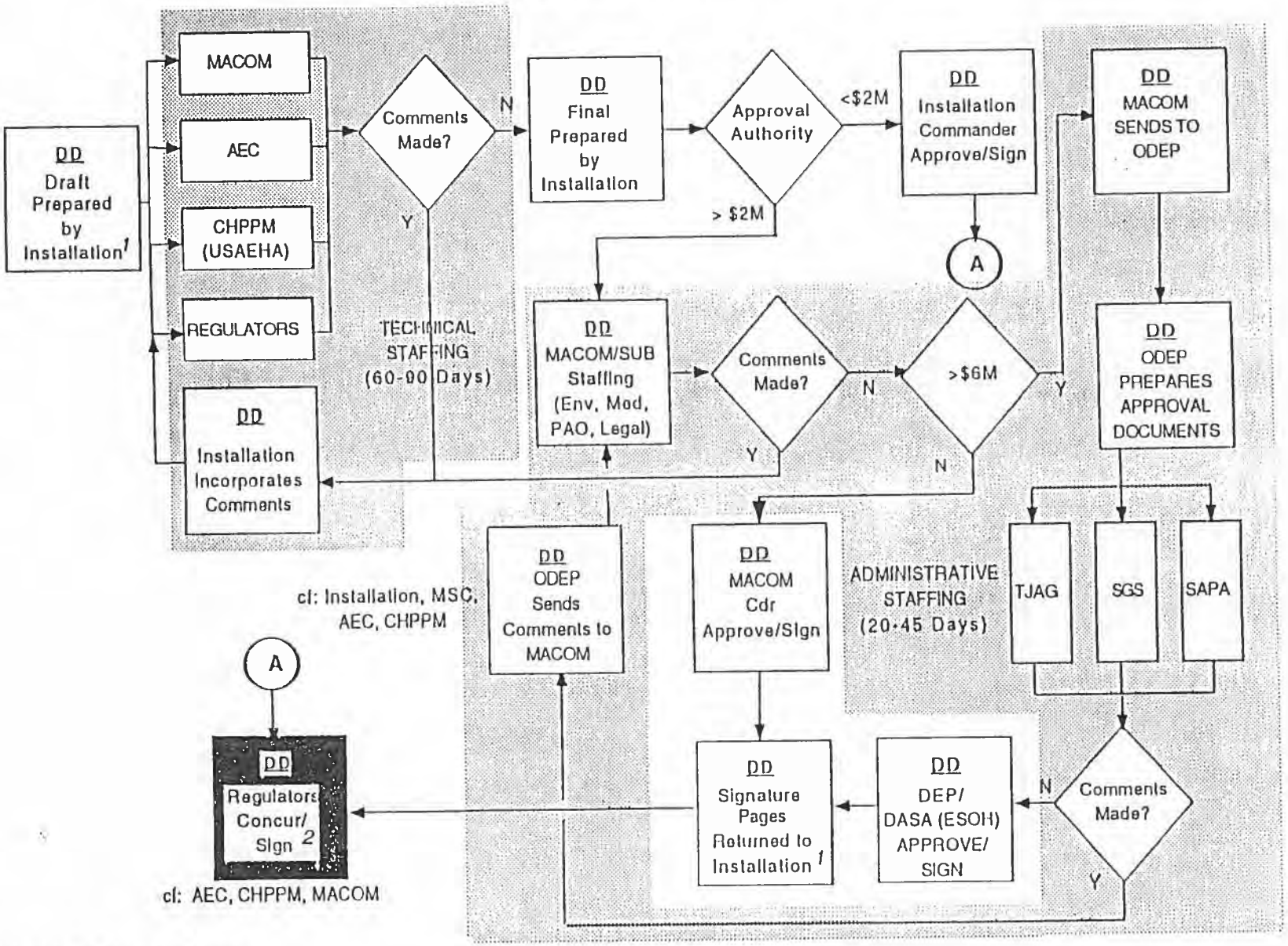
3 When expedited staffing is necessary

ATTACHMENT 3

DECISION DOCUMENT

*STAFFING PROCEDURE**

*Does not apply to FUDS; see DERP/FUDS Manual

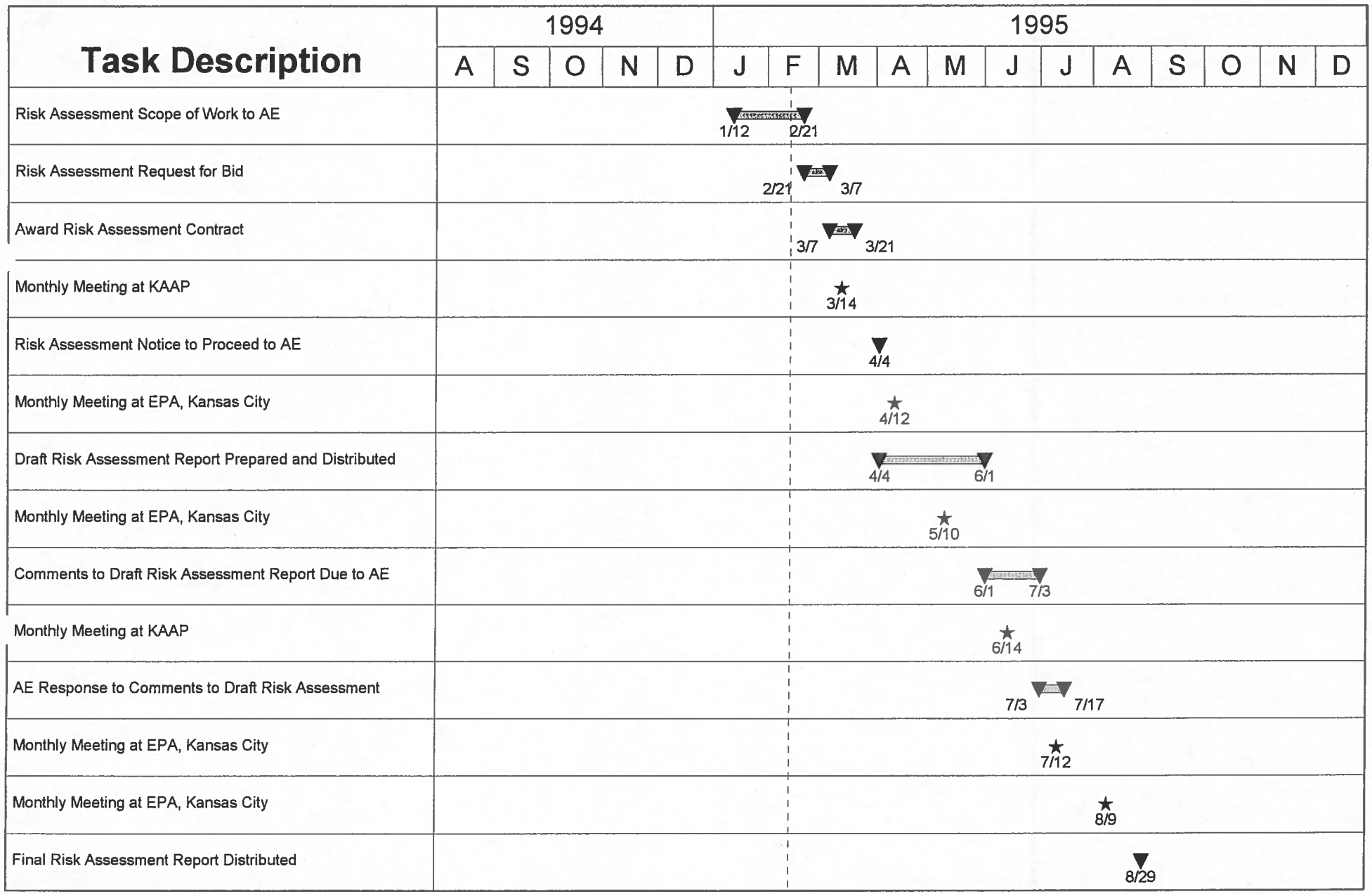


[1] Installation or executing agent

[2] 30 day public comment follows

700 Area Consent Order Schedule

2/13/1995



700 Area Consent Order Schedule

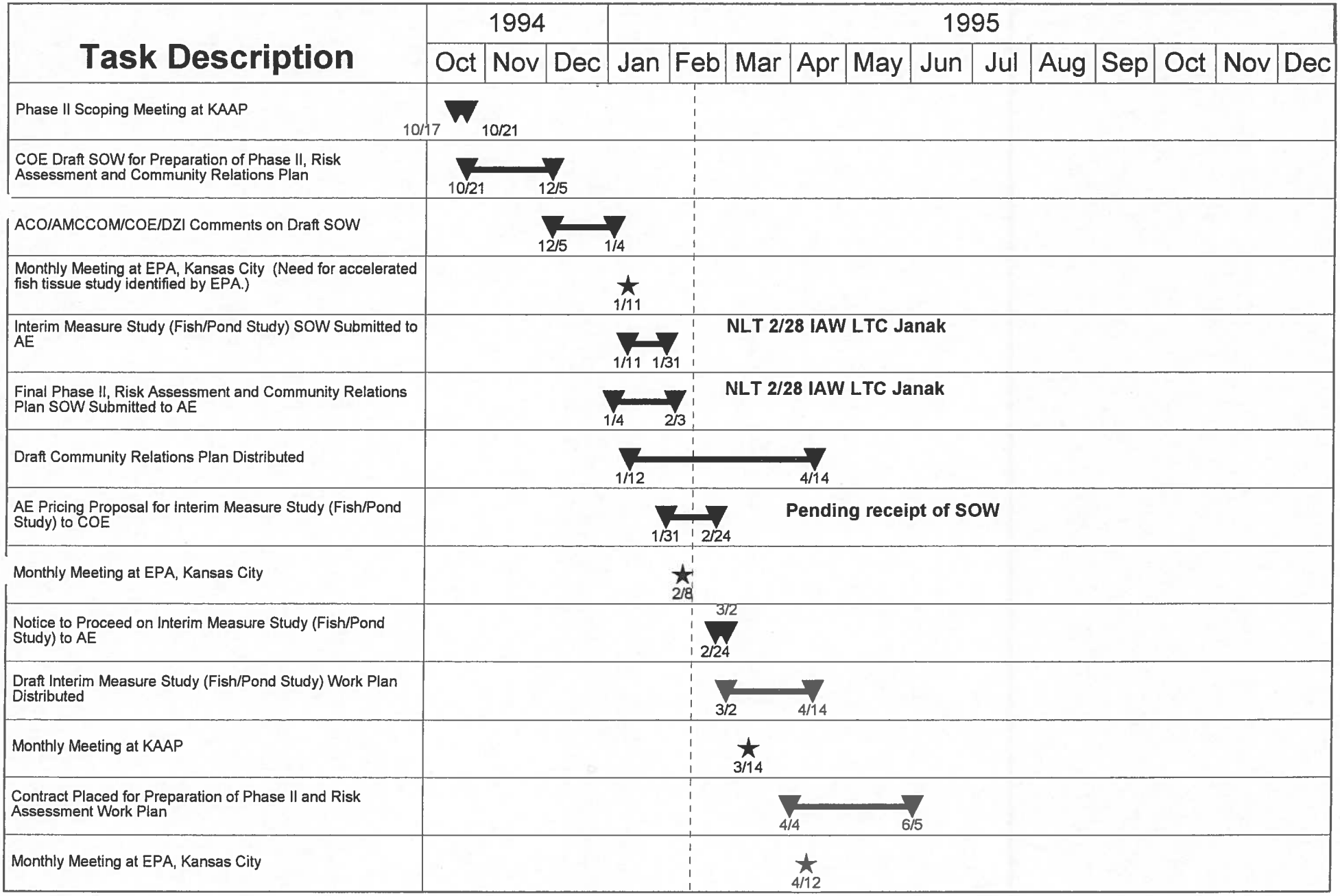
2/13/1995

Task Description	1994					1995											
	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
Monthly Meeting at KAAP														★ 9/13			
Monthly Meeting at EPA, Kansas City															★ 10/11		
Monthly Meeting at EPA, Kansas City																★ 11/8	
Monthly Meeting at KAAP																	★ 12/13

Risk Assessment ★ Monthly Meetings

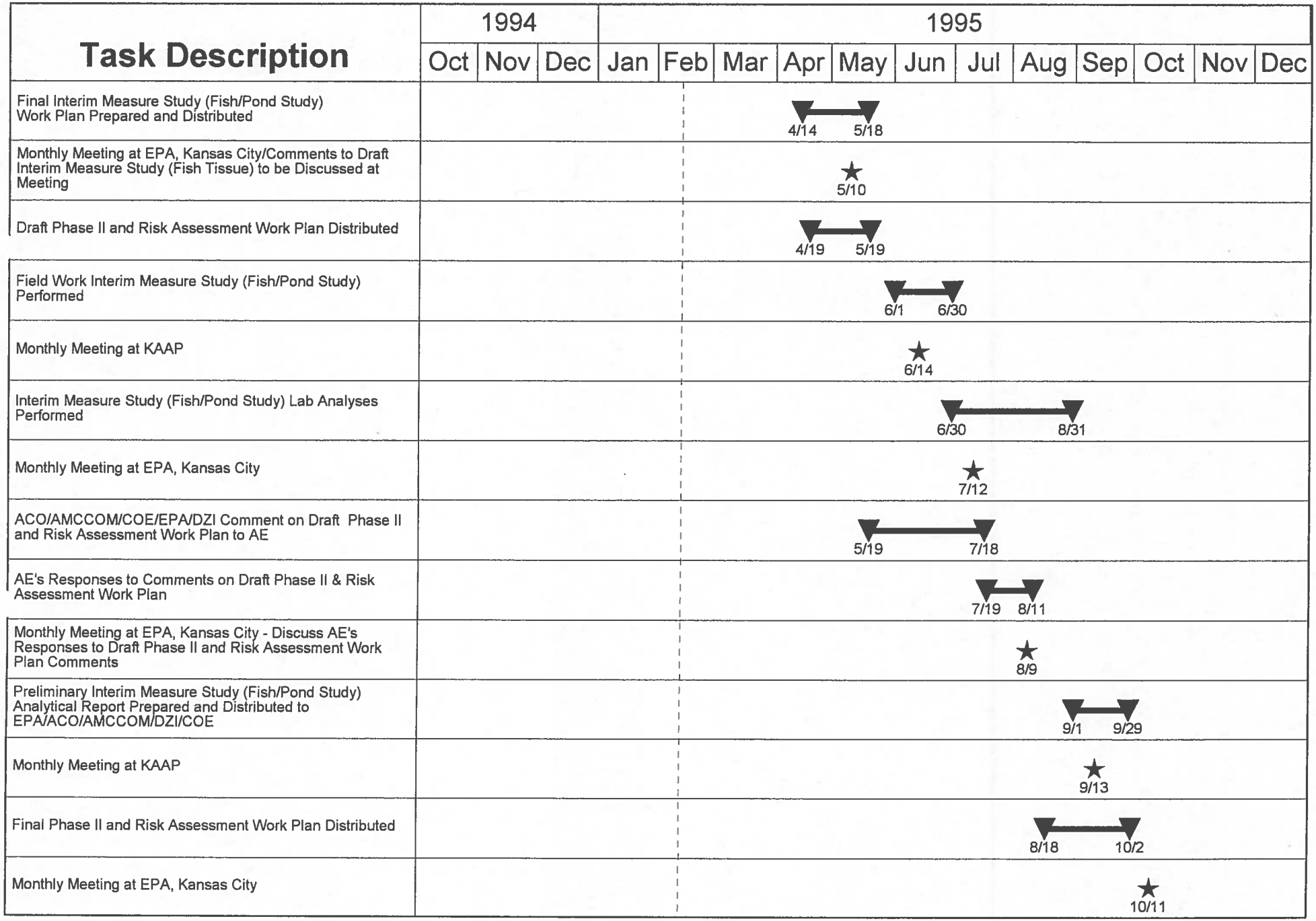
SWMU Phase II Schedule

2/13/1995



SWMU Phase II Schedule

2/13/1995



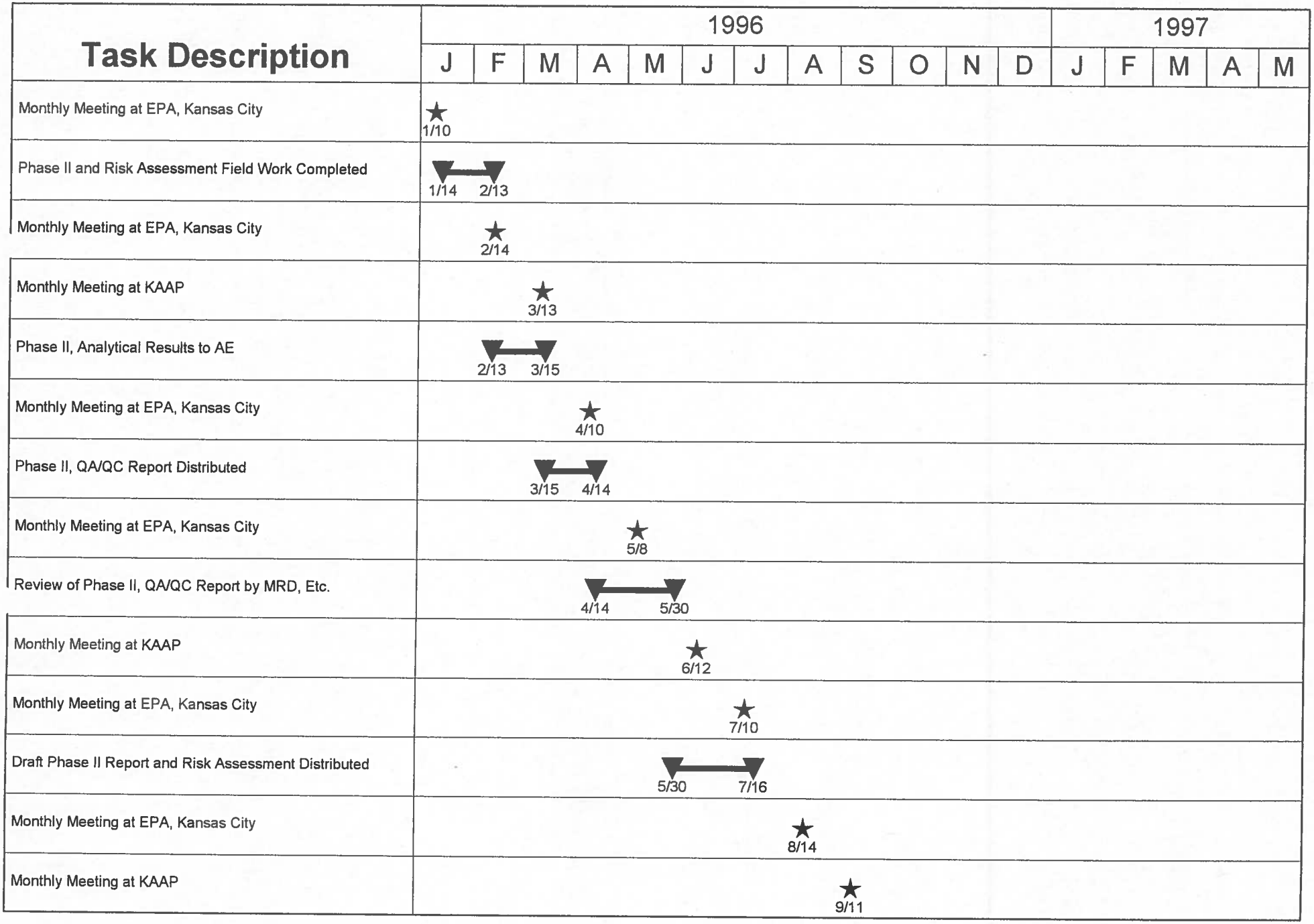
SWMU Phase II Schedule

2/13/1995

Task Description	1994			1995											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
EPA Approval of Phase II and Risk Assessment Work Plan												10/2	10/16		
Monthly Meeting at EPA, Kansas City														★ 11/8	
Monthly Meeting at KAAP															★ 12/13

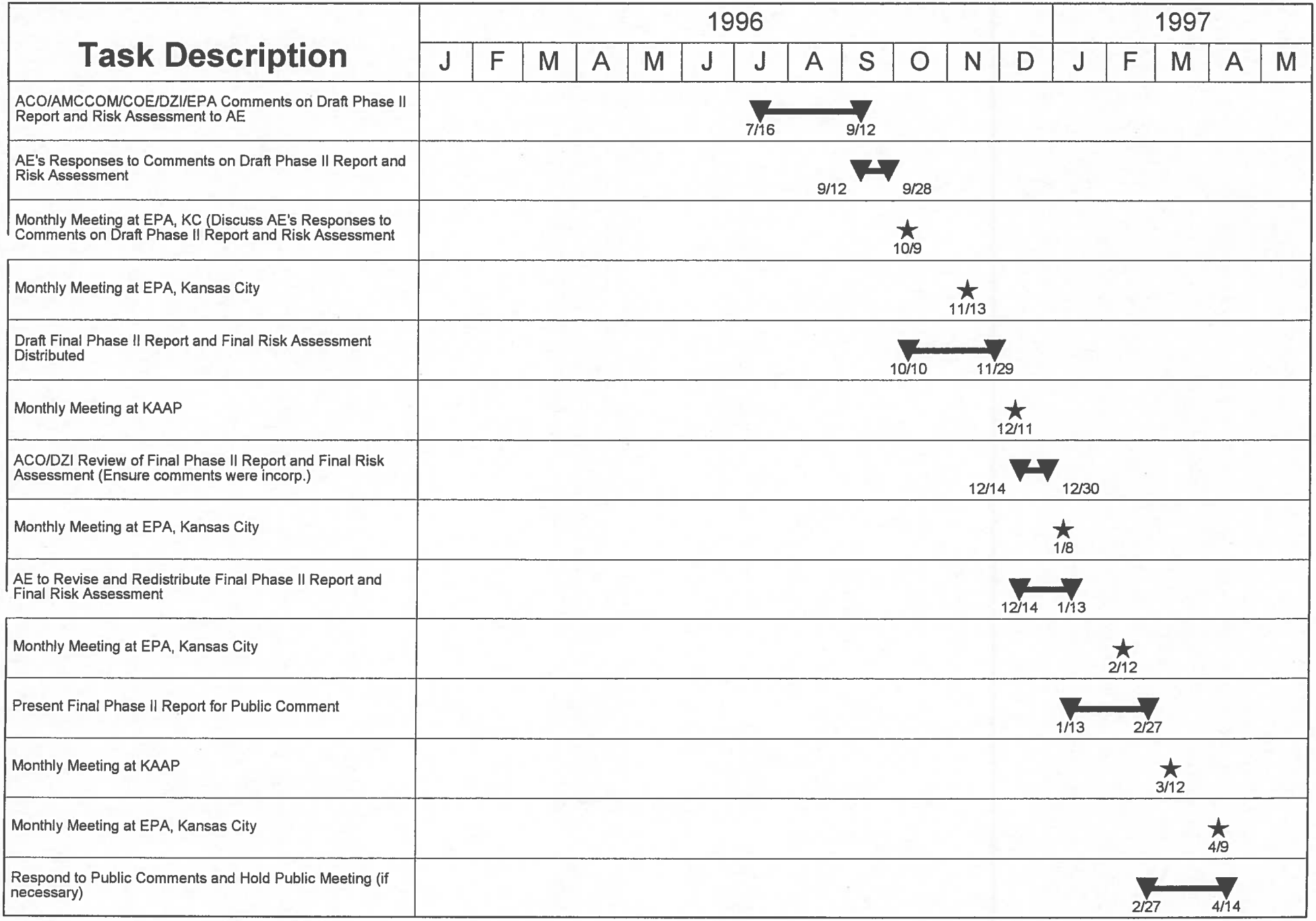
SWMU Phase II Schedule

2/14/1995



SWMU Phase II Schedule

2/14/1995



DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

1 February 1995

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigations - RFI SWMU's Phase II, and 700 Area Consent Order Project Monthly Review Meeting

RECEIVED
BUREAU OF
FEB 0 3 1995
WASTE MANAGEMENT

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis:

Enclosed are three copies of notes (encl.1) for the 11 January 1995 meeting held at the EPA Region VII Office. Also enclosed are three copies of revised milestone charts for the RFI SWMU's and 700 Consent Order projects (encl. 2)

The next monthly meeting will be held on 8 February 1995, at the EPA Region VII office. The meeting start time has been changed to 0800 hours. The proposed agenda remains the same as discussed in the 11 January meeting and can be found in enclosure. All visitors should report to the guard on duty in the main lobby at 726 Minnesota Ave.

If you have any questions or require additional information Please contact Mr. Glen Parish at 316-421-7596.

Sincerely,

Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

Steve
I'm looking for a
lot #.

INSTALLATION RESTORATION PROGRAM
SOLID WASTE MANAGEMENT UNITS
AND
700 AREA CONSENT ORDER
MEETING
January 11, 1995

See Attachment 1 for a list of attendees.

A history of the Kansas Army Ammunition Plant's (KAAP's) RCRA Part B Permit and 700 Area Consent Order was given. Phase I of the Solid Waste Management Units (SWMU) investigation has been completed and Phase II efforts are currently on schedule. The Corps of Engineers (COE) has prepared a draft scope of work which has been reviewed internally as well as by KAAP and AMCCOM personnel. The COE will distribute the revised scope of work to the contractors by late January for pricing.

Steve Lemons stated that there had been a suggestion that the SWMU Risk Assessment be on a separate schedule, but that such action would increase costs and duplicate efforts. Jeff Margolia said he thought the pond/fish portion was the only part of the Risk Assessment that was to be moved up on the schedule. Steve Wharton stated that the EPA will be forwarding KAAP a letter invoking the "interim measures" portion of the permit in regards to the fish tissue portion of the Risk Assessment. This action by the EPA will require that the fish samples be collected and results reported to the EPA quickly in order that a decision can be made regarding continued fishing, etc. activities at the affected ponds.

Steve Wharton asked for clarification of each AE's deliverables. The response was that Radian will investigate the six production areas and that Law will investigate the remaining 18 areas and the three newly identified areas, will update the Community Relations Plan, and will prepare the risk assessment for the SWMU sites.

There was a discussion regarding combining the risk assessments for the 700 Area Consent Order and the SWMU efforts. It was determined that combining these efforts would be unfeasible since the 700 Area Consent Order effort is considerably further along than the SWMU effort and also because the 700 Area Risk Assessment is required in order to negotiate a cleanup level with the KDHE. The protocol for performing the 700 Area Consent Order Risk Assessment has been submitted by Radian and reviewed by KDHE and KAAP personnel. Radian is to finalize all comments and submit the final protocol to the COE. During the discussion, it was noted that the fish tissue information gathered from the 700 Area oxidation ponds will be collected under the SWMU investigation with the analytical results reported in the 700 Area Risk Assessment.

Vince Williams, Law, gave a summary of how the Fish/Pond Study for the 16 previously identified ponds will be accomplished. Fish tissue samples will be collected from two

species, one predator and one bottom feeder. Fillets as well as whole body samples will be analyzed. Attempts will be made to collect three fish of each species from each pond. Note: Andrea Austin, KDHE, stated that the KDHE normally requires five fish of each species for analysis. The three fish will then be composited for analysis. Lynden Peters, Law, asked if the KDHE/EPA will require split samples or QA samples of the fish. KDHE representatives replied with EPA, and COE, representatives indicating yes. Discussions were held regarding if fish need to be collected from Labette Creek, Neosho River, etc. and if sediment samples could be collected from the ponds at the same time as the fish samples. Vince Williams indicated that the regulatory agencies will need to prioritize analyses to be done if a sufficient amount of fish cannot be collected. Steve Lemons asked Law if he has a scope of work to them by the end of January indicating how many samples are to be collected, etc., will they be able to have their pricing prepared by the end of February. Law replied affirmatively and Steve Lemons indicated that a Notice to Proceed would be issued by March 2, 1995, and that the draft work plan would be due by April 14, 1995. Comments on the draft work plan will be reviewed during the May monthly meeting. Law estimated that the field work will be completed in four weeks, the analytical results received in two months with a preliminary report to the EPA by September 29, 1995. Documents prepared for the fish/pond study are to be titled Interim Measure Study and subtitled Fish/Pond Study.

The 700 Area Risk Assessment will be modeled for residential and most likely usages. However, the residential will not drive cleanup efforts, but will provide for compromise levels. Tim Howard stated that the Department of Army does not want any more Formerly Used Defense sites and that AMCCOM wants to see all possibilities, but that the installation will probably be used for commercial/industrial and maybe agricultural purposes in the future. KDHE representatives indicated that the water column data will be required in the 700 Area Risk Assessment.

Vincent Reynolds, Radian, distributed a table of information pertaining to the toxic and physical information for twelve explosives. Steve Wharton requested that the table be spilt in order to separate the toxicity information from the physical characteristics. It was also discussed that lead azide, lead styphnate, and mercury fulminate be added to the table. In addition, Steve Wharton asked that the information be continually updated as additional information is obtained and that all references be included.

Jeff Margolin, Law, distributed and discussed a table pertaining to organic contaminant degradation data.

The SWMU Risk Assessment will be based upon each SWMU group and will include human health and ecological information.

Law has been tasked with preparing a draft Community Relations Plan for distribution and comment by April 14, 1995. Steve Lemons recommended having one public meeting each year during 1995 and 1996, preparation of quarterly fact sheets to be submitted to KAAP, setting up a repository to be updated monthly, and designated a point of contact for the

public. Steve Lemons asked if an interest survey needed to be performed. Steve Wharton replied that KAAP has a facility mailing list that could be used in lieu of the survey.

Steve Wharton asked that the Task Descriptions on the SWMU Phase II Schedule be expanded to include the risk assessment, fish study, etc. Copies of the revised schedules for the SWMU and 700 Area efforts will be forwarded to the Commanding Officer no later than January 23, 1995, for distribution.

Mark Duncan, KDHE, is reviewing KAAP's responses to the Comprehensive Monitoring Evaluation for the 700 Area. Replacing the 700 Area Series 1 monitoring wells was discussed. Steve Travis stated that if the COE did not believe the wells need to be replaced, that a letter must be submitted to the KDHE explaining the COE's reasoning. Steve Lemons stated that if the wells do need to be replaced, the replacement will be completed by September 1995.

The protocol for the 700 Area Risk Assessment was discussed. KDHE and KAAP have completed their review of the protocol. Steve Lemons stated that Dave Daniels, COE, is reviewing the protocol. A teleconference will be held January 20, to discuss comments to the protocol. Items to be decided include determining if the 700 Area will be handled as one area, two areas (700 proper and pond areas), or three areas (700 proper, south pond area, and southwest pond area); and addition of subsistence farmer (above and below ground crops) to Future Scenarios (paragraph 2.3). Regulatory representatives stated that if models are used in preparing the risk assessments, as much information as possible about the models must be included in the risk assessments. In addition, negotiable risk levels were also discussed.

Steve Lemons is to take the lead on completing the following action items.

1. Contacting the USAEHA regarding their representation at the next monthly meeting.

2. Collecting and distributing Fate and Transport information.

3. Updating and distributing the scopes of work.

The following preliminary agenda was discussed.

- USAEHA Speaker
- Status of Projects
- Risk Assessment Repository
- Protocol Teleconference Results

State of Kansas

Bill Graves Governor

Department of Health and Environment

Bob Mead, Acting Secretary

January 25, 1995

Mr. Steve Kosman, Director of Engineering
Day and Zimmermann, Inc.
Kansas Army Ammunition Plant
East U.S. Highway 160
Parsons, Kansas 67357-9106

Re: Disposal of non-hazardous waste

Dear Mr. Kosman:

The Kansas Department of Health and Environment (KDHE) is in receipt of your letter dated November 3, 1994 concerning disposal of certain wastes you identified as non-hazardous. Based on a conversation with John Ramsey in our Hazardous Waste Section, KDHE considers the following wastes as non-hazardous based on previous sampling performed by KAAP:

1. Air pollution control system residue from the contaminated waste processor.
2. Zirconium sponge residue.
3. Contaminated waste processor basket ash.
4. Comp A-5 wet sumpage open burning residue.
5. Cyclotol wet sumpage open burning residue.
6. Support collar open burning residue.

These wastes may be disposed in the KAAP's permitted industrial landfill.

The remaining wastes you identified had not been reviewed by Mr. Ramsey, nor was any documentation provided as to why the material was classified as non-hazardous waste. Therefore, prior to evaluating your request for the remaining wastes that were identified, you must submit documentation as to how the waste was characterized as non-hazardous. The type of documentation required should consist of analytical laboratory results and/or material safety data sheets.

On a related topic, I discussed with Victoria O'Brien that our industrial landfill permits are currently written to address specific waste streams. The requirements for the landfill design are then based on the material that it will receive. Your current permit is open ended in that it does not address specific waste streams. This is of concern to us since the landfill is essentially a trench with no true liner system, and no monitoring wells. Therefore, we are proposing to modify your landfill permit to address specific waste streams. Once these waste streams are permitted, it would no longer be necessary to request disposal for each load. We will, however also evaluate the need for a engineered liner system based on the characteristics of the waste received.

Division of Environment, Bureau of Waste Management, Forbes Field Building 740, Topeka, Kansas 66620-0001 Telephone: (913) 296-072
Fax Number: (913) 296-159

Printed on Recycled Paper

We request you submit the following information to in order to evaluate any needed modifications to the permit:

1. A brief description of each waste stream that is directed to the landfill.
2. A summary of any laboratory analyses for each waste stream directed to the landfill.
3. Estimated quantities of each waste stream directed to the landfill.
4. An plan addressing all phases of landfill operation, including but not limited to:
   A. Cell construction details.
   B. Daily operating details - waste placement, application of daily cover, application of intermediate cover, application of final cover, etc.
5. A sketch of which portions of the existing permitted site have been filled.

One last item regarding the landfill has been brought to our attention by KDHE's Hazardous Waste Section. KAAP is proposing to operate a commercial open burn/open demolition (OB/OD) enterprise. A brief review of the amended Part B application did not produce any clarification as to the disposition of any residue generated as a part of the commercial OB/OD operation. If the residue from this operation is proposed to be landfilled on-site, our Solid Waste Permit Unit would need to be involved in evaluating the adequacy of the current landfill to accept the residue.

Any questions regarding the permit modification, or any impacts of the commercial OB/OD residue should be forwarded to Mr. Joe Cronin at 913/296-1667. Any other questions concerning this letter should be directed to me at 913/296-0724.

Sincerely,

Michael B. Tate, P.E.
Solid Waste Section
Bureau of Waste Management

MBT/sc

c - Joe Cronin
Tom Gross
John Mitchell/John Ramsey
Charlie Bowers - SEDO

RECEIVED
BUREAU OF
JAN 20 1995
WASTE MANAGEMENT

January 17, 1995

Environmental Office
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam

Three copies of subject report for the period 1 October 1994 through 31 December 1994, are enclosed for your use as required by KAAP's RCRA Part B permit.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-EQ/T. Howard(w/encl)
CEMRK-ED-TD/S. Lemons(w/encl)
✓KDHE Hazardous Waste Sec(w/encl)
DZI Env Eng/V. O'Brien(wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTION ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD OCTOBER 1 THROUGH DECEMBER 31, 1994

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of work completed: A SWMU Phase II Scoping Meeting was held at KAAP October 17 through 20, 1994, to discuss the efforts required to complete Phase II of the investigation. Representatives from the Environmental Protection Agency, COE, Radian, Corporation, Law Environmental, ACO, and Day & Zimmermann, Inc. attended the meeting.

   As a result of the items discussed during the meeting, the Corps of Engineers prepared a Draft Scope of Work for Phase II of the SWMU investigation. The Draft Scope of Work has been reviewed by AMCCOM, ACO, COE, and Day & Zimmermann, Inc., with comments due to the program manager no later than January 4, 1995.

2. Summaries of all findings, including summaries of laboratory data: Not Applicable.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify the problems: None.

4. Projected work for the next reporting period: COE will address all comments made to the Draft Scope of Work for Phase II and submit the Scope of Work to the contractors for review and initiation of contract negotiations.

State of Kansas

Joan Finney Governor

Department of Health and Environment

Robert C. Harder, Secretary

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WASTE MANAGE

January 6, 1995
Permit No. 0990010

Steve W. Kosman
Director of Engineering
Government Systems Group
Kansas Division
East U.S. Highway 160
Parsons, Kansas 67357-9106

ATTN: Victoria S. O'Brien, D & Z, Inc.

Dear Mr. Kosman:

The Department is in receipt of the Kansas Army Ammunition Plant (KAAP) letter requesting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption is for the open burning of 7 categories of explosive hazardous waste. The categories are as follows:

1) Comp A-5 West Sumpage and Sump Sludge
2) Cyclitol & Octol Wet Sumpage, and Sump Sludge
3) Com B and TNT Wet Sumpage and Sump Sludge
4) Comp A-5, Comp B, Comp CH-6, Cyclitol, Octol, RDX and TNT Scrap
5) Absorbent Materials from Cleanup of Comp B, Cyclitol, Octol and TNT Wastewater Spills
6) Propellants and Propellant Charges
7) Support Collars with M55 Stab Detonators

By letter dated July 12, 1990 the Department provided KAAP a critique of each of the first 5 categories in regard to open burning. The Department findings were that all categories are acceptable to be open burned with exception of the lead foil lined bags associated with item no. 6, propellants and propellant charges.

By letter dated April 29, 1992 the Department approved the burning of item no. 7. Item no. 7 comes under both Air Quality and RCRA review.

Division of Environment, Bureau of Air and Radiation
Forbes Field, Building 283, Topeka, KS 66620-0001

Telephone: (913) 2
FAX: (913) 296-1545 or (913) 2

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Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting exemption to KAAP for the burning of explosive hazardous waste, items 1 through 7 with exception of lead foil lined bags.

This exemption is valid through December 31, 1995. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice at the Department's option.

If there are further questions in regard to this matter, please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Radiation

DAS:tam
C John Ramsey, BWM
Lynn Ranabargar, SEDAQR

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

2 November 1994

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WASTE MANAGEMENT

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigation - RFI Swmu's Phase II Scoping Meeting at KAAP on 17-20 October 1994

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis

Enclosed is a copy of the minutes for the RFI SWMU's Phase II Scoping meeting held at Kansas Army Ammunition Plant on 17-20 October 1994

The Point of Contact is Glen Parish, 316-421-7596

Sincerely,

Thomas S. Schorr, Jr.
Captain, U.S. Army
Commanding Officer

Copy Furnished(wo/encl):
DZI ENV ENG/ Smalley

Conduct additional ditch sediment and surface soil sampling to determine the extent of sediment and surface soil contamination for explosives, SVOCs, and metals identified during Phase I investigation.

Bill Lowe asked that steps be taken to determine if the water in the manmade hole adjacent to Building 907 is or is not groundwater.

SWMU Group No. 9 - 1000 Area Sumps, Ditches, and Ponds

Data Gaps: Presence/absence of explosives and total metals in subsurface soils near the sumps and ditches and in the surface soil adjacent to the sumps has not been determined.

Recommendations: Collect and analyze surface and subsurface soil samples in conjunction with the sumps and ditches to determine presence/absence of explosives and total metals.

Install additional downgradient monitoring wells to determine extent of groundwater contamination identified during Phase I. Analyze samples for explosives, VOCs, SVOCs, and total metals.

SWMU Group No. 10 - 1100 Area Sumps, Ditches, and Oxidation Ponds

Data Gaps: Presence/absence of explosives in the sediment of the south oxidation pond was not determined.

Recommendations: Surface and subsurface soil samples should be collected and analyzed to determine the extent of contamination around the sumps and ditches.

Sediment samples should be collected from the south oxidation pond and analyzed for explosives and total metals.

Installation of downgradient monitoring wells is required to determine the extent of contamination for VOCs, SVOCs, explosives, and total metals.

SWMU Group No. 11 - Open Burning Pad Nos. 1, 2, 3, & 4

Data Gaps: Presence/absence of PCBs in the surface soils, sediments, subsurface soils, and groundwater was not determined.

Recommendations: Test burn areas for PCBs and Dioxins.

Test trench areas for all analytes.

Collect and analyze surface and subsurface soils to determine presence/absence of VOCs, SVOCs, total metals, and explosives.

Collect and analyze sufficient samples to determine extent of contamination determined during Phase I.

SWMU Group No. 12 - Classification Area

Data Gaps: Total metals contamination in the stream sediment was not determined.

Recommendations: Determine extent of TRPH contamination near soil boring 12-04. **NOTE:** Steve Wharton stated that this action was not necessary and could be deleted from Phase II requirements unless he got back with us to indicate differently.

Collect downstream sediment samples and analyze the samples for total metals.

SWMU Group No. 13 - Closed Landfill Near Quarry

Data Gaps: Presence/absence of VOCs, SVOCs, and total metals in subsurface soils was not determined.

Recommendations: Collect and analyze subsurface soil samples for VOCs, SVOCs, and total metals.

Install upgradient and downgradient monitoring wells and analyze samples for VOCs, SVOCs, and TRPH.

SWMU Group No. 14 - 200 Area Closed Landfill and Burn Pits

Data Gaps: Presence/absence of PCB contamination in surface soil, sediments, and groundwater was not determined.

Presence/absence of VOCs, SVOCs, and total metals in surface soils, subsurface soils, and sediments.

Insufficient groundwater data.

Recommendations: Install upgradient and downgradient monitoring wells. Collect and analyze samples for VOCs, SVOCs, PCBs, explosives, and total metals.

Analyze surface, subsurface soil, and sediments samples for VOCs, SVOCs, PCBs, dioxins, and total metals.

SWMU Group No. 15 - Active Landfill

Data Gaps: Presence/absence of total metals in surface soils, sediment, and surface water was not determined.

Recommendations: Collect surface soil, subsurface soil, sediment, and surface water samples and analyze for total metals.

SWMU Group No. 16 - Closed Landfill Near Open Detonation Area

Data Gaps: Presence/absence of PCBs in surface soils, sediment, subsurface soils, and groundwater was not determined.

Presence/absence of VOCs, SVOCs, and total metals in subsurface soils was not determined.

Inadequate groundwater monitoring system.

Recommendations: Collect additional stream sediment samples and analyze for PCBs and total metals.

Collect subsurface soil samples and analyze for SVOCs, VOCs, PCBs, dioxins, and total metals. Also collect surface soil samples and analyze for PCBs and dioxins.

Install upgradient and downgradient monitoring wells and analyze for VOCs, SVOCs, PCBs, and total metals.

SWMU Group No. 17 - Open Detonation Field

Data Gaps: Presence/absence of total metals in subsurface soil was not determined.

The extent of explosives and total metals in the sediment along drainageways outside of the fenced area needs to be determined.

Recommendations: Collect and analyze subsurface soil samples inside the demolition area for total metals.

Collect and analyze sediment samples outside the demolition area for explosives and total metals.

SWMU Group No. 18 - Sewage Treatment Plant Sludge Drying Beds

Data Gaps: None

Recommendations: During the meeting, Steve Wharton requested that the sludge levels recently set forth by the EPA be reviewed to determine need for future action.

SWMU Group No. 19 - Coal Pile Runoff Catchment Device and Ditches

Data Gaps: None

Recommendations: Collect and analyze subsurface soil samples from the ditches for SVOCs and total metals.

Collect sediment samples downstream from original samples and analyze for SVOCs.

SWMU Group No. 20 - Explosive Waste Incinerator

Data Gaps: None

Recommendations: None

SWMU Group No. 21 - Container Storage Units

Data Gaps: None

Recommendations: None

SWMU Group No. 22 - Contaminated Waste Processor

Data Gaps: None

Recommendations: Include any additional effort with SWMU Group No. 11.

SWMU Group No. 23 - Burning Cages No. 14, 17, and 22

Data Gaps: Presence/absence of SVOCs, VOCs, PCBs, and dioxins in surface and subsurface soils was not determined.

Presence/absence of groundwater contamination was not determined.

Recommendations: Collect and analyze surface and subsurface soil samples for PCBs, dioxins, SVOCs, and VOCs.

Install upgradient and downgradient monitoring wells and analyze for VOCs, SVOCs, PCBs, dioxins, explosives, and total metals.

SWMU Group No. 24 - Open Burning Pad Nos. 5 and 6

Data Gaps: Presence/absence of PCB contamination was not determined.

Presence/absence of VOCs and SVOCs in subsurface soils was not determined.

Presence/absence of explosives in subsurface soils below the pads was not determined.

Recommendations: Collect and analyze surface samples from the pad areas for PCBs and dioxins and from outside the pad areas for PCBs, dioxins, SVOCs, VOCs, explosives, and total metals.

Collect and analyze subsurface soil samples for PCBs, dioxins, VOCs, SVOCs, explosives, and total metals.

Install groundwater monitoring wells around the SWMU group and analyze for VOCs, SVOCs, PCBs, dioxins, explosives, and total metals.

NOTE: It was noted during the meeting that the list of analytes for this SWMU group should be expanded to include burn by-products.

Baseline Risk Assessment

Steve Lemons stated that the COE would like to prepare one assessment for the baseline and ecological portions. Steve Wharton agreed that one assessment would suffice as long as it contained all the necessary information. He also stated that the future use of each SWMU will need to be determined.

Steve Wharton has some information that has been compiled for investigations conducted at other ammunition plants. He stated that this information could be used in KAAP's investigation. He also stated that the risk assessment must include transport through plants to the human food chain.

Steve Wharton asked about the threatened and endangered species survey being conducted at KAAP by the Kansas Biological Survey. Richard Thomas replied that KAAP should receive the report from the Kansas Biological Survey next spring. The project, initiated in the fall of 1993 and funded by the Army, will be based upon the federal and the state lists of threatened and endangered species. Steve Wharton also asked about KAAP's Wildlife Management Plan, Richard replied that the plan is outdated.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

NOV. 01 1994

CERTIFIED MAIL
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Article No. P 011 468 359

NOV 07 1994

WASTE MANAGEMENT

Captain Thomas S. Schorr, Jr.
Commanding Officer
Kansas Army Ammunition Plant
Parsons, KS 67357-9107

Dear Captain Schorr:

(RFI)

Re: Final Report, Phase I RCRA Facility Investigation
Kansas Army Ammunition Plant, Parsons, KS
EPA I.D. No. KS0213820467

During the recent corrective action planning meeting held at the Kansas Army Ammunition Plant (KAAP) on 17-19 October 1994, the U.S. Environmental Protection Agency (EPA) provided comments regarding the Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Final Report for the Kansas Army Ammunition Plant, dated August 1994. Meeting participants placed special emphasis on reviewing the results of the Phase I investigation and making detailed recommendations for a Phase II investigation. It was EPA's intention that this meeting would serve to expedite the document review process and that the understandings reached during the meeting would serve as EPA's specific comments on the Phase I report.

As a result of the discussions held during the meeting, EPA agreed to provide KAAP with a written summary of its general comments regarding the Phase I report. This correspondence provides those comments and will serve as EPA's final approval of the Phase I report. Detailed comments regarding the Phase II investigation work plan were discussed during the meeting and are not repeated here. Although the Phase I report has a few "presence/absence" data gaps, the Phase II investigation will fill them; therefore, no formal revision of the RFI Phase I Report will be required.

GENERAL COMMENTS

1. The EPA believes that the results of the Phase I investigation will serve to establish the presence or absence of contaminants at KAAP's 24 solid waste management unit (SWMU) groups, each of which contains one or more individual SWMUs. Furthermore, the results will serve to determine what, if any, additional investigations are necessary to define the vertical and horizontal extent of contamination of surface water, sediments, groundwater, surface soil and subsurface soils.

2. During the Phase I investigation, one or more waste constituent types (i.e., metals, explosives, semi-volatiles, volatiles) were discovered at 22 of the 24 SWMU groups. During the Phase II investigation, KAAP will perform additional media-specific investigations at all SWMU groups, except groups 20 and 21.

3. As part of the effort to fill data gaps that exist from the Phase I investigation, KAAP will visually inspect buildings that have been involved with explosives manufacture and processing. KAAP will evaluate the integrity of the lowermost floor level of each building with regard to providing containment of manufacturing/processing related wastes. No intrusive investigations of the soils directly beneath either lined sumps or buildings are required as part of this inspection and evaluation.

4. In areas where releases have been confirmed in the existing shallow monitoring wells as part of the Phase I investigation, the Phase II investigation will require characterization of the lithology and groundwater quality in deeper water bearing zones to delineate the vertical extent of contamination.

5. In an effort to more fully define the extent of contamination with regard to environmental receptors and the impacts of the constituents of concern to the foodchain, EPA recommends the sampling of fish tissues from selected ponds at the facility. During the meeting, participants identified 16 of the 51 ponds at the facility that have been stocked and marked as fishing ponds as former oxidation ponds associated with production processes. These ponds will be sampled first, and sampling of the remaining ponds will be evaluated based on the results of this first round of samples.

6. At the end of the planning meeting, the contractors for the U.S. Army Corps of Engineers (ACOE) were beginning to develop the details of the Phase II investigation at their respective SWMU groups. EPA recommends that another meeting be convened with the appropriate technical personnel once the ACOE and its contractors are further along with the Phase II work plan.

If KAAP, ACOE, or their contractors, require further clarification of any of EPA's comments made during the October meeting or contained herein, please contact me at (913) 551-7819.

Sincerely,

Steven R. Wharton

Steven R. Wharton
RCRA Branch, Permits Section
Waste Management Division

cc: Steve Lemons, U.S. Army Corps of Engineers
Steve Travis, Kansas Department of Health and Environment

KAAP

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OCT 27 1994
WASTE MANAGEMENT

October 26, 1994

Environmental Office
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam

Three copies of subject report for the period 1 July 1994 through 30 September 1994, are enclosed for your use as required by KAAP's RCRA Part B permit.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Jerry Riley
Administrative Contracting Officer

Enclosure

Copies Furnished:

AMSMC-EQ/T. Howard(w/encl)
CEMRK-ED-TD/S. Lemons(w/encl)
KDHE Hazardous Waste Sec(w/encl)
DZI Env Eng/V. O'Brien(wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTION ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD JULY 1 THROUGH SEPTEMBER 30, 1994

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of work completed: Radian Corporation, the Engineering Contractor, revised the Final Report and distributed copies of the report in August. Comments to the final report were due to KAAP's ACO staff September 9, 1994, for incorporation into the report. In accordance with the Investigation Derived Waste Management Plan, Day & Zimmermann treated all nonhazardous explosive contaminated solid waste in the contaminated waste processor, processed the explosive contaminated wastewater in a carbon column wastewater treatment system, containerized the soil boring residues that were classified as hazardous waste, and transferred the hazardous waste to permitted onsite storage.

2. Summaries of all findings, including summaries of laboratory data: Not Applicable.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify the problems: When Day & Zimmermann personnel went into the field to containerize the wastes generated during the investigation, the Old Burning Grounds soil boring, identified as being contaminated with PCBs, could not be located.

4. Projected work for the next reporting period: Radian personnel will revise the Phase I Final Report to include comments information gathered during the Background Metals Study. It is anticipated that the Report will be redistributed in August of 1994. A scoping meeting for Phase II of the investigation is scheduled for the week of October 17, 1994. Representatives from AMCCOM, EPA, KDHE, COE, Radian, Law Environmental, ACO, and DZI are scheduled to attend the meeting.

State of Kansas

Joan Finney Governor

Department of Health and Environment
Robert Harder, Secretary

October 4, 1994

Fax

Don Johnson
Dugway Proving Grounds

Mr. Johnson:

Please send a copy of the Bang Box Report that you mentioned at our October 4, 1994 meeting with the Kansas Army Ammunition Plant. Please use the following address:

Mr. John W. Mitchell
Kansas Department of Health and Environment
Bureau of Waste Management
Forbes Field, Bldg 740
Topeka, Kansas 66620

Thank you for spending some of your time today to explain the work you are doing on the open burning/open detonation studies.

Sincerely,

John S. Ramsey

John S. Ramsey
Permit Writer/Technical Consultant
Hazardous Waste Section
Bureau of Waste Management

RADIAN CORPORATION

(Mailing Address)
P.O. Box 201088
Austin, TX 78720-1088
(Shipping Address)
8501 North Mopac Blvd.
Austin, TX 78759
(512)454-4797

30 September 1994

RECEIVED
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OCT 0 3 1994
WASTE MANAGEMENT

Mr. Steve Travis
State of Kansas
Dept. of Health and Environment
Bureau of Air & Waste Management
Forbes Field Bldg. 740
Topeka, Kansas 66620-0001

Dear Steve:

Please find enclosed one (1) copy each of volumes 1-4 of the KAAP RFI Phase I Final Report for the Kansas Army Ammunition Plant, Parsons, Kansas. If you need anything else, or have any questions or comments, please do not hesitate to contact me or Gary Shaw at (512) 454 4797.

Sincerely,

Rima Petrossian
Staff Geologist

Enclosures

cc: Gary Shaw
Jim Clary

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107
September 29, 1994

REPLY TO
ATTENTION OF
Environmental Office
(200-1a)

SUBJECT: RCRA Part B Permit Application Review Meeting Kansas Department of Health and Environment 12 September 1994

RECEIVE
BUREAU OF
OCT 5 1994
WASTE MANAGEMEN

Mr. Steve Broslavick
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Forbes Field , Building 740
Topeka, Kansas 66620-0001

Dear Mr. Broslavick:

Enclosed for your information is a brief status on the proposed munitions rule as provided by Ms. Kathy Reading, Headquarters AMCCOM, who as I understand it is part of the technical working group.

As previously reported by phone conversation on 15 August 1994, AMCCOM has 20 installations with subpart X applications. Also, DESCOM is believed to have 8-10 subpart X applications. AMCCOM and DESCOM are scheduled to merge in June 1995 and become known as the Industrial Operations Command (IOC). It is unknown as to the number of these sites authorized to receive offsite waste. It appears that this information is not readily available and that each installation would have to be contacted to obtain the information. It is suggested that if this information is required that you provide us the question in writing so we can task our Headquarters for a response.

The Point of Contact is Glen Parish, 316-421-7596.

Sincerely,

Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

Enclosure
Copies Furnished(w/encl):
DZI Env ENG./C. Smalley

NSMITTAL

To Glenn Parisn Dept./Agency	From Cathy G-Reading Phone # 793-5273
Fax # 956-1387	Fax # 793-3628

NSN 7540-01-317-7368 5099-101 GENERAL SERVICES ADMINISTRATION

27 SEP 94
STATUS OF PROPOSED MUNITIONS RULE:

The DOD Technical Working Group is continuing to work towards development of proposed issues for the EPA's Munitions Rule. The working group consists of legal and logistics representatives from all the Services. The six issues that will be addressed in detail are Storage, Transportation, Range Management, EOD, Demilitarization, and Propellant Bags (training). DOD is planning on providing the EPA with legal justifications for each issue and alternatives by late Oct 94. It appears EPA is currently planning on forwarding a finalized proposal for the Munitions Rule to OMB in the Mar 95 timeframe for review. EPA has committed to having a proposed rule in the Federal Register by 31 Jul 95, with promulgation by 31 Jul 96.

POC is Kathy George-Reading, HQ, AMCCOM, ATTN: AMSMC-DSM-X, DSN 793-5273.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

8 September 1994

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: RCRA Facility Investigation - RFI Swmu's Review Meeting at KAAP on 29-39 August 1994

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Travis

Enclosed is a copy of the minutes with attachments for the RFI SWMU's meeting held at Kansas Army Ammunition Plant on 29-30 August 1994. Any comments and/or changes should be provided to this office by 23 September 1994.

The Point of Contact is Glen Parish, 316-421-7596

Sincerely,

for Don Dailey
Thomas S. Scorr, Jr.
Captain, U.S. Army
Commanding Officer

Copy Furnished(wo/encl):
DZI ENV ENG/ Smalley

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SEP 0 9 1994
WASTE MANAGEMENT

Solid Waste Management Units Investigation
and 700 Area Consent Order Investigation
Review Meeting Minutes
Kansas Army Ammunition Plant
August 29-30, 1994

The following items were discussed during the Solid Waste Management Units Investigation and 700 Area Consent Order meeting held at Kansas Army Ammunition Plant on August 29-30, 1994.

List of Attendees - See Attachment 1.

Status Meetings - It was decided that monthly meetings will be held on the second Wednesday of each month to discuss both the Solid Waste Management Units Investigation and the 700 Area Consent Order Investigation. For each quarter, the first two monthly meetings will be held at the EPA's office with the third meeting held at KAAP. See Attachment 2 for a complete listing of the scheduled meetings.

Solid Waste Management Units Investigation Schedule - A schedule for efforts to be completed during Phase II of the investigation and to finalize Phase I of the investigation was discussed and agreed to by all members present. The schedule includes preparation of a Scope of Work by the COE for placing a contract to prepare and implement Phase II, preparation of the Phase II Work Plan, responding to comments to the Phase II Work Plan, implementation of the Phase II Work Plan, preparation of a QA/QC Report, and preparation of Draft and Final Phase II Reports. A timeline for the Solid Waste Management Units Phase II Schedule is enclosed as Attachment 3.

Memorandum of Understanding for Compliance Schedule - The need to establish a Memorandum of Understanding (MOU) between the EPA and KAAP was discussed. It was decided that as long as the Phase II Schedule is maintained, see Attachment 3, a MOU will not be necessary.

Community Relations Plan/ Restoration Advisory Board Requirements - As a result of discussions held during the meeting, the COE is to review the Community Relations Plan and determine if the Plan requires updating.

Information Repository - The COE has been tasked with establishing and maintaining an Information Repository. It was recommended that one copy of the Repository be maintained in the local library.

700 Area Consent Order Investigation "Tentative" Schedule - A timeline of the efforts to be completed for the 700 Area Consent Order Investigation is enclosed as Attachment 4. Efforts that must be initiated and/or completed include review and finalize

the 700 Area Engineering Report - Part I; preparation, distribution, and review of the Draft Feasibility Study Report; and preparation, distribution, and review of required Risk Assessments. This schedule is considered to be tentative because the KDHE is reviewing KAAP's groundwater monitoring well system to determine if it meets requirements for a monitoring system.

GRITS - Steve Travis indicated that all information pertaining to the 700 Area monitoring well system must be input into GRITS.

GENERAL

Ecological Risk Assessment - The Kansas Biological Survey is currently conducting a survey at KAAP. Copies of the survey report will be provided to EPA and COE when available.

During the meeting, it was noted that a comprehensive water well survey for the area surrounding KAAP is necessary.

Community Environmental Response Facilitation Act (CERFA) - The applicability of this Act to KAAP operations was discussed, but not determined. AMCCOM, ACO, and DZI are to determine if this Act affects actions being taken at KAAP.

Toxicity of Explosives and Breakdown Products - KAAP was tasked with the effort to obtain information regarding the toxicity of explosives currently and previously used at KAAP and their breakdown products.

FUTURE ACTIONS - A meeting to conduct the Phase II scoping effort is scheduled for October 17-21, 1994, at KAAP. The proposed agenda for the meeting is enclosed as Attachment 5.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

August 17, 1994

REPLY TO
ATTENTION OF

Environmental Office
(200-1a)

SUBJECT: Installation Restoration Program (IRP) Solid Waste Management Units (SWMU's) Review Meeting

Mr. Steve Travis
Kansas Department of Health & Environment
Bureau of Waste Management
Hazardous Waste Section
Forbes Field , Building 740
Topeka, Kansas 66620

Dear Mr. Travis

A review meeting on subject program has been scheduled on 29-30 August 1994, at Kansas Army Ammunition Plant. The meeting is scheduled to begin at approximately 0930 hours or upon arrival of all known attendees.

Although the subject matter to be discussed at this meeting is RCRA Facility Investigation (RFI) SWMU's, your participation is welcomed.

The Proposed agenda is as follows.

a. Establish schedule for holding regularly scheduled meetings.

b. Memorandum of Understanding - Compliance schedule requirements.

c. Community Relations Plan/Restoration Advisory Board.

d. Phase I RFI Report

e. Phase II Remedial Investigation Requirements.

f. Individual SWMU site visit as required.

RECEIVE
BUREAU O
AUG 2 2 1994
WASTE MANAGEM

MR. Travis 17 August 1994
Subject: Installation Restoration Program (IRP), Solid Waste Management Units (SWMU's) Review Meeting

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Thomas S. Schorr, JR.
Captain, U.S. Army
Commanding Officer

Copies Furnished:
DZI Env ENG./C. Smalley

PARSONS
316 421-7400
FAX 316 421-7477
TELEX 43-6408

HOME OFFICE
DAY & ZIMMERMANN, INC.
280 KING OF PRUSSIA ROAD
RADNOR, PA 19087
215 975-6820
FAX 215 975-6839

DAY & ZIMMERMANN, INC.

DEFENSE SYSTEMS GROUP
KANSAS DIVISION
EAST U.S. HIGHWAY 160
PARSONS, KANSAS 67357-9106

June 8, 1994
EE:VO940138.VSO

Kansas Department of Health and Environment
Bureau of Waste Management
Hazardous Waste Section
Attn: John Mitchell
Building 740
Forbes Field
Topeka, Kansas 66620

Dear Mr. Mitchell:

Subject: RCRA Part B Permit Renewal Application

Per Victoria S. O'Brien's telephone conversation with John S. Ramsey, enclosed is one copy of Kansas Army Ammunition Plant's RCRA Part B Permit Renewal Application.

Please contact Mrs. O'Brien, (316) 421-7574, if you have any questions regarding the application.

Respectfully,

STEVE W. ROSMAN
Director of Engineering

SWK/CJS/vso

Attachment a/s

RECEIVED
BUREAU OF
JUN 9 1994
WASTE MANAGEMENT

KAAP

January 11, 1994

Environmental Office
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam

Three copies of subject report for the period 1 October 1993 through 31 December 1993,are enclosed for your use as required by KAAP's RCRA Part B permit.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-EQ/T. Howard(w/encl)
CEMRK-ED-TD/S. Lemons(w/encl)
✓KDHE Hazardous Waste Sec(w/encl)
DZI Env Eng/V. O'Brien(wo/encl)

RECEIVED
BUREAU OF
JAN 13 1994
WASTE MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTION ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD OCTOBER 1, 1993 THROUGH DECEMBER 31, 1993

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit

1. Description of work completed: Radian Corporation, The Engineering Contractor of the SWMU effort, completed and submitted the Background Metals Study Sampling and Analysis Plan to KAAP. KAAP submitted the Plan to the EPA for review and comments. Comments received from the EPA, COE, KAAP, and DZI were forwarded to Radian for action. A draft response to the comments was forwarded to KAAP.

2. Summaries of all findings, including summaries of laboratory data: None

3. Summaries of all problems of potential problems encountered during the reporting period and actions taken to rectify problems: None

4. Projected work for the next reporting period. A telephone conference call will be scheduled for the first half of January to discuss comments made to the Sampling and Analysis Plan and to finalize Radian's responses to the comments. The Plan will be revised as necessary and provided to the EPA. Upon receipt of approval of the revised Plan, field work will be initiated and performed as weather permits.

State of Kansas
Joan Finney, *Governor*

Reply To: (913) 296-1570
FAX # (913) 296-1545
Forbes Field, Building 740
Topeka, KS 66620-0001

Department of Health and Environment
Robert C. Harder, *Secretary*

January 3, 1994
Permit No. 0990010

Frank R. Jordan
Lieutenant Colonel
U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Victoria S. O'Brien, D & Z, Inc.

Lt. Colonel Jordan:

The Department is in receipt of the Kansas Army Ammunition Plant (KAAP) letter requesting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption is for the open burning of 7 categories of explosive hazardous waste. The categories are as follows:

1) Comp A-5 Wet Sumpage and Sump Sludge
2) Cyclitol & Octol Wet Sumpage, and Sump Sludge
3) Com B and TNT Wet Sumpage and Sump Sludge
4) Comp A-5, Comp B, Comp CH-6, Cyclitol, Octol, RDX and TNT Scrap
5) Absorbent Materials from Cleanup of Comp B, Cyclitol, Octol and TNT Wastewater Spills
6) Propellants and Propellant Charges
7) Support Collars with M55 Stab Detonators

By letter dated July 12, 1990 the Department provided KAAP a critique of each of the first 5 categories in regard to open burning. The Department findings were that all categories are acceptable to be open burned with exception of the lead foil lined bags associated with item no. 6, propellants and propellant charges.

By letter dated April 29, 1992 the Department approved the burning of item no. 7. Item no. 7 comes under both Air Quality and RCRA review.

Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting exemption to KAAP for the burning of explosive hazardous waste, items 1 through 7 with exception of lead foil lined bags.

This exemption is valid through December 31, 1994. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice at the Department's option.

If there are further questions in regard to this matter please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Radiation

DAS:tam John M. Mitchell
C ~~Steve Broslavick~~, BWM ✓
John Ramsey, BWM
Lynn Ranabargar, DAQR
OBL 93-09

State of Kansas
Joan Finney, *Governor*

Department of Health and Environment
Robert C. Harder, *Secretary*

October 11, 1993

Steve W. Kosman
Day and Zimmerman, Inc.
Defence Systems Group
Kansas Division
East U.S. Highway 160
Parsons, Kansas 67357-9106

Re: Industrial Solid Waste Disposal Authorization Number 93-1369

Dear Mr. Kosman:

We have considered your request dated October 6, 1993, for disposal of approximately 13 drums of residue result of burning of illegal fireworks confiscated by Bureau of Alcohol, Tobacco and Firearms. (fireworks not classified as a hazardous waste, Oct.6, conversation, John Ramsey, KDHE.

Approval is given to dispose of this waste at the Kansas Army Ammunition Plant landfill operating under Kansas Permit 401 provided the following conditions are met:

1. The waste must be transported separately to the landfill and be identified to the operator upon delivery.

2. Kansas Administrative Regulation 28-29-23(r) requires solid waste disposal facilities to maintain a log of commercial or industrial wastes received such as sludges, liquids, and barreled waste. The log must indicate the source and quantity of waste and the disposal location thereof. The industrial waste authorization number should be used as identification when entering the shipment into the log.

3. This approval is valid for disposal of waste as described and in amount shown above. If additional shipments are required you must contact us to receive another disposal authorization.

If you have any questions, feel free to contact me.

Sincerely yours,

Thomas Gross

Thomas Gross, Chief REK
Solid Waste Section
Bureau of Waste Management

d/rek/sh

C John Mitchell
John Ramsey - KDHE
Southeast District - Bryce Tobyne

State of Kansas
Joan Finney, *Governor*

file

Reply to: (913) 296-1608
FAX: (913) 296-1592
Forbes Field, Building 740
Topeka, KS 66620-0001

Department of Health and Environment
Robert C. Harder, *Secretary*

September 22, 1993

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Environmental Office
(200-1a)

Certified Mail Number: P 872 074 713

Re: Hazardous Waste Permit Renewal
Kansas Army Ammunition Plant (KAAP)
Parsons, Kansas
EPA I.D. Number: KS0213820467

Dear Colonel Jordan:

The purpose of this letter is to inform you that the hazardous waste storage and treatment permit issued to your Parsons, Kansas facility will expire on December 7, 1994.

This courtesy reminder is being directed to your attention since you are currently listed as the facility's authorized agent. This notice should provide your facility with ample notice to prepare and submit a timely permit renewal application in accordance with 40 Code of Federal Regulations (CFR) Part 270.10(h).

Forty CFR Part 270.10(h) states that any hazardous waste management facility with an effective permit shall submit a new permit application at least 180 days before the permit's expiration date. Provisions for continuance of an expired permit are outlined in 40 CFR part 270.51. Copies of these regulations are enclosed for your convenience. These federal regulations have been adopted by reference in the Kansas Administrative Regulations (K.A.R.) 28-31-9.

If for any reason it is decided not to renew KAAP's hazardous waste facility permit, please notify our office as soon as is possible, or no later than the 180 day time frame specified in 40 CFR Part 270.10(h).

Should you have any questions about this letter, Please do not hesitate to contact Steve Broslavick at (913) 296-1609 or me at the telephone number listed above.

Sincerely,

John W. Mitchell CHMM
Chief, Hazardous Waste Section
Bureau of Waste Management

C: BODO-NEDO-Waste Programs
Wes Bartley-EPA
Carolyn Smalley-Day & Zimmerman

Renewal.ltr

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

AUG. 30 1993

RECEIVED
BUREAU OF
SEP 01 1993
WASTE MANAGEMENT

Lieutenant Colonel Frank R. Jordan, USA
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Colonel Jordan:

After a review of the draft Phase I report of the Resource Conservation and Recovery Act Facility Investigation (RFI) for the Kansas Army Ammunition Plant (KAAP), the U.S. Environmental Protection Agency (EPA) is providing the following comments:

GENERAL COMMENTS

1) Without raw analytical data and/or laboratory summary sheets, it is not possible to assess the accuracy of the data presented in many portions of the report. The report should clearly state that the quality assurance/quality control (QA/QC) procedures contained in the approved RFI workplan were followed during all aspects of the Phase I investigation. EPA's earlier draft comments pertaining to QA/QC documentation should be considered in the development of your Phase II workplan.

2) There are numerous instances where the RFI report differs from the RFI workplan regarding the number or location of samples to be taken at various places. We understand that there may be valid reasons for some differences between the workplan and the actual RFI work, and that a prior arrangement with EPA allowed for such changes in the field. Wherever such changes appear in the RFI report, please indicate the reason(s) for these changes to the planned scope of work. We noted several places in Section 4 where such an explanation is needed, e.g., pages 4-23, -35, -38, -40, -78, -79, -109, -113, -114, -139, -142, -165, -167, -172, -222, -223, -270, -398, -412, and -522.

3) The report fails to provide a complete discussion of data gaps and additional data needs. Section 6.0 provides a reiteration of sampling results and conclusions, but fails to present a complete discussion of data gaps and does not identify necessary investigative tasks to complete the characterization of facility contamination. The report fails to discuss the completeness of the characterization of contamination in regards to significance of contamination,

RECYCLE

extent of contamination and potential need for corrective action. The report must be expanded to address these issues/omissions.

The report should be modified to describe fully the data gaps for each of the SWMU groups and SWMUs, if applicable, and present recommendations and proposed Phase II investigative tasks, along with a schedule for the Phase II work. If Phase II will not address all SWMUs where contamination was detected in Phase I, the Phase I report must provide the basis for selecting SWMUs for further investigation.

4) The magnitude of metals contamination at the facility apparently has not been determined because a point of reference for naturally occurring metals concentrations has not been established at the facility. A comprehensive evaluation of naturally occurring ("background") metals must be conducted to provide a reference point to evaluate the magnitude of metals contamination. This evaluation must be completed prior to finalization of recommendations for Phase II investigative tasks, unless all SWMUs will be investigated further in Phase II.

5) The scope of the Phase I investigation was limited to a determination of "presence/absence," but some of the conclusions imply that "magnitude and extent" have been determined as well. Because of the lack of recommendations in the Phase I report, we think it is important to note in the discussion of each SWMU group that magnitude and extent of contamination were not determined by the Phase I study. This particularly applies to the discussions on pages 4-135, -157, -208, -212, -358, -372, -387, and -433.

6) The format of the "Unit Investigation" and "Conclusions/ Summary of Results" sections of the report are somewhat confusing. The "Unit Investigation" sections describe sampling activities in terms of environmental media irrespective of SWMU group. The "Conclusions/Summary of Results" sections present a reiteration of sampling results in terms of SWMUs within the SWMU group. It is difficult to read the text in the "Conclusions/Summary of Results" sections and refer to the analytical results presented in the summary tables because the data in the summary tables are generally not segregated by SWMU. To enhance the readability of the document, the summary tables should be modified to discriminate samples by SWMU designation.

7) There is little discussion of the representativeness of sludge and pond sediment samples collected during the investigation. Several sumps and ponds sampled have been inactive for several years. It is not clear whether an

effort was made to discriminate between process sediment/sludge and sediment/organic debris which may have accumulated since the cessation of process activities. It is not apparent from the text in the body of the report or sampling logs included in the appendices whether samples were collected from varying depths and locations within the sumps and ponds to evaluate the potential for post-process sedimentation and to determine the appropriate locations and depth intervals for sampling. See comments on Sections 3.2.1.8 and 3.2.1.9.

8) The RFI report sometimes cites the RFI workplan as a technical reference (e.g., for soil classification types) or as an authority for other matters (e.g., whether or not a permit is required for a landfarm). It is more appropriate to cite the original source documents in the RFI report.

9) Many of the maps presented in the report clearly illustrate sampling locations; however, several maps are too general and fail to illustrate important surface structures and topography. For example, Figure 4-78, an illustration of the Demolition Area, fails to illustrate the location of the detonation pits and major surface topography (e.g., surface water drainage areas). It is difficult to evaluate the location of environmental samples in relationship to potential waste source areas based on the information presented in the report figures. The figures should be modified to include all relevant surface features, process structures and surface topography.

10) The text in the "Groundwater" subsections in Section 4.0 continually refers the reader to Section 3.3.2 for a detailed discussion of groundwater flow conditions. The information presented in Section 3.3.2 is very general in nature and is not SWMU-specific. A more detailed evaluation of flow conditions based on the wells in the vicinity of each of the SWMU groups must be conducted to evaluate potential fluctuations in groundwater flow conditions. The report indicated that in at least one instance where SWMU-specific groundwater flow conditions were evaluated, it was determined that the monitoring wells were inappropriately situated to assess potential releases from the source area. The text must be modified to indicate whether the monitoring network at each SWMU is sufficient to monitor potential releases from the SWMUs. This assessment must be based on a SWMU-specific evaluation of groundwater flow.

11) The text must be modified to describe the significance of the very high concentrations of explosives contaminants at several of the SWMUs in regards to recommended actions and health and safety concerns relating to future intrusive work. Based on the high concentrations (percent by weight)

of explosives, many of the sludge/sediment soil samples appear to be potentially reactive.

12) The results of the card gap study, and the slug testing and geotechnical study are presented in the appendices, but are not described in the report. The soil gas survey and geophysical survey are presented in the report appendices, but the results of these surveys are not fully described in the report. A detailed discussion of each of these studies/surveys must be presented in the report.

13) A list of acronyms, abbreviations, and special, technical, or military terms must be appended to the report.

14) Several potential shortcomings in the card gap study are apparent, such as selection of sampling locations. For example, samples were only obtained from the surface (and near-surface) layers of soils, sediments, and sludges. Although "...samples were selected on the basis of their potential to contain high concentrations of explosive compounds....," no rationale or explanation was provided for the selection of these specific locations, depths, etc., in terms of the physical and chemical behavior of the explosive compounds when interacting in systems containing solvents, soils, water, and other materials. The report must be revised to detail the selection criteria for sampling locations, depths, etc.

15) A complete discussion of the environmental fate and transport of KAAP contaminants may be beyond the scope of the Phase I report. However, a general knowledge of the fate and transport of these contaminants would make the Phase I report more meaningful and would also assist in scoping the Phase II workplan. We encourage you to add such information to the Phase I report.

16) Groundwater Sections, Pages 4-26, -42, -116, and -144. The text indicates that bedrock is the primary aquifer beneath the site. The text must be modified to indicate which portion of the bedrock profile is the potentially impacted aquifer or identify a bedrock hydrostratigraphic unit of interest.

SPECIFIC COMMENTS

Table of Contents

A listing of appendices must be added to the report table of contents.

Section 1.0, Page 1-1

The text in the first paragraph states "Radian implemented a Work Plan." The text must be modified to include complete reference to the workplan including date of publication.

Section 1.0, Page 1-3

The text indicates in the first sentence on Page 1-3 that the soils ranged from zero to twenty feet thick. The text in following sections repeatedly refers to the entire unconsolidated profile as soil. The text must be modified to differentiate between soils and unconsolidated sediments and weathered bedrock.

The last paragraph on the page indicates that soil gas surveys were conducted; however, the text fails to recognize that many of the soil gas surveys were very limited versions of the proposed investigations. Many of the soil gas/soil heated headspace surveys were limited by vehicle access to the sampling locations. The text must be rewritten accordingly.

Section 1.0, Page 1-4

The text in the first sentence must be expanded to discuss the success of the geophysical study.

In the first sentence of the second paragraph, it is not clear how a presence/absence study can be accomplished without information concerning the naturally occurring concentrations of the contaminants of concern. The text must be modified accordingly.

Section 1.0, Page 1-5

The text in the third paragraph indicates that explosives-related organics and metals were detected in surface and "shallow samples." It is not clear whether the term "shallow samples" refers to surface soil, shallow subsurface soil or sediment media. The text must be modified accordingly.

Section 2.2.1.3, Page 2-15

The purpose of the Phase I RFI was to do a presence/absence investigation at a number of areas around the KAAP facility. The text indicates that there have also been several previous environmental investigations at the KAAP facility. If these previous studies were used to refine the scope of the RFI workplan, please discuss this in Section 2 of the report. If the results of any of the previous studies shed any new or corroborating light on the presence/absence determinations which are the purpose of the RFI study, please include this information in the appropriate portions of Section 4.

Section 2.2.4.4, Pages 2-20 and 2-21

Based on the text presented, it appears that the toxicity characteristic (TC)-based Potentially Applicable Regulatory Standards (PARS) may have been used to determine if environmentally significant levels of contamination exist at the facility. Though not explicitly stated, it appears that these PARS are being used as threshold criteria for determining the need for future investigation. In a presence/absence study or screening assessment, the use of TC based PARs to determine whether significant contamination exists at a site is not appropriate. These thresholds may unjustifiably limit the scope of the investigation and preclude a complete characterization of the nature and extent of contamination. The use of the PARS in the report is not fully explained and justified. The text must be modified to state clearly the intended purpose of PARS utilization.

Section 2.3.1, Page 2-23

The text indicates in the second paragraph on Page 2-23 that Parsons, Kansas, is the closest city to the facility. The map illustrating the regional setting in the vicinity of the facility, presented in Figure 2-2, indicates that Montana, Kansas, is situated immediately east of the facility boundary. The text in this section must be expanded to discuss all surrounding populations including Montana, Kansas.

Section 2.3.3, Pages 2-25 and 2-26

The first sentence in this section states that a limited contaminant migration potential exists at the facility. The rationale for this statement must be presented. It appears based on the investigative results presented in the report that this statement is premature and unsubstantiated. The results of the limited investigation of metals contamination indicates that contaminant migration is occurring.

The text in the first paragraph on Page 2-26 must be expanded to discuss Montana, Kansas.

Section 2.4.1, Pages 2-27 and 2-28

Various parts of the KAAP facility have gone through cycles of activation and mothballing during the last 50 years. If the facility has any information regarding the operation or closure of these areas which may have a bearing on any presence/absence determinations, or which may assist in focusing Phase II RFI activities, that information should be presented in the RFI Phase I report. Likewise, if no information is available pertaining to presence/absence or Phase II scoping, the report should state this.

Section 2.4.2, Page 2-28

The constituents of Composition A5 explosives must be identified.

Table 3-1, Page 3-2

It appears that octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX) is a contaminant of concern as identified in the RFI workplan and should be included on Table 3-1, "Contaminants of Concern." Table 3-1 must be modified accordingly.

Section 3.1.2, Page 3-4

The text in the first paragraph indicates that no endangered species of plants or animals are known to reside at any of the sites. It is not clear from the text presented how this determination was made or how this information was obtained. The report must be modified to cite the source of this information (e.g., state/federal agency, site ecological assessment, etc.).

Section 3.1.3.2, Page 3-6

We suggest that the sentence which begins with "Only the following seven SWMUs..." be reworded to say "Based on the above considerations, only the following seven SWMUs were judged to exhibit...."

Section 3.1.3.3, Page 3-7

The report indicates that no site surface waters are used for drinking purposes. The text in the last paragraph on Page 3-7 must be expanded to discuss the potential use of surface water as a source of drinking water in the vicinity of the facility.

Section 3.1.3.4, Page 3-8

The statement that the potential for exposure from released volatile compounds and contact with groundwater is small appears premature and based on generalities. The text must be modified accordingly.

The text in the first paragraph in this section indicates that no known drinking water wells are on the installation or within one mile of the installation boundary. The source of this information must be presented in the text.

The text in the second paragraph indicates that nearby surface reservoirs are used for drinking water sources. The text must be expanded to discuss the proximity of the nearby reservoirs in terms of linear distance, prevailing wind direction and their relationship to the facility surface water drainage basins.

Figure 3-2 should be expanded to identify the location of the local reservoirs.

The statement "the significance of root uptake is probably small" is premature. Investigations at other sites contaminated with explosives show that plant uptake is not small and should not be disregarded. The text must be modified accordingly.

The text should be expanded to describe whether crops are irrigated with potentially contaminated groundwater.

Section 3.2.1.1, Pages 3-12 and 3-13

The text on Page 3-12 discusses the use of drilling fluids; however, the text fails to describe the final disposition of the fluids. The text on page 3-13 describes decontamination procedures, but fails to describe final disposition of the decontamination fluids. The text must be modified accordingly.

Section 3.2.1.2, Page 3-13

The report must be expanded to present a tabular description of well construction details. The disposition of drill cuttings must be discussed in this section or some other appropriate section.

Section 3.2.1.3, Pages 3-16 and 3-17

The discussion of well development presented on Page 3-16 is specific to the new wells installed during the RFI field activities. Based on the report, several existing wells were sampled as part of this phase of investigation. It is not clear whether these existing wells were evaluated to determine whether redevelopment was necessary and whether this activity was actually conducted. The text must be modified accordingly. If well redevelopment was conducted, all appropriate field documentation must be presented in the report.

Section 3.2.1.4, Page 3-19

The last sentence of the third paragraph on Page 3-19 indicates that purge water was left for disposal by Kansas Army Ammunition Plant (KAAP). The text must describe the ultimate disposition of purge water.

Section 3.2.1.5, Page 3-20

The last sentence in the second to last paragraph on Page 3-20 states "to the extent practicable, QA/QC samples were taken...." The text must be expanded to describe whether QA/QC procedures

proposed in the RFI Workplan were followed. Any and all deviations must be described. The text should be modified to refer the reader to Section 5.0.

Section 3.2.1.11, Page 3-28

The second sentence in this section should be expanded to indicate that subsurface electrical conductivity is a function of the conductivity of the fluid in the pore spaces in addition to the items listed in the text.

Section 3.2.1.12, Page 3-29

The text should be expanded to describe briefly the difference between conventional soil gas surveys and heated headspace analysis. Soil gas and heated headspace analysis are not equivalent and the results are generally not directly correlative to one another or to soil contaminant concentrations. Other portions of the report which mention the headspace analysis (e.g., Section 4.2.4.1 on Page 4-26) should refer to the explanation to be provided on Page 3-29.

Section 3.3.2, Page 3-42

As evidenced by the text in Section 4.8.3.2, Page 4-179, groundwater flow at the facility is not as simplistic as indicated in the text and illustrated on Figure 3-3. The text and Figure 3-3 present a general or global representation of groundwater flow at and in the vicinity of the site. Groundwater flow conditions at the site must be evaluated on a SWMU-specific basis. SWMU-specific maps illustrating piezometric heads and flow directions must be presented at every SWMU group where groundwater is a potential media of interest. This information is necessary to ensure that sufficient groundwater investigation has been conducted and to evaluate the adequacy of the monitoring network.

Figure 3.3, Page 3-45

The data used to construct this map, including well locations and corresponding piezometric levels, must be presented in the report.

Section 3.3.2.2, Page 3-46

The text in the fourth paragraph indicates that there are a few dwellings within one mile of the SWMU groups addressed in this study and these "generally" receive water from rural water districts. Section 3.1.3.4 indicates that no known drinking water wells are located within one mile of the facility. The text must be clarified to identify conclusively all drinking water sources.

Section 3.3.3.1, Page 3-47 through 3-49

The Cherokee Group should be listed by its individual formations.

Figures 3-4 and 3-5, Pages 3-51 and 3-52

The appropriate references must be cited on the figures.

Section 3.5.2.2, Page 3-56

The text indicates in the first and second paragraphs on Page 3-55 that adjustments were made to the monitoring well and/or soil boring locations based on the soil gas and geophysical surveys. These adjustments should be briefly described. These adjustments are rarely mentioned in following sections of the report.

Section 4.1.2.1, Page 4-6

The text in the last sentence in Section 4.1.2.1 indicates that the ground surface adjacent to the sump was inspected; however, the results of the inspection have not been described. The text should be modified accordingly.

Section 4.1.3.2, Page 4-10

Insufficient detail has been provided to assess the statement that groundwater flow at this SWMU group flows toward the south-southwest. A SWMU-specific map illustrating piezometric levels and groundwater flow directions must be presented. If there are too few monitoring wells at the SWMU group, monitoring wells in the vicinity of the SWMU group should be used to construct a map illustrating groundwater flow direction. The text and groundwater flow evaluation must be modified accordingly.

The text indicates that bedrock is the **primary aquifer** beneath the site. The use of the term, "primary," is misleading and should be replaced with an alternate appropriate term. Presumably the upper bedrock aquifer is not a primary aquifer. Secondly, it is likely that several bedrock aquifers exist beneath the site and these bedrock aquifers may be characterized by higher transmissivities and higher well yields than the upper bedrock units referred to in the text.

The text indicates that because the soils are fine grained they are impermeable and, therefore, are not part of the bedrock aquifer. The text must describe how this was determined. The geotechnical and hydraulic data used to formulate this conclusion must be presented. It appears that the exclusion of the presumably low permeability overburden should not have been made without the evaluation of piezometric heads in the unconsolidated profile and shallow bedrock. Based on the piezometric levels presented in the report, it appears that at least the lower

portion of the unconsolidated section is probably part of the bedrock aquifer.

The text indicates that groundwater flow occurs principally along joints and bedding planes. The report should be expanded to discuss how this was determined and whether any site-specific information was used to formulate this conclusion. It appears premature to state that groundwater primarily flows in fractures and bedding planes without characterizing flow in matrix porosity.

Section 4.3.1, Page 4-33

The "regular program of soil monitoring" identified in the last sentence of the first paragraph should be described. It is not clear whether the soil monitoring program assesses the effectiveness of the microbial degradation identified in the last paragraph on the page.

Sections 4.3.5.2, Page 4-46 and 4.3.6, Page 4-54

The first sentence in Section 4.3.5.2 seems more appropriate for a "nature and extent of contamination" discussion than the "presence/absence" determination which was the purpose of the Phase I work. We suggest this sentence be modified to read "...provided some limited information..." Likewise, the conclusions on page 4-54 imply that the extent of contamination has been determined. To be consistent with the stated purpose of the Phase I work, the conclusions here should be limited to presence/absence determinations, although any data gathered during Phase I may influence the recommendations for Phase II.

Section 4.4.2.3, Page 4-61

The text in the first paragraph indicates that an organic vapor monitor (OVM) was used to screen samples in order to adjust the sample depth to the level where the highest OVM readings were obtained. However, the text in the last paragraph on Page 4-59 indicates that soil samples were collected at five feet below ground level and immediately above the bedrock surface. This apparent discrepancy must be addressed.

Section 4.4.3.1, Page 4-61

The reference to geotechnical results in Appendix O appears inappropriate. Apparently no geotechnical analyses were conducted on soils collected at this SWMU group. The text should be modified accordingly.

Anna Shale. Reference to the RFI Workplan in the second sentence should be replaced with the appropriate reference. The RFI Workplan did not map the bedrock units at the KAAP facility.

Section 4.6.6.1, Pages 4-132 and 4-133

The levels of polynuclear aromatic hydrocarbons (PAHs) (940 to 10,000 mg/kg) are not insignificant. Therefore, it appears appropriate that the concentrations of the specific PAH compounds should be identified and described in the text.

Section 4.6.6.3, Page 4-135

The text on Page 4-135 states that contamination does not appear to be present in the subsurface soils. Based on the information presented, this statement appears premature and unsubstantiated. The text on Page 4-121 indicates that cadmium and zinc were detected at concentrations above background levels and metals concentrations in boring 06-03 increased with depth. The text should be modified accordingly

Section 4.7.2.3, Page 4-142

Card gap analysis should be added to the list of analyses conducted as presented in the bullet items on Page 4-142.

Section 4.8.1, Page 4-162

The text in the second sentence refers the reader to SWMU No. 49; however, this SWMU is not illustrated on the report figures. This SWMU should be identified on a figure and the reader should be referred to this figure.

The third sentence in the second paragraph discusses the "northern pond." This pond should be identified on an appropriate figure or drawing.

Section 4.8.2.1, Page 4-163

The text should be modified to refer the reader to Section 3.2.1.2 for a discussion of well construction procedures and appendices A, C, E, G, and O for discussion of well installation and well sampling procedures and geotechnical data.

Section 4.8.3.1, Pages 4-177 and 4-178

The text in the third sentence in the second to last paragraph on Page 4-177 states "the clay becomes firm and laminated and has iron and manganese coatings." It is not clear from this description where the manganese coatings are present. The text should be modified accordingly.

Section 4.4.6, Pages 4-67 and 4-68

The term "increasing metals trend" in the last paragraph on Page 4-67 must be defined. It is not clear whether this term refers to the concentrations of individual metals species, the diversity of metals species, or both.

The "definite hydrocarbon odor" and "slight hydrocarbon odors" identified in the text on Page 4-68 must be more fully discussed. The text should describe the discrepancy between these observations and the analytical data.

Section 4.5.2.1, Page 4-72

The monitoring well identification system of the wells identified in the text and illustrated in report drawings is not consistent. The monitoring well identification system must be modified to be consistent throughout the report.

Figure 4-13, Page 4-73

The legend of the figure should be expanded to identify all patterns including the square and rectangular patterns.

Figure 4-14, Page 4-74

The map should be expanded to illustrate the surface water drainage in the vicinity of samples RFI-05-SD-17 and 05-08.

Figure 4-16, Page 4-76

The legend should be expanded to define all patterns illustrated on the map, including what appears to be sump structures and culverts.

Section 4.5.2.5, Page 4-79

Card gap analysis should be identified in the list of analyses conducted on Page 4-79.

Section 4.5.3.1, Pages 4-82 and 4-83

It is not apparent why the text on Page 4-82 refers the reader to Appendix O for a discussion of geotechnical properties of the soil. It appears that this reference is inappropriate because no soils collected from this SWMU group were submitted for geotechnical analyses. The text must be modified accordingly.

The text in the first paragraph on Page 4-83 should be modified to indicate whether the claystone in the 300 Area is part of the

The text in the second paragraph should be rewritten so that core recovery and well installation are not incorrectly linked. The text should apparently indicate that core recovery was relatively high during coring/borehole advancement.

The text in the fourth paragraph indicates that limestone was encountered beneath the claystone in monitoring wells 21-3 and 22-3; however, the depth at which the limestone was penetrated was not identified. The text should be modified accordingly.

Section 4.8.3.2, Page 4-179

The discussion of slug test analysis as presented in the second paragraph on Page 4-179 should be expanded to refer the reader to the appropriate appendix containing the slug test data and analysis.

Section 4.8.5.4, Page 4-193

The first sentence in the fourth paragraph does not make sense as written. The sentence must be rewritten.

Section 4.8.6.1, Page 4-208

The significance of the fifth sentence in the second paragraph on Page 4-208 must be stated or the sentence should be removed from the passage.

Section 4.9.2.2, Page 4-217

Apparently Building 1008 is not identified on the report drawings. An appropriate figure should be modified to include the location of this structure.

The last sentence on the page indicates that 20 samples were collected; however the text in proceeding sentences suggests that 18 samples were collected. This apparent discrepancy must be addressed.

Figure 4-42, Page 4-219

The figure should be modified to identify the type of pond (e.g., oxidation).

Section 4.9.3.1, Page 4-228

The "oil staining" identified in the third paragraph on Page 4-228 should be more fully described.

Section 4.9.3.2, Page 4-229

The text indicates that, based on the degree of dissolution of the rock core, it was determined that the water table is within the soil profile or upper portion of the bedrock. The relationship between groundwater and bedrock dissolution must be more fully described. It should be noted that the degree of dissolution may be a function of diagenetic alteration or karstification and may or may not be related to water table fluctuation as inferred in the text.

Section 4.9.5.7, Page 4-255

The text in the second sentence in the third paragraph should be modified to indicate the range of 2,4,6-trinitrotoluene (TNT) concentrations detected in ditch samples.

Section 4.9.6.1, Page 4-257

The text in the second paragraph must be expanded to describe how it was determined that the explosives appeared to be concentrated in pockets. It is not clear whether this determination was based on visual observations. The text should be modified accordingly.

Section 4.9.6.5, Page 4-259

The second to last sentence in the section states that the pond closest to the 100 Area shows no contamination. Without resorting to some statistical analysis of the sample results displayed in Tables 4-35 and 4-36, it is unclear how this could be determined. While it appears that the 1500 Area Pond is more contaminated, there is no clear differentiation between Pond 31 and Pond 39.

The discussion of metals contamination should be expanded, especially for the ditch and pond sediments. The text must be expanded to indicate the presence/absence assessment conducted at this SWMU group did not determine the extent of contamination. The text must be expanded to discuss the tasks necessary to complete the investigation of SWMU Group No. 9.

Section 4.10.2.1, Page 4-264

The text should be modified to reference the well construction logs and sampling logs presented in the appendices.

Section 4.10.2.3, Page 4-269

The text should be modified to describe the physical setting of the sampling locations, specifically any and all potential impacts (e.g., stained soil, stressed vegetation, etc.).

Section 4.10.3.2, Page 4-276

Based on the scale of Figure 4-55, it is not possible to evaluate the relative position of the monitoring wells. Based on Figures 4-55 and 4-51, well 8-3 appears to be adjacent to Building 113 at the headwaters of one of the drainage areas. Based on the strong gradients inferred from Figure 4-55, it appears that no well is downgradient of the sumps adjacent to Building 1109. The text should be modified accordingly.

Section 4.10.5.3, Page 4-289

The text in the second paragraph should be expanded to include a discussion of metals concentrations in regard to background or upgradient well concentrations. The statement that "these constituents are commonly present in groundwater at concentrations greater than PARS" must be supported by the appropriate reference.

Section 4.10.6.1, Page 4-305

The text in the second paragraph indicates that two samples were collected from a drainage from a sump leading from Building 1109. The text should be modified to identify the sample identification number.

Section 4.10.6.4, Page 4-307

The second to last sentence in this section states that "little contamination exists at the site." This statement appears premature and unsubstantiated. An evaluation of naturally occurring, "background," metals concentrations must be performed before a definitive statement regarding the presence/absence of contamination can be made.

Section 4.11.2.1, Page 4-311

The text should be modified to reference the well construction logs and sampling logs presented in the appendices.

Section 4.11.6.7, Page 4-336

The text in this section should be modified to explain why there appears to be off-site environmental impairment.

Section 4.12.4.1, Page 4-347

The soil headspace results should be presented in the body of the report. The text must be modified accordingly.

Section 4.12.4.2, Page 4-347

The text incorrectly refers the reader to Figure 4-62 for the results of the investigation. The results of the geophysical study are not presented on Figure 4-62. The results of the geophysical survey, including the contour maps presented in Appendix J, should be amended to the text.

Section 4.12.6, Page 4-357

The text in the first paragraph on Page 4-357 states that TCLP analysis indicates that the soils and sediments are not hazardous by TC limits. While this may be a true statement, it may be taken as an implied recommendation for no further investigation of this SWMU group. The lack of any recommendations in the Phase I report for Phase II work contributes to our confusion over the intent of this sentence on Page 4-357.

Section 4.13.2.3, Page 4-361

It is not clear from the limited text presented in this section and proceeding sections whether soil boring locations were adjusted based on the results of the soil gas survey and/or geophysical survey. The text should be modified accordingly.

Section 4.13.4.1, Page 4-366

It appears that the second and third sentences in the paragraph are contradictory. This apparent discrepancy must be addressed. The "low concentrations" of methane should be described in the text.

Section 4.13.4.2, Page 4-367

A brief synopsis of the results of the geophysical study should be presented in the body of the report. The identification of buried waste, as discussed in Appendix M, should be described in the body of the report.

Section 4.14.2.3, Page 4-375

The text should be modified to reference the well construction logs and sampling logs presented in the appendices.

Section 4.14.2.4, Page 4-378

To clarify the discussion of sampling activities, it is recommended that the total number of soil samples collected be identified in the text.

Section 4.14.4.1, Page 4-380

The text should be expanded to identify the range of concentrations detected for each of the identified constituents.

Section 4.14.4.2, Page 4-381

The results of the geophysical survey in regard to scoping of the soil boring locations should be described in the text.

Section 4.14.4.3, Page 4-381

The text indicates that two former disposal sites were identified during aerial photograph review. These disposal sites must be identified on an appropriate figure. The text must be expanded to describe how these identified waste disposal sites relate to the findings of the geophysical study and the subsurface soil analytical results. It appears that additional investigation will be needed to assess waste disposal sites. The text must be modified accordingly.

Section 4.14.6, Pages 4-387 and 4-388

The summary text presented in the first paragraph on Page 4-387 is incomplete and must be expanded. The report fails to discuss all the findings of the geophysical study including the identification of buried 55-gallon drums and the strong conductivity anomaly that straddles the southwest boundary of the landfill. The conductivity anomaly may be very important to the discussion of the nature and extent of contamination. The anomaly suggests that the landfill may be larger than anticipated and that additional work is necessary to evaluate potential contamination in the vicinity of the areas west of boring 14-01. The text must be expanded as requested. Recommendations regarding additional work must be added to the report.

The summary paragraph on Page 4-388 also appears incomplete. The report must recognize the need for additional soil sampling for volatile organic compounds (VOCs) and the necessity to evaluate the magnitude and extent of contamination beneath identified waste/debris near the center of the landfill and potential contamination at the north and southwest end of the landfill.

Section 4.15.2.2, Page 4-391

The report indicates that the geophysical survey was conducted prior to the subsurface soil sampling; however, the text fails to describe how the results of the geophysical survey were used to scope or adjust soil sampling locations. The text must be expanded accordingly.

Figure 4-72, Page 4-392

Figure 4-72 should be modified to indicate only those sampling locations where a sample was collected.

Section 4.15.2.3, Page 4-394

The text should be modified to reference the well construction logs and sampling logs presented in the appendices. The text should identify whether any of the existing wells were redeveloped prior to sampling.

Section 4.15.2.6, Page 4-395

The text describing surface water sampling locations should refer the reader to the appropriate figure.

Section 4.15.3.1, Page 4-397

The last few sentences in the first paragraph on the page suggest that a claystone was encountered between two unconsolidated horizons. This stratigraphic succession of unconsolidated sediments lying superjacent and subjacent to a bedrock unit is rather illogical. It is suggested that the boring logs be reevaluated to determine the sequence of units.

Section 4.15.3.2, Page 4-397

The text in the last sentence of the second paragraph indicates that seepage was observed in the base of the active trench but fails to identify the depth of the bottom of the trench or a reference datum point to assess the position of the seep. Based on Figure 3-3, groundwater flow in the vicinity of the landfill is toward the southwest; however, the SWMU-specific piezometric data indicate that groundwater flow is directed in a southeasterly direction. The text should be modified to indicate that the facility-wide groundwater flow map, Figure 3-3, is not an accurate representation of groundwater flow conditions in the vicinity of the landfill.

Section 4.15.4.1, Page 4-398

The text must be expanded to discuss how the results of the soil gas survey "show no indication of migration of contaminants in subsurface gas."

Section 4.15.6, Pages 4-410 through 4-412

The text in the second paragraph on Page 4-410 is misleading as written. The text must be revised to indicate that the soil gas survey conducted was a limited soil headspace analysis. The number of sampling locations was significantly fewer than

proposed in the workplan. It is not clear from the text provided in the last sentence on Page 4-410 how seven soil gas locations were used to "identify isolated locations." The text must be modified accordingly.

The first sentence on Page 4-411 indicates that no discrete waste bodies were identified by the geophysical survey; however, strong field strength and conductivity anomalies were identified in the vicinity of survey line EE. The text must be modified to discuss these anomalies.

The summary paragraph presented on Page 4-412 must be expanded to describe how the magnitude of metals contamination in soils and stream sediments will be evaluated.

Section 4.16.2.5, Page 4-418

Though not proposed in the workplan, the surface water sampling event appears appropriate to evaluate potential surface water contamination originating from the landfill. The text should be expanded to describe how the list of analytes was formulated.

Section 4.16.2.6, Page 4-419

Though not proposed in the workplan, the sediment sampling appears appropriate to evaluate potential sediment contamination in the vicinity of the landfill. The text should be expanded to describe how the list of analytes was formulated.

Section 4.16.3.1, Pages 4-419 and 4-420

The discussion of native materials as presented on Page 4-418 should be supplemented with a brief discussion of the waste materials, fill debris and landfill cover soils encountered during boring installation at the landfill.

Reference to Appendix O in the first paragraph on Page 4-420 appears incorrect. Apparently none of the samples collected from SWMU Group No. 16 were submitted for geotechnical analysis; therefore, reference to the geotechnical analyses results is not appropriate. The text should be modified accordingly.

Section 4.16.4.1, Page 4-421

The text should be expanded to present a brief summary of the analytical results of the soil gas survey.

Section 4.16.4.2, Page 4-422

The text must be expanded to present a brief description of the results of the geophysical survey, including the conductivity and field strength contour maps presented in Appendix M.

Section 4.16.4.3, Page 4-422

The text indicates that disposal trenches were observed by Radian field personnel. It is not clear from the information presented whether field personnel identified the actual trench and waste material or the surface collapse features coincident with the location of the former trenches. The text must be modified accordingly. If these trench locations were mapped by field personnel, these maps should be appended to the report.

Section 4.16.5.2, Page 4-426

The discussion of semivolatile organic compound (SVOC) contamination as presented in the last paragraph on Page 4-426 should be expanded to identify the range of concentrations of the detected contaminants.

Section 4.16.5.3, Page 4-428

The discussion of metals, TCLP metals and VOC contamination in sediment samples presented in the second, third and fourth paragraphs should be expanded to identify the ranges of concentrations of contaminants detected.

Section 4.17.2.1, Page 4-437

The text indicates that seven wells, "four new wells and the three closest existing monitoring wells," were sampled; however, Figure 4-79 only identifies five wells. The figure identifies only one new well and four existing wells. The apparent discrepancy between the text and Figure 4-79 must be addressed.

Section 4.17.2.3, Page 4-441

The description of soil characteristics presented in the third paragraph on Page 4-441 refers the reader to Appendix O. However, the text fails to mention the results of the geotechnical analyses. The text should be modified to include a brief discussion of the geotechnical analyses conducted. In addition, the result of the study in regard to soil characteristics and the impact on contaminant transport should be described.

Section 4.17.3.1, Pages 4-441 and 4-442

The statement "the bedrock lithology, however, is more characteristic of the Pawnee Limestone" in the second paragraph should be supported with appropriate description of the bedrock characteristics.

Section 4.17.3.2, Page 4-443

The text in the second paragraph indicates that the monitoring wells are screened in the upper bedrock profile; however, water levels are situated in the overlying unconsolidated profile. The text in this section or an alternate appropriate section should briefly describe the hydraulic relationship between the overburden section and upper bedrock.

Section 4.18.3.1, Page 4-460

Reference to Appendix O in the last sentence on Page 4-460 appears incorrect. Apparently none of the samples collected from SWMU Group No. 16 were submitted for geotechnical analysis; therefore, reference to the geotechnical analyses results is inappropriate. The text should be modified accordingly.

Section 4.18.6, Page 4-468

The text fails to discuss the identification of VOC contamination in the deep portion of the unconsolidated section in the vicinity of Drying Bed No. 2212. The text must be modified accordingly.

Section 4.19.6, Page 4-474

The text must be modified to identify the data gaps in the understanding of site contamination. An evaluation of naturally occurring, "background," metals concentrations must be conducted to assess the magnitude of metals contamination in the vicinity of this SWMU group. In addition, it is apparent that the source of SVOC contamination has not been determined. The text must be modified to present the data gaps and recommended investigative actions.

Section 4.20.4, Page 4-479

This section should either be deleted or expanded to compare results against health-based standards, if such exist. Concentrations tabulated in the report range into the 1000s of ug/m^3. Depending on toxicity levels of the pollutant, these concentrations may be very high.

Table 4-70, Pages 4-482 and 4-483

Emission rates tabulated in Table 4-70 appear to be based on the assumption that all contaminants in the feed material are released to the stack (less the 98% captured by the pollution control equipment). This would imply that no destruction of these materials occurs in the incinerator, which is unrealistic. A reasonable estimate of the destruction efficiency of the incinerator should be used in developing emission rates.

Tables 4-72 and 4-78, Pages 4-485 and 4-518

Maximum off-property impacts presented in Tables 4-72 and 4-78 appear to be based on a concentration of about 23.5 ug/m^3 per g/s emitted. This number does not seem to be supported by the modeling results given in Appendix P, which list maximum 24-hour impacts of about 204 ug/m^3 and 182 ug/m^3 for 1 g/s emission rates from the contaminated waste processor (CWP) and explosive waste incinerator (EWI) stacks, respectively. Explanation should be presented to show what concentrations were used and how they were derived for all modeling results.

Section 4.22.4.1, Page 4-511

The solid waste landfilling activities observed during field activities must be more fully described. In addition, the location of the landfill must be presented on a report figure.

Table 4-76, Page 4-516

Emission rates tabulated in Table 4-76 appear to be based on the same assumptions used in Table 4-70. See the comment on Table 4-70.

Section 4.22.6, Page 4-520

Based on the limited scope of work, it is apparent that potential environmental impact from the landfill was not evaluated. The text must be modified to identify this data gap and present recommendations for evaluating potential contamination at this landfill.

Section 4.23.5.2, Page 4-529

The range of contaminant concentrations detected should be added to the discussion of metals contamination.

Section 4.24.3.1, Page 4-537

Reference to Appendix O in the last sentence of the first paragraph appears inappropriate. Apparently none of the samples collected from SWMU Group No. 24 were submitted for geotechnical analysis; therefore, reference to the geotechnical analyses results should be removed from the text. The text should be modified accordingly.

Section 4.24.5.1, Page 4-542

The description of total metals identified at Burning Pad No. 5, Burning Pad No. 6 and the SWMU group drainageway should be expanded to identify the range of concentrations detected.

Section 5.3.1, Page 5-8

The report states that Radian considered the level of review to represent data verification only. Furthermore, the level of data review performed is not considered by Radian to be sufficient to validate the data for their intended use or to address limitations of the data usability. The report states, "Radian recommends that additional data review, validation and statistical analysis be performed by the USACE before any results are used for decision making in nature and extent studies, risk assessments, or remedial design studies." EPA concurs with this recommendation.

Section 5.3.1, Page 5-10

The report states that review of the data indicated that the completeness objective of 95% usable data was achieved. It is not clear how completeness could have been calculated when the data were not reviewed appropriately. It seems premature to calculate completeness. Therefore, this statement should not be included in the report.

Section 5.4.1, Page 5-11

The last paragraph on Page 5-11 makes the statement "The presence of phthalate compounds in method blanks is expected due to the ubiquitous nature of phthalate compounds in any surrounding." This statement is erroneous and should be removed from the report. The presence of phthalate compounds in method blanks is not "expected." Proper sample preparation and handling prevents phthalate contamination of method blanks.

Section 5.4.6, Page 5-21

The text must be expanded to identify the number of duplicate samples collected during the investigation.

Section 6.1.1, Pages 6-4 and 6-5

The text in the first paragraph on Page 6-4 indicates that contamination was not detected in the ponds; however, the text in Section 4.5 indicates that metals were detected in the ponds at concentrations above background. This apparent discrepancy must be addressed.

The last sentence in this section indicates that there do not appear to be any SWMU-specific data gaps. It is not clear from the information presented in Section 4.5 how a determination regarding the need for corrective measures will be made without a complete understanding of the nature and extent of explosives contamination at the SWMU group. Additional investigation is

needed to complete the characterization of the sump at SWMU No. 10. In addition, the magnitude of metals contamination has not been established. It appears that, at a minimum, an evaluation of background metals concentrations must be completed and additional sampling in the vicinity of SWMU No. 10 must be conducted.

Section 6.1.5, Page 6-8

The text indicates that the investigation of the 1000 Area appears to be reasonably complete; however, this conclusion is not fully supported by the analytical results presented in the report.

APPENDIX M

(There were no page numbers, so each page of Appendix M has been numbered sequentially, including the pages containing figures. Since there are no section numbers either, section name headings have been used for identification, where appropriate.)

General

Appendix M should clarify that the card gap analysis applied only to surface soil samples.

CARD GAP SAMPLING, Page 1

As previously discussed, no rationale is presented for the samples being "...selected on the basis of their potential to contain high concentrations of explosive compounds...." Rationale must be provided to support these samples being the most reactive materials to be encountered on the site or for there being no materials more reactive. The report must be modified to provide a complete justification for the selection of the sampling points in this context.

GROUP 5--300 AREA, Page 1

Sample CG-5-1, presumably a sample of sediment in the evaporation pond, was taken beyond the boundaries of the pond, as shown in Figure M-1. The text must be modified to explain the rationale for this sample location.

GROUP 10--1100 AREA, Page 15

Samples CG-10-3 and CG-10-4 have their locations indicated on Figure M-13, but Building 1127 is not identified. Figure M-13 must be modified accordingly.

GROUP 11--2700 AREA FORMER BURNING PADS, Page 15

Sample CG-11-1 is shown on Figure M-15 on Former Pad Number 1, not Pad Number 3. The text and/or figure must be modified accordingly.

GROUP 11--2700 AREA FORMER BURNING PADS, Page 15

Sample CG-11-3 is shown on Figure M-15 as being on Former Pad Number 3, not Pad Number 4. The text and/or figure must be modified accordingly.

GROUP 11--2700 AREA FORMER BURNING PADS, Page 15

Sample CG-11-4 is shown on Figure M-15 as being on Former Pad Number 4, not Pad Number 1-CWP. The text and/or figure must be modified accordingly.

The report must be revised to address the above comments in order for it to be considered a RFI Final Report as cited in the HSWA permit for KAAP under section VI.7.A.

If you have any questions or concerns, please feel free to contact Wes Bartley of my staff at (913) 551-7632.

Sincerely yours,

Robert L Stewart

Robert L. Stewart, P.E.
Acting Chief, Permits Section
RCRA Branch
Waste Management Division

cc: Steve Lemons, U.S. Army Corps of Engineers
John Mitchell, KDHE
Jim Kohman, Metcalf & Eddy

State of Kansas
Joan Finney, *Governor*

Department of Health and Environment

Robert C. Harder, Secretary

Reply to: 913-296-1590
Fax Number: 913-296-1592

June 2, 1993

Frank R. Jordan
Lieutenant Colonel
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Re: Industrial Solid Waste Disposal Authorization Number 93-746

Dear Colonel Jordan:

We have considered your request dated May 13, 1993, for disposal of 9 drums Cyclotol Wet Sumpage open burning residue, 9 drums of 1100 area sump sludge open burning residue, 5 drums of Cyclotol wet sumpage and support collars open burning residue, 1 drum of comp A-5 wet sumpage open burning residue, 3 drums of 900 sump sludge open burning residue and 4 drums of Zirconium sponges open burning residue.

Approval is given to dispose of this waste at the Kansas Army Ammo. Plant landfill operating under Kansas Permit 401 provided the following conditions are met:

1. The waste must be transported separately to the landfill and be identified to the operator upon delivery.

2. Kansas Administrative Regulation 28-29-23(r) requires solid waste disposal facilities to maintain a log of commercial or industrial wastes received such as sludges, liquids, and barreled waste. The log must indicate the source and quantity of waste and the disposal location thereof. The industrial waste authorization number should be used as identification when entering the shipment into the log.

3. This approval is valid for only one shipment to the landfill. If additional shipments are required you must contact us to receive another disposal authorization.

If you have any questions, feel free to contact me.

Sincerely yours,

Thomas Gross, Chief
Solid Waste Section
Bureau of Waste Management

d/rek

C John Mitchell
Southeast District - Bryce Tobyne

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

April 19, 1993

Operations Review
Division (200-1a)

SUBJECT: Corrective Action for Solid waste Management Units Quarterly Report

RECEIVED
BUREAU OF
APR 22 1993
WASTE MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam

Three copies of subject report for the period January 1, 1993, through March 31, 1993, are enclosed for your use as required by KAAP's RCRA Part B Permit.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-EQ/T. Howard (w/encl)
CEMRK-ED-TD (w/encl)
KDHE AIR & Waste Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTION ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD JANUARY 1, 1993 THROUGH MARCH 31, 1993

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of work completed: The field work portion of Phase I of the RCRA Facility Investigation (RFI) of 24 sites to provide information regarding the presence of absence of contamination has been completed. Field work consisted of performing soil gas and electromagnetic surveys and then drilling and installing groundwater monitoring wells and performing environmental sampling.

2. Summaries of all findings, including summaries of laboratory data:

   1) Explosives: HMX, RDX, and TNT were detected at several sites. In addition, tetryl, 1,3,5-TNB and 2,4-DNT were also detected.

   2) Metals: Antimony, cadmium, chromium, copper, cobalt, lead, arsenic, selenium, and zinc were frequently detected in the environmental samples. Metals detected on a less frequent basis were mercury, silver, and thallium. According to the TCLP analyses, all samples but one are nonhazardous.

   3) Volatile Organic Compounds: Acetone, chloroform, methylene chloride, tetrachloroethane, and 1,1,1-trichloroethane were detected during the investigation.

   4) Semivolatile Organics: Several semivolatile organics such as bis(2-ethylhexyl)phthalate, dibutylphthalate, and others associated with explosives were detected.

   5) Polychlorinated Biphenyls were detected at a former landfill site located north of Road 2 and west of the 200 Area.

   Samples collected from sumps, surface soils surrounding sumps, and ditches had the highest concentration of contaminants. In addition, some contaminants were detected in the subsurface soils and groundwater. A complete description of the contaminants detected and their concentrations is set forth in the Draft RFI Final Report dated and submitted March 1993.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems: None

4. Projected work for the next reporting period: Review and revision, as necessary, of the Draft RFI Report.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

March 25, 1993

REPLY TO
ATTENTION OF

Operations Review
Division (200-1a)

SUBJECT: RCRA Facility Investigation Draft Report

Mr. John Ramsey
Kansas Department of Health & Environment
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Mr. Ramsey:

A copy of the RCRA Facility Investigation Draft Report was given to Mr. Steve Travis, Kansas Department of Health & Environment, on March 23, 1993, for your information and review.

If you would like to provide comments ~~to~~ on the draft report, we request that they be submitted to this office by April 15, 1993.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

RECEIVED
BUREAU OF
MAR 31 1993
WASTE MANAGEMENT

State of Kansas
Joan Finney, *Governor*

Department of Health and Environment

[redacted]
Robert C. Harder, Secretary

March 2, 1993

Reply to: 913-296-1596
Fax Number: 913-296-1592

Glen Parish
Department of Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Re: Industrial Solid Waste Disposal Authorization Number 93-279

Dear Mr. Parish:

We have considered your request resubmitted February 23, 1993, for disposal of 24 drums total of open burning residues as listed on request,(original listing on request dated September 10, 1992.)

Approval is given to dispose of this waste at the Dept. of Army landfill operating under Kansas Permit 401 provided the following conditions are met:

1. The waste must be transported separately to the landfill and be identified to the operator upon delivery.

2. Kansas Administrative Regulation 28-29-23(r) requires solid waste disposal facilities to maintain a log of commercial or industrial wastes received such as sludges, liquids, and barreled waste. The log must indicate the source and quantity of waste and the disposal location thereof. The industrial waste authorization number should be used as identification when entering the shipment into the log.

3. This approval is valid for disposal of soil as described and in amount shown above. If additional shopments are required you must contact us for another authorization..

If you have any questions, feel free to contact me.

Sincerely yours,

Tom Gross RGK

Thomas Gross, Chief
Solid Waste Section
Bureau of Waste Management

d//sh

C John Mitchell
Southeast District - Bryce Tobyne

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

January 21, 1993

Operations Review
Division (200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RECEIVED
BUREAU OF
JAN 22 1993
WASTE MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam:

Three copies of subject report for the period October 1, 1992 through December 31, 1992 are enclosed for your use as required by KAAP's RCRA Part B Permit.

Per conversation with Mr. Steve Lemons, Kansas City District Corps of Engineers, 85% of analytical results have been received and are in process of review. Upon receipt of all analytical data and completion of the Corps of Engineers' review, Radian Corporation will be able to finalize the draft RFI report. The current submission date for this report appears to be March 15, 1993. We will continue efforts to expedite this submission as soon as possible.

The point of contact is Glen Parish, SMCKA-OR, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-ISE-M/D. Nelson (w/encl)
CEMRK-ED-TD (w/encl)
KDHE Air & Wst Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD OCTOBER 1, 1992 THROUGH DECEMBER 31, 1992

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed: Visual inspections of the hazardous waste storage facilities governed by this effort were conducted during October. All remaining samples were collected for analysis. The COE contractor, Radian, conducted an audit of the subcontracted laboratory on November 10 and 11, 1992.

2. Summaries of all findings, including summaries of laboratory data: Not applicable at this time. The analytical work required for this effort has been completed; however, KAAP has not received the analytical results. KAAP has been notified that all Card Gap tests were negative.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems: None

4. Projected Work for the Next Reporting Period: It is anticipated that approval of laboratory deliverables will be completed January 15, 1993. Air modeling and draft RFI Report are scheduled for completion March 15, 1993.

Encl 1

State of Kansas
Joan Finney, *Governor*

Department of Health and Environment

Robert C. Harder, Secretary

Reply to: (913) 296-1574

RECEIVED
BUREAU OF
JAN 20 1993
WASTE MANAGEMENT

January 8, 1993

Frank R. Jordan
Lieutenant Colonel
U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Victoria S. O'Brien, D & Z, Inc.

Lt. Colonel Jordan:

The Department is in receipt of the Kansas Army Ammunition Plant (KAAP) letter requesting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption is for the open burning of 7 categories of explosive hazardous waste. The categories are as follows:

1) Comp A-5 Wet Sumpage and Sump Sludge
2) Cyclotol & Octol Wet Sumpage, and Sump Sludge
3) Com B and TNT Wet Sumpage and Sump Sludge
4) Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX and TNT Scrap
5) Absorbent Materials from Cleanup of Comp B, Cyclotol, Octol and TNT Wastewater Spills
6) Propellants and Propellant Charges
7) Support Collars with M55 Stab Detonators

By letter dated July 12, 1990 the Department provided KAAP a critique of each of the first 5 categories in regard to open burning. The Department findings were that all categories are acceptable to be open burned with exception of the lead foil lined bags associated with item no. 6, propellants and propellant charges.

By letter dated April 29, 1992 the Department approved the burning of item no. 7. Item no. 7 comes under both Air Quality and RCRA review.

Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting exemption to KAAP for the burning of explosive hazardous waste, items 1 through 7 with exception of lead foil lined bags.

This exemption is valid through December 31, 1993. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice of the Department's option.

If there are further questions in regard to this matter please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Waste Management

clw:Jordan/DAS
OBL 93-09
c: Steve Broslavick, BWM
John Ramsey, BWM
Lynn Ranabargar, DAQR

Joan Finney, *Governor*

Department of Health and Environment

Azz[redacted]tary

Robert C. Harder, Secretary

Reply to: (913) 296-1608
Fax Number: (913) 296-1592

December 15, 1992

Mr. Warren L. Parker
Explosives Enforcement Officer
Explosives Technology Branch
U.S. Department of the Treasury
Bureau of Alcohol, Tobacco and Firearms
Washington, DC 20226

Dear Mr. Parker:

This is in response to your request for our position concerning your proposal to destroy 86,617 ground bomb fireworks at the Kansas Army Ammunition Plant (KAAP) in Parsons, Kansas. We have reviewed the information contained in your October 15, 1992 letter as well as the supplemental information provided by way of your November 20, 1992 FAX.

We have concluded that the fireworks are not regulated as a hazardous waste. As a result, no hazardous waste permit modifications are necessary. It is our understanding that the fireworks are classified under federal law as explosives and will retain this classification until they are destroyed at the facility. Transportation of the explosives from the point of storage to KAAP will need to be in accordance with all applicable requirements for materials of this type.

It also is our understanding that the general method of destruction to be employed will consist of placing the devices in barrels, soaking them for several hours in diesel fuel, and burning them in an open area. If these fireworks are indeed to be burned in this way an open burning approval will be needed from this department's Bureau of Air and Radiation (BAR). KAAP contractor personal are aware of this requirement and will be submitting the necessary request to BAR in the near future. Following the burning of the fireworks the burn site will need to be restored to pre-burn conditions and any residues will require appropriate management.

Notice of our position regarding this matter is being made to KAAP by copy of this letter. Should you have additional questions or concerns, please feel free to contact me at the number given above.

Sincerely yours,

John W. Mitchell, M.S.
Chief, Hazardous Waste Section
Bureau of Waste Management

C Glen Parish - KAAP
John Irwin - BAR
Southeast District Office - BWM

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

November 3, 1992

Operations Review
Division (200-1a)

SUBJECT: Open Burning Exemption

Kansas Department of Health & Environment
Bureau of Air & Waste Management
Building 740 - Forbes Field
Topeka, KS 66620-0001

Dear Sir/Madam:

The enclosed letter, Day & Zimmermann, Inc., file No. EM-8502/EE/VSO, dated November 2, 1992, subject as above, with enclosed request for open burning exemption for explosive hazardous waste, is provided for your consideration and approval.

Your favorable consideration in approving this request will be appreciated.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copy Furnished (wo/encl):

DZI Env Eng/O'Brien

RECEIVED
BUREAU OF
NOV 0 6 1992
WASTE MANAGEMENT

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

DEFENSE SYSTEMS GROUP
KANSAS DIVISION
PARSONS, KANSAS 67357-9106

November 2, 1992

FILE NO. EM-8502/EE/VSO

Administrative Contracting Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

Subject: Open Burning Exemption

Kansas Army Ammunition Plant's current open burning exemption from the Kansas Department of Health and Environment (KDHE) expires on December 31, 1992. Therefore, it is requested that the enclosed request for Open Burning Exemption for Explosive Hazardous Wastes be submitted to the Bureau of Air of the KDHE for consideration. The request has been prepared in accordance with Kansas Air Regulation 28-19-47(c).

Please contact Victoria S. O'Brien, extension 574, if there are any questions regarding this matter.

Very truly yours,

DAY & ZIMMERMANN, INC.

STEVE W. KOSMAN
Director of Engineering

SWK/CJS/lk

Enclosure
a/s

REQUEST FOR
OPEN BURNING EXEMPTION
FOR EXPLOSIVE HAZARDOUS WASTES

1. Name, address, and telephone number of the person responsible for open burning operations.

Owner:

LTC Frank R. Jordan
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357
(316) 421-7446

Operator:

Joel E. Gregory
Day & Zimmermann, Inc.
Kansas Division
Parsons, Kansas 67357
(316) 421-7473

2. Location and type of open burning operation involved.

All open burning operations will be conducted on Pad No. 5 of the Kansas Army Ammunition Plant's Open Burning Area to thermally treat explosive hazardous wastes with the potential to detonate.

3. Reason why the proposed operation is in the public interest and no alternative method is feasible.

With exception of the propellants, all of the following explosive hazardous wastes contain high explosives with the potential to detonate. The majority of the wastes are of such sensitivity that strict safety measures must be maintained at all times to ensure that the explosives remain damp or in liquid to prevent uncontrolled detonations from occurring. The propellants that are currently in storage at KAAP are in an ever descending state of affairs and will become a safety concern if stored until the condition of the propellant is allowed to further deteriorate. Only KAAP personnel that have been trained in proper management procedures, i.e. transportation, storage, and thermal treatment of explosives, are allowed to handle these wastes. In addition, KAAP has emergency response and disaster control plans that will be placed into effect in the event that an incident involving these items occurred on site. Open burning of these explosive wastes at KAAP, under strict control procedures, will be in the public's best interest. Each open burning operation will involve the use of eight burning pans. No more than 151 pounds of explosive hazardous waste will be open burned in each pan at one time. It is essential to keep the quantities of unstable explosives

handled to a minimum. The effects of incidents involving large quantities of unstable explosives cannot be accurately predicted. Outshipments would involve several thousand pounds of explosive hazardous waste and increase the possibility of traffic accidents, fires, etc. which would have the potential to harm the public.

No alternative method of management for these wastes is feasible. KAAP's explosive waste incinerator is not capable of injecting semi-solid wastes into the rotary kiln. Outshipment of the explosive hazardous wastes is unfeasible due to instability of the explosives involved, lack of adequate treatment facilities operated by other Army installations or commercial vendors, and RCRA permit requirements at other Army installations.

4. **Description of the open burning operation including the estimated amount and nature of material to be burned each time; the proposed frequency, duration, and schedule of such burning; the size of the area to which the burning will be confined; and the method of igniting the material.**

KAAP requests an exemption to open burn, daily as weather conditions permit and quantities dictate, explosive hazardous wastes twice per day. All open burning operations will be conducted on weekdays only in 16 elevated burning pans located on Pad No. 5 of KAAP's Burning Grounds Area. The burning pans measure approximately 4' x 4' x 1' and the pad measures approximately 100' x 300'. Pad No. 5 is located in the middle east portion of the installation, see enclosed drawing. Eight of the pans will be utilized to burn waste in the morning and the remaining eight pans will be utilized in the afternoon. Due to safety concerns regarding the wastes involved, at no time will all 16 pans be used at the same time. In addition, hazardous waste inspections will be performed on each of the pans daily as they are utilized to ensure that no wastes are released during open burning operations. Copies of the inspection reports will be maintained in the Environmental Engineering Office for review.

As mandated by KAAP's Standing Operating Procedures (SOP) and Technical Programs for open burning operations, no more than 151 pounds of explosive hazardous wastes will be placed in each burning pan. The maximum quantity of explosive hazardous wastes that will be burned each day will be 2,416 pounds. Approximate burn times for KAAP's explosive hazardous wastes will range from 30 minutes to four hours which includes smoldering time. The majority of KAAP's explosive hazardous wastes will burn within 30 minutes of ignition.

To ignite and burn the wastes, the following procedures will be conducted. One or two wooden pallets will be placed in the bottom of each burn pan and wooden dunnage will be placed around the edges of each pan. The waste to be open burned will be placed on top of the wooden pallet(s). Excelsior will be placed over the waste and used to form an ignition train from the waste to the lid of the pan which will be placed upside down on the ground adjacent to the pan. Wooden dunnage will be placed on top of the excelsior inside the pan. An electric match with a four-ounce explosive charge will be inserted to the train of excelsior located in the pan lid. The match will be connected to an electrical wire attached to an ignition control box located approximately 500 yards from the burning pad. All personnel will be evacuated from the burning pad area and the burn initiated from the ignition control box.

Descriptions of the nature of the explosive hazardous waste that will be open burned are as follows:

Comp A-5 Wet Sumpage and Sump Sludge - Wastewater that contains Comp A-5 explosive and is generated from washdown of the 300 Area Production Line facilities is transferred to collection sumps prior to being pumped to a holding tank for treatment through a diatomaceous earth filter and carbon columns. Wire baskets lined with cheesecloth are positioned on the influent side of the collection sumps to remove solids from the wastewater prior to its entry into the sumps. The solids removed from the wastewater are normally comprised of large particles of explosives, but may consist of small metal fragments from the brass cones that are a component part of the grenades produced on the 300 Line. The wet sumpage may also contain small amounts of lint and dirt from employees clothes and shoes. The typical appearance of the Comp A-5 wet sumpage is that of a wet (damp) grayish clay. The Comp A-5 wet sumpage and cheesecloth are removed from the wire baskets at least once a week, but may be removed more often depending on production schedules. The Comp A-5 wet sumpage is packaged and managed as high explosive hazardous waste with the potential to detonate. Additional explosive solids (sump sludge) may accumulate in the bottom of the sumps. When the sump sludge has accumulated to a depth dictated by safety, they are removed, packaged, and managed as high explosive hazardous waste with the potential to detonate.

Cyclotol and Octol Wet Sumpage and Sump Sludge -

Wastewater that contains Cyclotol or Octol explosive is generated from building washdown and bomb body sumpout procedures conducted on the 1100 Area Production Line. The wastewater flows through a settling area to remove the larger solid particles of explosives. The solids collected in the settling area are designated as wet sumpage which has the normal appearance of reddish brown clay. The major component of wet sumpage is Cyclotol or Octol, but it may contain metal parts and lint/dirt from employees clothes/shoes generated during washdown of the facilities. The wet sumpage is removed from the settling area, packaged, and managed as high explosive hazardous wastes with the potential to detonate.

The wastewater then flows into sumps that contain anthracite in the bottom of the sumps. The wastewater gravity flows through the anthracite which is used for additional removal of explosive solids. When the explosive solids begin to accumulate on top of the anthracite, approximately three to five inches of the explosive solids and anthracite are removed, packaged, and managed as high explosives. The wastewater then enters a sump known as the clear well. Additional explosive solids (sump sludge) accumulate in the bottom of the clear well. When the sump sludge has accumulated to a depth dictated by safety, they are removed, packaged, and managed as high explosive hazardous waste with the potential to detonate.

Comp B and TNT Wet Sumpage and Sump Sludge - Wastewater that contains Comp B or TNT explosive is generated from building washdown and bomb body sumpout procedures conducted on the 900 Area Production Line. The wastewater flows through a settling area to remove the larger solid particles of explosives. The solids collected in the settling area are designated as wet sumpage which has the normal appearance of reddish brown clay. The major component of wet sumpage is Comp B or TNT, but it may contain metal parts and lint/dirt from employees clothes/shoes generated during washdown of the facilities. The wet sumpage is removed from the settling area, packaged, and managed as high explosive hazardous waste with the potential to detonate.

The wastewater then flows into sumps which are used for additional removal of explosive solids (sump sludge). When the sump sludge has accumulated to a depth dictated by safety, they are removed, packaged, and managed as high explosive hazardous waste with the potential to detonate.

Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX, and TNT Scrap - Scrap high explosives are generated from floor sweeping and vacuum operations conducted in the 300, 700, 900, and 1100 Production Line facilities. The main component of the floor sweepings is explosives, but they may also contain small metal parts such as lead cups and lint/dirt from employee's clothing/shoes. Small quantities of bulk waste high explosives are generated when the explosives are rejected for use due to quality analyses performed by the KAAP Chemistry Laboratory. When generated, floor sweepings, vacuum waste, and bulk explosives are packaged and managed as high explosive hazardous wastes with the potential to detonate.

Absorbent Materials from Cleanup of Comp B, Cyclotol, Octol, and TNT Wastewater Spills - In the event of a spill of wastewater contaminated with Comp B, Cyclotol, Octol, and TNT, hay and/or straw is used to soak up the spill. The used hay or straw is then placed in drums and managed as K047 hazardous waste.

Propellants and Propellant Charges - Waste propellants and propellant charges are generated when the propellants are rejected for use due to quality analyses performed by the KAAP Chemistry Laboratory or upon receipt of orders from the Department of the Army stipulating that the propellants be thermal treated. Waste propellant and propellant charges are packaged and managed as propellant explosive hazardous wastes with the potential to detonate. If any of the propellant charges contain a bag lined with lead foil, the bag will be detached and opened to allow the propellant to be poured into a receptacle. The container of propellant will be managed as propellant explosive hazardous waste with the potential to detonate. The bag lined with lead foil will be placed in a separate receptacle and managed as hazardous waste until adequate TCLP analyses can be performed.

Support Collars - Waste support collars are generated when rejected from use due to their inability to meet production specifications. The support collars consist of a plastic collar containing an M55 Stab Detonator. The reject support collars are managed as hazardous waste due to the ability of the M55 Stab Detonator to detonate.

Explosive support collars will be open burned in conjunction with Cyclotol wet sumpage. After Cyclotol

wet sumpage has been placed in the pan for treatment, see above description, no more than 20 support collars will be placed on top of the wet sumpage prior to placing excelsior over the waste.

5. **Sketch indicating the location of the open burning with respect to all public roadways and dwellings within 1,500 feet or less of the proposed operation, and the names and mailing addresses of all heads of households occupying such dwellings.**

A drawing annotated in red to reflect the location of KAAP's Open Burning Pad No. 5 is enclosed. The burning pad is located approximately 3,500 feet from the nearest boundary of KAAP. Therefore, no public roadways and/or dwellings are located with 1,500 feet of the proposed operation.

6. **Evidence that such open burning has been approved by any official fire control authority having jurisdiction over the area.**

KAAP's Fire Department has jurisdiction over all fire control operations conducted at the installation. The Fire Department is manned 24 hours per day every day of the year. The local Parsons Fire Department does not have jurisdiction over the installation and will not be allowed to fight explosive fires on the installation.

DEPARTMENT OF THE TREASURY
BUREAU OF ALCOHOL, TOBACCO AND FIREARMS
WASHINGTON, D.C. 20226

OCT 15 1992

Mr. John Mitchell
Chief, Hazardous Waste Section
Kansas Department of Health and Environment
Building 740
Forbes Field
Topeka, Kansas 66620-1001

Dear Mr. Mitchell:

I am enclosing a copy of our letter to Kansas Army Ammunition Plant and other background information regarding the fireworks we wish to destroy at Kansas Army Ammunition Plant.

We appreciate your assistance in determining how to best comply with your requirement to destroy these materials in the safest possible manner.

Sincerely yours,

Roy Parker

Warren L. Parker
Explosives Enforcement Officer
Explosives Technology Branch

Enclosures

RECEIVED
BUREAU OF
OCT 19 1992
WASTE MANAGEMENT

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

July 21, 1992

Operations Review
Division (200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam:

Three copies of subject report for the period April 1, 1992, through June 30, 1992, is enclosed for your use as required by KAAP's RCRA Part B Permit.

The point of contact is Glen Parish, SMCKA-OR, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY
Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-ISE-M/D. Nelson (w/encl)
CEMRK-ED-TD (w/encl)
KDHE Air & Wst Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

RECEIVED
BUREAU OF
JUL 24 1992
AIR and WASTE
MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS
QUARTERLY REPORT FOR PERIOD APRIL 1, 1992 - JUNE 30, 1992

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed: The RFI Quality Assurance Project Plan was revised and approved in accordance with comments submitted by the EPA.

2. Summaries of all findings, including summaries of laboratory data: Not applicable at this time. KAAP has not received information regarding or results of the soil gas investigation.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems: None

4. Projected Work for the Next Reporting Period:

   A. Construction of the required monitoring wells and collection of the samples required for performance of the card gap will be initiated in July 1992.

   B. Collection of the samples necessary for performance of the chemical analyses will be initiated upon receipt of the card gap analytical results.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

April 22, 1992

Operations Review
Division (200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam:

A copy of subject report for the period January 1, 1992, through March 31, 1992, is enclosed for your use as required by KAAP's RCRA Part B Permit.

The point of contact is Glen Parish, SMCKA-OR, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Frank R. Jordan
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-ISE-M/D. Nelson (w/encl)
CEMRK-ED-TD (w/encl)
KDHE Air & Wst Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

RECEIVED
BUREAU OF
APR 2 4 1992
AIR and WASTE
MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS
QUARTERLY REPORT FOR PERIOD JANUARY 1, 1992 - MARCH 31, 1992

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed:

   A. Radian Corporation personnel were on site during the week of January 20 to conduct a preliminary visit of the Solid Waste Management Unit (SWMU) sites requiring investigation under the approved RCRA Facility (RFI) Investigation Work Plan. During the site visit, questions were raised regarding some of the sample site locations depicted in the Plan. It will be noted that the sites depicted in the Plan are approximate and were not intended as exact locations. In addition, it was decided that some of the sampling locations required relocation due to actual drainage flows, location of wastewater sumps, etc.

   B. Representatives from the EPA, COE, and Radian Corporation were on site March 4 and 5 to discuss the SWMU effort. A tour of the sites was conducted to acquaint EPA and COE representatives with the sites, in particular those Radian and KAAP personnel believed would better serve the intended purpose of the investigation. EPA and COE representatives agreed to the relocations and the EPA requested that additional samples be collected in the 900 Production Area. COE's representative agreed to the EPA's request.

   C. During March, Radian's subcontractors were on site to perform the soil gas investigation required during the initial phase of the effort.

2. Summaries of all findings, including summaries of laboratory data: Not applicable at this time. KAAP has not received information regarding or results of the soil gas investigation.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems:

   A. KAAP personnel notified Radian personnel that KAAP had been informed that the Bureau of Mines has increased the Card Gap and Internal Ignition analyses fee from $1,400

to $3,500 per sample. Radian investigated alternate sources for performance of the analyses. Two possible sources were located. The contract between the COE and Radian is being renegotiated to allow for this unexpected increase in analysis cost.

B. The initial outside laboratory selected for performance of the chemical analyses was determined to be unacceptable by Radian due to lack of operating and quality procedures and because the laboratory intended to subcontract with several other laboratories for performance of the analyses. The COE and EPA agreed that a change of laboratory was necessary to preserve the integrity of information obtained during the effort. Radian is investigating additional outside laboratories.

C. The EPA submitted comments on the RFI Quality Assurance Project Plan prepared by Radian. The comments are being addressed by Radian and the COE.

4. Projected Work for the Next Reporting Period: Unknown at this time.

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

January 21, 1992

Operations Review
Division (200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam:

A copy of subject report for the period October 1, 1991, through December 31, 1991, is enclosed for your use as required by KAAP's RCRA Part B Permit.

The point of contact is Glen Parish, SMCKA-OR, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-ISE-M/D. Nelson (w/encl)
CEMRK-ED-TD (w/encl)
KDHE Air & Wst Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

RECEIVED
BUREAU OF
JAN 2 4 1992
AIR and WASTE
MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS
QUARTERLY REPORT FOR PERIOD OCTOBER 1, 1991 - DECEMBER 31, 1991

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed:

   A. The RFI Work Plan was revised in accordance with stipulations received from the EPA and copies of the Work Plan were distributed to appropriate personnel.

   B. COE, Kansas District, received funding to implement the initial phase of the RFI Work Plan. The contract to perform this effort was awarded to Radian Corporation.

2. Summaries of all findings, including summaries of laboratory data: Not applicable at this time.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems: Not applicable at this time.

4. Projected Work for the Next Reporting Period:

   A. Radian Corporation is scheduled to be onsite the week of January 20, 1992 to conduct a site visit of the SWMUs.

   B: Field work, drilling, sampling, etc. at the SWMU sites is expected to be initiated by Radian Corporation during the middle of February 1992.

Enc

State of Kansas
Joan Finney, *Governor*

Department of Health and Environment
Azzie Young, Ph.D., *Secretary*

IK - HW F1

December 20, 1991
Permit No. 19000010

Reply to: (913) 296-1587

RECEIVED
BUREAU OF
DEC 2 3 1991
AIR and WASTE
MANAGEMENT

Daniel F. Uyesugi
Captain - Lieutenant Colonel
U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Victoria S. O'Brien, D & Z, Inc.

Lt Colonel Uyesugi:

The Department is in receipt of the Kansas Army Ammunition Plant (KAAP) October, 1990 letter requesting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption is for the open burning of 8 categories of explosive hazardous waste. The categories are as follows:

1) Comp A-5 Wet Sumpage
2) Cyclotol & Octol Wet Sumpage, Anthracite and Diatomaceous Earth
3) Com B and TNT Wet Sumpage, Sump Sludge and Diatomaceous Earth
4) Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX and TNT Scrap
5) Absorbent Materials from Cleanup of TNT Wastewater Spills
6) M-10 and M-67 Propellant and Charges
7) M-55 Detonators
8) Support Collars

By letter dated July 12, 1990 the Department provided KAAP a critique of each of the first 6 categories in regard to open burning. The Department findings were that all categories are acceptable to be open burned with exception of the lead foil lined bags associated with item no. 6, M-10 and M-67 Propellant and Charges.

At this time the Department denies approval to conduct open burning of items no. 7 and 8. Prior to further consideration for open burning of items no. 7 and 8, the Department requests that additional information be submitted. The information requested is: quantities of detonators and support collars to be burned, composition of detonators, proposed open burning procedures and any other information which KAAP considers important in regard to the request.

Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting exemption to KAAP for the burning of explosive hazardous waste, items 1 through 6 with the exception of lead foil lined bags.

This exemption is valid through December 31, 1992. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice of the Department's option.

If there are further questions in regard to this matter please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Waste Management

clw:Uyesugi
OBL 92-04
c: Steve Broslavick, BAWM
John Ramsey, BAWM
Lynn Ranabargar, DAQR

KAAP - Permits

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO ATTENTION OF

October 8, 1991

Chief Engineer
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RECEIVED
BUREAU OF
OCT 18 1991
AIR AND WASTE
MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir/Madam:

A copy of subject report for the period July 1, 1991, through September 30, 1991, is enclosed for your use as required by KAAP's RCRA Part B Permit.

The point of contact is Don Dailey, SMCKA-CE, 316-421-7450.

Sincerely,

ORIGINAL SIGNED BY

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

AMSMC-ISE-M/D. Nelson (w/encl)
CEMRK-ED-TD (w/encl)
KDHE Air & Wst Mgmt Sec (w/encl)
DZI Env Eng/O'Brien (wo/encl)

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT
CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS
QUARTERLY REPORT FOR PERIOD JULY 1, 1991 - SEPTEMBER 30, 1991

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP's) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed:

   A. Drawings, monitoring well information, analytical results, etc. pertaining to the KAAP's Solid Waste Management Units (SWMU) were provided to Radian Corporation for review prior to initiation of the effort required by the RCRA Facility Investigation (RFI) Work Plan.

   B. On August 16, 1991, the COE distributed copies of the revised RFI Work Plan to the EPA and KAAP.

   C. On September 13, 1991, KAAP personnel forwarded comments pertaining to the revised RFI Work Plan to the COE.

   D. On September 26, 1991, the EPA approved the July 1991 revision of the RFI Work Plan with the stipulations that additional modifications be performed and that the final working document be submitted to the EPA by October 11, 1991.

2. Summaries of all findings, including summaries of laboratory data: Not applicable at this time.

3. Summaries of all problems or potential problems encountered during the reporting period and actions taken to rectify problems:

   A. In September 1991, KAAP personnel were advised that funding for the investigation of the SWMU is subject to availability of funds and that no funds would be available during the fourth quarter of Fiscal Year (FY) 1991. However, KAAP personnel were advised that funding would possibly become available during the first quarter of FY 1992.

4. Projected Work for the Next Reporting Period:

   A. The COE is to revise the RFI Work Plan in accordance with comments received from the EPA and provide copies of the final working plan to the EPA and KAAP by October 11, 1991.

Encl

SA 52 →, HW

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

SEP 26 1991

RECEIVED
BUREAU OF
SEP 27 1991
AIR and WASTE
MANAGEMENT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Lieutenant Colonel Daniel F. Uyesugi
U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

RE: Kansas Army Ammunition Plant
EPA ID No. KS0213820467
RFI Workplan Approval

Dear Colonel Uyesugi:

This letter approves the July 1991 version (received on August 20, 1991) of the RCRA Facility Investigation (RFI) workplan with modifications. The Army Corps of Engineers, Kansas City Office, and the Environmental Protection Agency (EPA) have informally discussed the modifications earlier. A summary of the issues was made available to the Corps on September 19, 1991. The following modifications formalize the discussions. The modifications must be incorporated into a final working document which must be submitted by October 11, 1991.

1. Complete the sentence at the top of page 35.

2. Section 2.4.1: Add "Regionally," to start the second sentence, and add "overburden" after "unconsolidated" in the second sentence. Remove "The" from before "unconsolidated", and remove "reportedly" from the second sentence.

3. Section 3.3.4, 1st paragraph: Specifically describe the uppermost aquifer at the site including:

RECYCLE
PAPER CONTAINS RECYCLED FIBERS

a. the permeability of the soils in relation to the hydraulic conductivity of bedrock wells, and

b. a determination whether the uppermost aquifer is expected to be in the soils or the shales or the finely crystalline limestone.

4. Section 3.3.4, 2nd paragraph. Last line, insert "have" between "may" and "affect" and change "affect" to past tense. Add appropriate punctuation.

5. Section 5.7. Groundwater elevation surveys should include a record search to obtain as much historical data on existing wells as possible. Static water elevations without knowledge of well construction will make hydrogeological characterization more difficult and less accurate. The final work plan must contain a table or provisions for developing a table with all available well information. The table must be expanded as new wells are installed.

6. Section 7.1.3.2, Table 7-1: The text and figure indicate that six sediment samples will be collected. Correct Table 7-1 to indicate six sediment samples.

7. Section 7.3.4, Table 7-3: The text and figure indicate that two surface water samples will be collected. Table 7-2 lists four surface water samples for analyses. Correct the table.

8. Section 7.3.4, Table 7-3: The text and Table 7-3 indicate that nine surface soil locations and nine subsurface soil locations have been selected to address the Solid Waste Management Unit (SWMU). Figure 7-3 shows 27 subsurface soil locations and no surface soil locations. Correct Figure 7-3 to reflect the number and locations of samples indicated in the text.

9. Section 7.5.3.1, Figure 7-5: The text indicates that 10 surface water samples will be collected. Figure 7-5 does not show the locations of the surface water samples. Include the locations on the figure.

10. Section 7.5.4.2. Figure 7-5A: The figure shows only one soil boring, but the text states that there will be 10. Modify the figure.

11. Section 7.6.1, Section 7.6.3.1, Figure 7-6A, Figure 7-6B: The text indicates that sumps are located at buildings 503, 505, 513, and 529 and that eight surface water samples (two from each of the four sumps) will be collected. Figures 7-6A and 7-6B show only four surface water sample locations for the sumps at buildings 505 and 529. Add sampling locations for the sumps at buildings 503 and 513 to the figures.

12. Section 7.9, Figure 7-9A: The text indicates that a sump is located at building 1007; however, the text shows no sample locations in the vicinity or downstream of this sump. Add sample locations to assess the release potential of this sump.

13. Section 7.9.3.3, Figure 7-9A: The text indicates that eight sludge samples will be collected from the sumps. Add the sample locations not identified on the figure.

14. Section 7.11.2.1. Figure 7-11: This figure shows surface water sampling locations and the text states that none are to be taken. Modify the text to be consistent with the Figure 7-11.

15. Section 7.11.2.2.: Modify Figure 7-11 to indicate sediment sampling locations. Modify the following figures to delete test pits and replace them with soil borings as follows: three borings on Figure 7-12, two borings on Figure 7-13, two borings on Figure 7-14 and three borings on Figure 7-16. The location of the borings must be indicated on each drawing.

16. Section 7.11.2.2, Figure 7-11: The text indicates that no surface water samples will be collected. However, Figure 7-11 shows four surface water sample locations. Correct the text.

The text indicates that six sediment samples will be collected; however, Figure 7-11 shows no locations for sediment samples. Add the locations to the figure.

17. Section 7.13.4.2, Table 7-13: The text indicates that four soil borings will be advanced around the landfill with three soil samples collected per boring (12 subsurface soil samples total). Table 7-13 indicates that 24 subsurface soil samples will be collected. Correct the table.

18. Section 7.14.5, Table 7-14: The text indicates that three groundwater samples will be collected. Figure 7-14 shows the locations of only two wells. Table 7-14 lists no groundwater sample analyses. Correct Figure 7-14 and Table 7-14 to indicate three groundwater samples will be collected.

19. Section 7.17.2, 2nd paragraph: Include a discussion of conclusions reached as a result of the soil analyses in the paragraph.

20. Section 7.24.4.2, Figure 24: The text indicates that three soil borings will be advanced. Figure 7-24 shows only two locations. Add the third soil boring location to Figure 7-24.

21. Appendix I, p. 17, 3rd paragraph: Add space between "evident" and "during" in the next-to-last line.

22. Appendix I, p. 23: Reword the first two bullets on the page to clarify their meaning.

23. Appendix I, Annex.1: Insert a copy of the referenced procedures.

24. Appendix IV, p. 4, Section 3.0: Hollow stem augers, which use three inch inner barrels, drill seven inch holes. A 6.5 inch hole is about the minimum acceptable size for installing a two inch monitoring well. If the driller finds water in overburden materials and removes the augers for well installation, the hole will probably collapse. The drilling equipment must include augers with large enough inside diameters to act as a temporary casing. An "nx" size core barrel makes about a three inch hole. The borehole will have to be reamed to install a screened well. Address these issues in the workplan.

25. Appendix IV, p. 6, Section 3 5.1.1: Water for drilling will likely be necessary since rock will be encountered near the ground surface. The workplan states that hole depths will be based on drilling 10 feet into the first saturated zone. To determine when the saturated zone is encountered, drilling will have to be stopped and the borehole evacuated frequently (i.e. every two feet). Explain this process in the final working document.

26. Appendix IV, p. 6, Section 5.1.1, last sentence: Replace "uppermost aquifer" with "confining layer". Add "been" after "has" and add "into the confining layer" after "set."

27. Appendix IV, p. 7, Section 5.2.2.2: Provisions for sieve analysis of the filter pack material must be provided to determine its compatibility with both the aquifer and the well screen slot size.

28. Appendix IV, p. 7, Section 5.2.2.2.3: The plumbness check is unnecessary unless the wells are extremely deep. The plumbness check provides a potential for introducing contamination. Assuring the plumbness of a shallow monitoring well does not warrant taking the risk.

29. Appendix IV, p. 10, Section 5.4: Modify the text to indicate that the weep hole through the protective casing will be placed just above the concrete pad surface.

30. Appendix IV, p. 12, Section 5.7.2: End the paragraph after the word "top."

31. Appendix IV, p. 15, Section 7.0: Change reference 10.1 to 9.1.

32. Appendix V, p. 11, Section 4.0: This section must include a description of the backfilling procedures and requirements.

33. The description of the actual location of each unit, the sampling locations and the surrounding areas must be checked for accuracy. Failure to provide accurate figures may result in inappropriate sample locations. The workplan must make provisions for determining the actual sampling locations, which in turn will be included in the RFI report.

34. The QAPP defines the various field QC samples in section 5.5 but does not provide guidance for the minimum frequency for using these samples. Provide a description of the frequency.

35. Section 2.2.3. of "Lagoon or Pond Sampling" states on page 20 that collected solid samples will be logged before placement into sampling jars. This could allow the VOC constituents to be lost through volatilization if care is not taken to protect the VOC sample before sealing it in its container. Modify the sampling method to reflect immediate closure of the VOC sample containers.

36. Table 8-1 on page 257 and Table 8-9 on page 269 show mercury, Hg, being analyzed by method SW 6010. Method 6010 does not list mercury as an analyte. Correct these tables.

37. Table 8-7 on page 265 also includes mercury as an analyte by method 6010, along with detection limits of 0.1 mg/kg in soil and 0.2 ug/l in water. Although mercury can be analyzed by the Inductively Coupled Plasma instrumentation, these detection limits can only be achieved by methods 7471 and 7470 respectively, with the cold vapor Atomic Adsorption (AA) procedure. Table 8-7 also shows detection limits for lead and selenium that are an order of magnitude lower than the commonly achieved detection limits unless AA procedures, methods 7421 and 7740 respectively, are used. Modify these pages to accurately reflect the exact procedures to be used.

38. Tables 8-3, 8-5 and 8-6 list minimum detection limits for several groups of organic compounds in the sub-ppb range without the caveat that the practical quantitation limits (PQL) for various matrices can be 10 to 10,000 times higher. When the data quality objectives (DQO) are developed in the project plan, the PQL for each matrix must be addressed in determining the suitability of the analytical method.

39. Table 8-8 for semivolatile organics by method 8270 lists method detection limits for soil at 0.001 to 0.005 mg/kg while SW-846 shows these to be 660 to 3300 ug/kg in Table 2 for this method. This table has a few other problems as well. This plan subtitles the table (Capillary Packed Column Technique) and

refers to it as method 8270 on page 266 while referring to it as method 8250 on pages 267 and 268. SW-846 identifies method 8250 as a packed column technique and 8270 as a capillary column technique. Specify the exact method and remove inconsistencies.

(EPA should be notified if an analytical laboratory is selected which uses a capillary packed column technique so that an onsite audit may be conducted.)

40. Table 8-9 (p. 270) shows pyridine, D038, with a regulatory level of 5.03 mg/l. This appears to be a typographical error as method 1311 lists the regulatory level as 5.0 mg/l with a footnote "3" which states that the quantitation limit is greater than the regulatory level. Correct the typographical error.

41. Include a chain-of-custody form and a sample tag as requested in our October 15, 1990 letter.

The Phase I Report of information gathered during the activities specified in the approved RFI workplan must be submitted before January 2, 1993. EPA encourages both the owner and the operator to insure that funding will be available.

These modifications must be incorporated into the working document. EPA reserves the right to reject any additional modifications which are found to be inconsistent with current EPA policies or site conditions. The modified workplan or pages of the workplan must be submitted by October 11, 1991. If you have questions, please contact Mr. Eugene N. Evans at (913) 551-7731.

Sincerely yours,

Michael D. Sanderson
Chief, RCRA Branch
Waste Management Division

cc: Steve Broslavick, Kansas Dept. of Health & Environment
Mr. Joel Gregory, Day and Zimmermann

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, DC 20310-0110

REPLY TO
ATTENTION OF

15 AUG ~~1990~~ 1991

RECEIVED
AUG 1 [illegible]
PRMT-SECTION

Mr. Lyndell L. Harrington, P.E.
Chief, Permits Section, RCRA Branch
Waste Management Division
U.S. Environmental Protection
Agency, Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Mr. Harrington:

The purpose of this letter is to respond to your recent letters to Department of Defense (DoD) installations located within the U.S. Environmental Protection Agency (EPA) Region VII advising them of your concerns on permitting open burning/open detonation (OB/OD) units. Enclosure 1 is our detailed response addressing your concerns and providing the justification to support the continued use of the OB/OD technologies until other safe technologies can be brought online at the capacity levels required to treat Department of Defense (DoD) wastes. This response was developed as a DoD effort and subsequently applies to all of the installations listed at Enclosure 2.

The installations located in Region VII have been operating OB/OD units for a considerable length of time under the standards set forth in 40 CFR 265 Subpart P. The DoD believes OB/OD remains an important treatment method in managing the demilitarization of conventional ammunition, explosives manufacturing wastes, and other associated wastes. These OB/OD units can be managed and operated in a manner that will ensure protection of human health and the environment and that applicable environmental performance standards can be demonstrated. Thus, we have a grave concern with respect to proposals which would remove OB/OD as a method for treating munitions and related wastes.

The OB/OD treatment method is one of several technologies currently used to demilitarize ammunition, but in our view, the most important one. Other demilitarization technologies exist that can effectively treat a portion of these waste streams; however, they are not

applicable to all items. A critical consideration is that the feed capacity of most alternative technologies is small and insufficient to handle the volume of material required to be demilitarized in a safe manner. At the present, only a limited number of operational facilities employ alternative technologies. Until additional alternative technologies are fielded and new facilities are constructed and are fully operational, DoD will continue to require the use of our current OB/OD facilities.

This response also addresses DoD's Research and Development (R&D) efforts for ammunition demilitarization as well as our efforts to develop overall strategies to handle demilitarization needs for the future.

This is an updated version of the response previously provided to EPA Region IV, dated 11 April 1991. Please note that several sections have been revised to conform to current Army policies and procedures.

We believe the information provided in our response will answer your concerns and provide justification for the continued operation of our current OB/OD units. Consequently, I request that you allow our OB/OD units in Region VII to maintain interim status under the Resource Conservation and Recovery Act. I also request the support of your staff to continue to review and process our permit applications. We look forward to working with your staff in permitting these OB/OD units.

My point of contact is Mr. William J.B. Pringle, U.S. Army Toxic and Hazardous Materials Agency, (301) 671-2427. Should you have any questions, please feel free to contact Mr. Pringle. I am also offering to have technical experts from each Military Service meet with you to discuss our response in more detail.

Sincerely,

Lewis D. Walker

Lewis D. Walker
Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA(I,L&E)

Enclosures

cf (with enclosures):

DASD(E), 400 ARMY-NAVY DRIVE, RM 206
WASHINGTON, DC 20301-8000
HQDA (SAGC)
HQDA (DAEN-ZCZ-A)
COMMANDER,
USATHAMA, ATTN: CETHA-EC-A (MR. PRINGLE)
ABERDEEN PROVING GROUND, MD 21010-5401
USAMCCOM, ATTN: AMSMC-DI, ROCK ISLAND, IL 61299-6000
ASN(I&E), 2211 JEFFERSON DAVIS HIGHWAY, ARLINGTON, VA 20360-5000
DASAF(ESOH), WASHINGTON, DC 20310-2600
DIRECTOR, DLA, CAMERON STATION, ALEXANDRIA, VA 22314

USEPA, 401 M STREET, SW
ATTN: MR. GARVEY (OE-2261)
WASHINGTON, DC 20460

USEPA REGION IV, 345 COURTLAND STREET, NE
ATTN: MR. GUINYARD
ATLANTA, GA 30365

RESPONSE TO
ENVIRONMENTAL PROTECTION AGENCY (EPA) REGION VII
NOTICE OF DEFICIENCY (NOD)
FOR DEPARTMENT OF DEFENSE (DoD)
RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
PART B, SUBPART X PERMIT APPLICATIONS

1. Introduction.

a. The EPA, Region VII, recently sent letters to all DoD installations in that region advising that the RCRA Part B, Subpart X, regulation was not intended to perpetuate the use of open burning and open detonation (OB/OD) technologies and their associated uncontrolled releases of combustion products and residues to the environment. Consequently, Subpart X permit applications for OB/OD operations may be denied if adequate justification is not provided to support these technologies. Also, alternatives can and should be developed for specific munitions and reactive wastes for which such a justification cannot be provided.

b. An ancillary issue was also raised by EPA that involves the potential of military ammunition and ordnance to detonate. The energetic materials disposed at DoD installations that are regulated under RCRA Subpart X have inherent characteristics which result in their classification as reactive (explosive) hazardous waste. Propellants, explosives, and pyrotechnics (PEPs) typically exhibit explosive characteristics ranging from deflagration (very rapid pressure rate-of-rise fires) to detonation. Both deflagration and detonation can cause extensive structural damage and loss of life. Region VII recognizes the inherent safety problems with handling PEPs, as reflected by accidents that have occurred at explosive manufacturing and demilitarization facilities and the resultant need for OB/OD capabilities.

c. This response is designed to address EPA's concerns and provide information to justify the submittal and subsequent evaluation by EPA of Subpart X permit applications submitted by DoD in EPA Region VII. This justification describes DoD's conventional ammunition demilitarization program; existing alternative technologies to OB/OD currently available at some locations; ongoing research and development (R&D) programs to supplement and/or replace OB/OD technologies; and demilitarization equipment upgrade programs.

2. The DoD Conventional Ammunition Demilitarization Program. Demilitarization or destruction is a necessary and final step in the life cycle management of military

ammunition and ordnance. Assets requiring demilitarization are managed in the Special Defense Property Disposal Account (SDPDA), known within DoD as the "Demil Account." This account is an assets tracking system which ensures, among other factors, that appropriate final disposition considerations are made. Assignments of munitions and ordnance to the SDPDA or their classification as currently unserviceable, do not necessarily result in these items being demilitarized. They can be, and are, included in the Foreign Military Sales Program, the Recycle Program, and/or are reworked to meet original or alternative specifications. Therefore, an assignment of any ammunition or ordnance item to this account does not constitute a designation of such items as waste. Consequently, assets carried in the SDPDA are considered to be outside the scope of RCRA regulations.

a. The Single Manager for Conventional Ammunition Demilitarization. In 1975, the U.S. Army was designated as the Single Manager within DoD for conventional ammunition disposal and demilitarization. Conventional ammunition does not include nuclear or lethal toxic chemical agent munitions and there are no biological weapons in the DoD inventory. DoD Directive 5160.65-M delineates the responsibilities of the Single Manager and individual Military Services. One purpose of the Single Manager concept is to achieve the most efficient and economical management of disposal and demilitarization options while ensuring safe operations and compliance with environmental regulations.

b. Other Military Service Demilitarization Programs. Demilitarization efforts conducted by Military Services, other than the U.S. Army under the auspices of the Single Manager, are relatively small and are generally confined to supporting local operations that include but are not limited to manufacturing and R&D programs. Additionally, the demilitarization of certain service-unique weapon systems is handled by the individual Military Services. Examples of this type of operation include large rocket motors, missile motors, and torpedoes. Individual Military Service responsibilities include funding, facilitation, and demilitarization technology development for service-unique weapon systems.

c. DoD Training and Force Readiness Programs. DoD considers the following activities to be outside the scope of RCRA regulations:

(1) Training. The Military Services have missions to train troops and maintain a readiness capability for combat. As such, live fire training and bombing exercises are an inherent part of these missions. During artillery and mortar live fire training exercises, not all propellant charges are used. Because excess propellant presents a safety threat in real combat situations, training in the safe elimination of excess propellant charges is considered a part of the training exercise. All functions associated with live-fire military training and bombing events are not demilitarization or waste treatment operations and, therefore, are considered to be outside the scope of RCRA regulatory requirements.

(2) Range Clearance. Impact areas on live-fire ammunition and bombing ranges are periodically cleared of unexploded ordnance. As a secondary mission, Explosive Ordnance Disposal (EOD) personnel support installations with the management of these training ranges. In the interest of safety, doctrine requires unexploded ordnance to be destroyed in place on the range. Ordnance that has failed to function as designed is inherently dangerous to move or even leave in place. Range maintenance includes the destruction of unexploded impacted rounds as the safest method of explosive hazard elimination. The destruction of unexploded impacted ordnance items found on impact ranges and destroyed in place on those impact ranges is an integral part of the training mission and, therefore, is considered to be outside the scope of RCRA regulations. The movement and/or accumulation of unexploded impacted ordnance items for demilitarization in large lots is considered to be within the scope of RCRA regulations.

(3) Defective Ammunition. On occasion, defective ammunition or ordnance items are identified by ammunition inspectors assigned to Military Service installations. These items are retained in the installation's ammunition inventory for disposition determination which is a function of asset value and safety considerations (i.e., unsafe to handle or unsafe to use for its intended purpose). If the items are unsafe to handle, immediate destruction is authorized and performed by EOD personnel or equivalent

Federal civilian personnel. If the items are safe to handle but unsafe to use for their intended purposes and are valued at less than $1,000.00, individual installations are authorized to conduct demilitarization as an executable option. However, hazardous waste regulations do not apply at this time, since the demilitarization option is a reversible decision and those items may still be reworked to meet specifications. The demilitarization decision is only final when the item enters the demilitarization facility (i.e., it enters the demilitarization equipment) at which point the hazardous waste requirements are applicable. Disposition of defective items that are safe to handle and are valued at over $1,000.00 require special disposition instructions from the respective Item Manager.

(4) Turn-Ins After Training Exercises. Ammunition that has been issued for live-fire training exercises that is not actually used and remains in unopened packages is returned under accountability to ammunition issue points for re-inclusion into the inventory. Unpacked ammunition or ammunition in opened packages is also returned to the ammunition issue point which has accountability and is inspected for serviceability prior to being returned to the inventory. Unserviceable ammunition is segregated for subsequent disposition determination.

(5) Turn-Ins During Amnesty Programs. Military installations that conduct live-fire training exercises have instituted a no questions asked ammunition turn-in amnesty program to reduce the misappropriation and any subsequent inappropriate disposal or use of military ammunition and ordnance. Generally, military personnel are briefed before and after training events that retention of ammunition is illegal. For those individuals who initially ignore these warnings, amnesty collection points are designated on installations where military personnel may deposit ammunition with no questions asked. Ammunition items deposited at these amnesty points are often damaged and/or have unrecognizable nomenclature identifications from a quality control perspective and usually involve very low quantities. As such, these items are not suitable for training reissue. Through this program, ammunition is brought back under military control and included in proper military storage accounts ability for subsequent disposition determination.

d. Manufacturing Plant Explosive Wastes and Off-Specification End Items.

(1) During the manufacture of military energetic materials, off-specification and residual PEPs are produced. These residuals include production remnants, scraps, and cleanup residues. The quantities of off-specification and residual energetic materials requiring treatment are minimized to the maximum extent that is technically feasible through reclamation and recycling procedures. Production residuals and off-specification materials that can be incinerated safely are destroyed in explosive waste incinerators (EWIs) at those installations with this type of equipment. Those materials that are considered to be too unstable and, therefore, unsafe to incinerate are destroyed by OB. Thus, for safety reasons there is an ongoing requirement for OB/OD capabilities at plants that manufacture energetic materials. Off-specification and energetic materials that cannot be reclaimed or recycled are determined to be wastes and hazardous waste regulations apply at the time of that determination.

(2) During the loading, assembling and packing of military ammunition and ordnance end items, off-specification items are occasionally produced. These items are not immediately considered to be waste because they can be (and often are) reworked into specification items where technically feasible or used in training. However, once a determination is made that the item cannot be reworked or used in training, it is classified as waste and, where applicable, as a hazardous waste.

e. Emergency EOD Operations.

(1) EOD units are primarily tactical military units which are trained to support deployed forces in war environments. EOD units during peacetime make use of their practical technical knowledge of ordnance functioning, design, and composition to the benefit of state and local communities and those civilian officials who occasionally are forced to deal with emergencies involving military ordnance that has migrated into their communities or is involved in commercial carrier accidents. Emergency EOD responses to the nonmilitary sector also involve improvised nonmilitary items (e.g., homemade bombs), explosives confiscated during drug or firearms enforcement actions, foreign country ammunition and ordnance items brought into

the United States as souvenirs from war zones, and other situations. Generally, EOD units do not provide routine destruction of commercial explosives collected from civilian sectors.

(2) Basically, EOD units provide emergency services to protect citizens, return DoD owned military ordnance to competent authority, institute proper accountability, and if determined to be appropriate, destroy these items within the capability of the EOD unit's host installation. During EOD emergency responses, the risk level on occasion may require, in the judgment of the senior EOD person onsite, that onsite/in-place destruction be conducted when transportation could present an explosion hazard. If the senior EOD person onsite deems the ordnance item to be safe enough to transport, then the preferred option is to transport the item to a RCRA permitted OB/OD military facility for destruction to avoid exposure of citizens and their property to risks associated with an explosion. In most cases the item can be transported to an OB/OD site.

(3) Situations requiring action by EOD units due to the presence of munitions or ordnance items where the public is at risk, are considered emergency situations and, therefore, do not require RCRA permits or manifesting as transportation of hazardous waste. For non-emergency situations involving DoD owned materials, the procurement of transportation manifests and RCRA permits is the responsibility of the Military Service performing the operation. Where State or local regulations may require manifesting and/or RCRA permits for EOD responses that are determined onsite to involve non-DoD owned materials, the responsibility for manifesting and permits remains with the civil authority or agency requesting the assistance, not the Military Services. In these cases, DoD has no jurisdiction, but provides support to other authorities. Existing policy does not allow for the treatment of non-DoD assets on DoD property but exemptions to this policy may be granted by the Secretary of Defense.

3. Existing Alternative Technologies to OB/OD Currently Available at Some Locations. Existing research shows that there is no single demilitarization method or technology that will satisfy all of the requirements to safely treat either the range of items in the existing SDPDA, manufacturing plant residuals, or off-specification materials.

While OB/OD is currently a commonly used demilitarization technology, it is not an acceptable technology for many munition items (e.g., smoke filled and incendiary items and improved conventional munitions (ICMs) that contain multiple items such as bomblets). Existing policy prohibits OB/OD of many of the pyrotechnic items filled with smokes and dyes. However, the Military Services have equipment developed or under development that can reduce the size, convert, and/or dispose of a large portion of the current SDPDA through disassembly. Demilitarization in most cases consists of disassembling or modifying the munition into a configuration that is appropriate for the final treatment process. This may involve cutting, punching, shearing, disassembly, or separation of the components and energetic materials. The nature of these activities and the energetic materials involved put the operators at a greater safety risk than would the OB/OD operations. These disassembly and separation processes are very rarely the final treatment step.

a. Separation and Disassembly Technologies.

(1) In most cases separation and/or disassembly of munition items is required if the method of destruction is other than OB/OD. Limited disassembly is sometimes possible for items that are suitable for OD operations but are not suitable for other thermal treatment operations. For example, if incineration is to be used, munition components have to be broken down into items that contain less than 600 grains of confined explosive to meet safety requirements of existing equipment.

(2) Many methods of explosive component separation have been used over the years. These methods are labor and energy intensive and have the tendency to generate substantial volumes of hazardous waste and place workers at a greater risk than OB/OD. For example, most existing washout equipment creates large volumes of explosives contaminated water and carbon filters as by-products. Therefore, separation has been used little in the last 15 years and most of the equipment needs extensive upgrade to bring it into compliance with today's environmental and safety standards. In addition, these units may have residual explosives in internal plumbing that would be an explosive safety problem if upgrades were

were implemented. A brief description of some of these existing technologies follows (note: separation is an intermediary step towards final demilitarization):

(a) Hot Water Washout. A process that uses either a stream or jet of low or high pressure hot water to separate energetic materials from munition cases. This method has generally been employed to remove trinitrotoluene (TNT) or similar semimeltable explosives from projectile bodies. The Ammunition Peculiar Equipment (APE) 1300 unit is an example of this type of technology. These units were operated during the late 1960's and early 1970's to separate explosive fillers and recover projectile bodies for subsequent reloading. These units did not have waste water treatment capability and employed unlined lagoons where excess explosive contaminated water permeated into the surrounding soil. Restoration projects are currently underway at affected installations. Only one installation, Lexington-Blue Grass Army Depot, Kentucky, has an operational APE 1300 unit. This unit utilizes horsehair and activated carbon filter systems to reduce the quantities of TNT contaminants in the discharge effluent to concentrations below detection limits. Nine other U.S. Army installations have either laid away or dismantled their units.

(b) Steam-out. Steam-out is a process that directly applies steam to the energetic material filler to melt out and separate it from the munition case. This process is the most efficient separation process currently available. However, the process produces explosive contaminated waste water although less than for hot water washout. This process is also limited to meltable explosives. The U.S. Army has a steam-out unit that is operational at Crane Army Ammunition Activity, Indiana, and laid away equipment at Cornhusker Army Ammunition Plant, Nebraska; Newport Army Ammunition Plant, Indiana; and Pine Bluff Arsenal, Arkansas. The U.S. Navy has an operational unit at Keyport Naval Weapons Station, Washington.

(c) Autoclave. The autoclave is an enclosed chamber in which heat is applied to the exterior of a munition to melt out the explosive filler. This technique is not as efficient as applying steam directly to the

filler. The autoclave, when configured properly, reduces the amount of explosive-contaminated water produced. It is limited in application to only those explosives that are meltable, such as TNT. The U.S. Army has an operational autoclave that is in use at Ravenna Army Ammunition Plant, Ohio, and another that is being brought on line at Hawthorne Army Ammunition Plant, Nevada.

b. Destruction. Alternative destruction methods to OB/OD that are currently employed by the DoD rely primarily on incineration to demilitarize energetic materials. Due to safety considerations, the maximum quantity of confined explosive per item that can be processed through any existing incinerator is 600 grains. Therefore, most items that are to be destroyed by this means must be disassembled, separated, or processed in some manner to prevent detonations that would injure operational personnel or damage or destroy the incinerator. This additional processing adds to the inherent safety risks involved with destruction of these items.

(1) APE 1236/2210 Rotary Kiln Incinerators. The APE 1236/2210 incinerators are used for the destruction of small arms ammunition and ordnance items that contain less than 600 grains of confined explosive material in each item. The APE 1236 is the U.S. Army's standard unit and is currently undergoing upgrade to meet environmental regulatory standards. The U.S. Army has two APE 2210 incinerators, which are a variation of the APE 1236, located at Hawthorne Army Ammunition Plant, Nevada. One of these incinerators is in the current APE upgrade program. There are 18 APE 1236 incinerators located at various U.S. Army installations. Twelve of these incinerators are in the current APE upgrade program, of which one is a prototype not used for routine demilitarization operations. In addition, Pine Bluff Arsenal has an incinerator with the same basic design as the APE 1236. This unit has been upgraded independently of the APE 1236 upgrade program.

(2) Explosive Waste Incinerator (EWI). The EWI is also a modified APE 1236 which has a different feed system to accommodate bulk (unconfined) energetic materials (up to 5 pounds per serve for a total of 300 pounds per hour) and air pollution abatement equipment similar to the APE 1236. The U.S Army has 7 of these units at Iowa, Kansas, Lake City, Mississippi, Radford (two units) Army

Ammunition Plants, and Savanna Army Depot Activity. All of these units, except for the one at Savanna Army Depot Activity, are currently operational and permitted. Although not APE-designated units, three of these units were included in the current APE upgrade program (Iowa, Kansas and Lake City Army Ammunition Plants).

(3) Fluidized Bed Incinerator (FBI). The FBI uses air to entrain solids in a highly turbulent combustion chamber. This equipment is not used for incineration of explosive materials but has been used for incineration of riot control agents and non-explosive munition fillers. The U.S. Army has one of these units at Pine Bluff Arsenal, Arkansas, which is RCRA permitted and is operational.

(4) Electrochemical Reduction. Electrochemical reduction is a treatment process based on the chemical reaction caused by an electric current that converts energetic materials to less reactive materials, inert and/or other useful products. This process is applicable only to a few, very select, munition fillers. Efforts to date utilizing this technology for the select munition fillers have achieved limited success.

(5) Chemical Conversion. Currently the U.S. Army is treating sulfur trioxidechlorosulfonic acid solution (FS), a bulk smoke producing mixture, by chemical neutralization. This process involves combining FS with a lime slurry in a 4 million gallon vat. The chemically neutralized product is then discharged to the sanitary sewer system.

(6) Western Area Demilitarization Facility (WADF). The WADF, located at Hawthorne Army Ammunition Plant, is a unique facility that was designed and built by the U.S. Navy specifically for the demilitarization of military ammunition and ordnance items. The U.S. Army assumed management of WADF in April 1984. The facility was originally designed to operate on a 3-shift, 8 hours-per-shift, 5 days-per-week basis for each of the operational components. Due to safety and/or interface problems, the facility is currently undergoing modifications so that it can be safely operated; however, specific individual components of this facility can and have been used. A recent review of the SDPDA inventory at Hawthorne Army Ammunition Plant indicated the tonnage in the account

was slowly increasing. To provide an option to alleviate the associated storage problem, a proposed six-year workload program was developed that identified all items that could be demilitarized in WADF components assuming a determination was made to actually demilitarize these assets. During this review certain items were identified that WADF was not designed to process.

(7) Environmental Permitting Status. RCRA permits have been granted for the EWIs located at Iowa, Kansas, Lake City, Mississippi, and Radford (two EWIs) Army Ammunition Plants. EWIs at Iowa, Kansas, and Lake City Army Ammunition Plants are currently being operated under the RCRA 720-hour shakedown provision. A final RCRA permit for reactive hazardous waste only has been issued for the deactivation incinerator at Iowa Army Ammunition Plant. Also, a final RCRA permit has been issued for the fluidized bed incinerator and rotary kiln deactivation furnace at Pine Bluff Arsenal. RCRA Part B permit applications have been prepared for ten APE 1236 incinerators located at the following nine installations: Anniston, Lexington-Blue Grass, Red River, Seneca, Sierra, and Tooele (two APE 1236s) Army Depots; McAlester and Hawthorne Army Ammunition Plants; and Crane Army Ammunition Activity. With the exception of Hawthorne Army Ammunition Plant, all of these installations submitted RCRA Part B permit applications prior to February 1991. The application for Hawthorne Army Ammunition Plant will be submitted upon completion of additional hardware modifications and engineering drawings. The first of the trial burn tests was conducted at Lake City in March 1991, to be followed by Iowa in September 1991; Kansas, Anniston, and Tooele will follow.

c. Hazardous Waste Minimization (HAZMIN) Program.

(1) The Navy is investigating ways to develop and demonstrate a technology to recover scrap propellant generated during manufacturing operations. The recovery will include propellant processing modifications and equipment to cut and consolidate the scrap. The intent of this program is to eventually return scrap propellant to the supplier for rework into raw product.

(2) In order to identify areas where reductions in the generation of energetic material wastes can be made, the Army is conducting HAZMIN audits at its production

plants and also those involved in loading, assembling, and packing munition items. These audits focus on all hazardous waste streams including PEP materials. Technical recommendations for completed audits are under review for implementation determination.

(3) DoD and the Military Services require that HAZMIN considerations be included in all acquisition plans and modernization programs.

(4) The Military Services require each of their installations to prepare HAZMIN plans. DoD has an overall goal of 50 percent reduction by 1992 of the hazardous waste volume generated using 1987 generation as the baseline (the Army's baseline year is 1985). HAZMIN plans have to include all hazardous waste generation streams, specifically including those involving energetic materials. The Military Services recognize HAZMIN as a vital part of environmental compliance and pollution prevention and, therefore, have mandated reduction in hazardous waste generation at all of their installations.

d. Recycle Program. Recycling is the first option considered and one of the main methods for disposal of military ammunition and ordnance and/or components of munition items. The U.S. Army is currently operating a White Phosphorus (WP) Conversion Plant at Crane Army Ammunition Activity. This plant is used to convert the WP contained in munitions to phosphoric acid which is then sold to commercial industries for use in the manufacture of fertilizer. This program is very successful and has resulted in demilitarization of nearly all of the WP munitions. Approximately one more year will be required to demilitarize the remaining inventory.

e. Foreign Military Sales Program. The Single Manager further reduces the inventory of munition items in the SDPDA by making items in the account available to North Atlantic Treaty Organization member countries and other countries that are allied to the United States. This program is used whenever it is appropriate.

4. Ongoing R&D Programs to Supplement and/or Replace OB/OD Technologies.

a. The U.S. Army Toxic and Hazardous Materials Agency (USATHAMA). The Technical Support Division of USATHAMA is investigating the use of waste energetic

materials as a supplement to fuel oils. The two primary explosives under study are TNT and cyclotrimethylene trinitramine (RDX). Laboratory and bench scale tests have verified the principle as a workable alternative. Pilot scale testing is underway to develop fuel mixing/feeding procedures and to determine fuel mixture energy parameters. Not only will this provide for the recycle/reuse of these materials but will also use the energy stored in these explosives as a supplemental fuel. Information to date indicates that the use of waste explosives as supplements to fuel for boiler plants appears to be a viable means of utilizing waste energetic materials. Before this technology can be fielded, explosive safety considerations, due to the location of boilers in administrative office areas, will have to be overcome and may prove to be a limiting factor. Boilers are generally located close to the point of energy/heat use to avoid loss of heat. This proximity factor, while beneficial from an energy conservation perspective, presents some counteracting safety concerns with the use of explosives near populated areas. In addition, explosive materials will have to be separated from munition items, and due to the small quantities of explosives that can be used as supplemental fuels, only a small percentage of material that is typically demilitarized could be dispose of in this manner. Overall safety and risk considerations will make it difficult to field this technology.

b. The U.S. Army Defense Ammunition Center and School (USADACS) Alternative Technologies Study. USADACS, located at Savanna Army Depot Activity, Illinois, has recently completed a literature research study on alternative technologies. This study summarizes and documents past, present and potential technologies which are divided into 11 main technology families depending on munition and type of energetic material utilized. Promising technologies are and will be included in future R&D programs with emphasis placed on safety features. Some of these technologies are:

(1) Cryofracture. This process is under development with an emphasis towards developing technology for the demilitarization of lethal toxic chemical agent munitions. However, the technology may also be applicable to conventional ammunition demilitarization. In the process, liquid nitrogen is used to embrittle the munition casing enabling it to be fractured in a 1,000 ton press.

This technology may prove to be a rapid, safe method to reduce the size and expose explosive filler material contained in munition items. The fractured parts of the munition/explosive can then be incinerated if they are small enough.

(2) Water Jet Abrasive Cutting. This method is for disassembly of munitions and is under development. A high pressure water jet with entrained abrasive is used in the process which would generate explosive contaminated water. Also a safety consideration has to be resolved which involves the undefined effects of high pressure water combined with abrasive material impinging on explosive materials.

(3) High Pressure Washout. This process uses a stream or jet of high pressure water, up to 55,000 pounds per square inch, to separate energetic materials from munition cases. This technology is under development and may prove to be useful for press-loaded munitions that have internal plumbing which renders existing washout methods ineffective. This system will also generate explosive contaminated waste water. There are also some safety concerns involving the impact of a high pressure water jet on energetic materials.

(4) Solvent Washout. This is a process that uses a liquid to dissolve energetic materials loaded in munitions. Several liquids have been demonstrated to achieve the desired separation. However, most of the liquids investigated that can solvate explosives tend to have unwanted properties such as carcinogenicity, toxicity, or flammability. They also have inherent disposal problems.

(5) Super- and Sub-Critical Extraction. This is a developmental method to separate energetic materials from munition casings. The process uses a material that is a gas at atmospheric pressure but converts to a liquid under pressure. In the liquid phase, the material can be used to dissolve energetic materials. When the liquid becomes saturated, the pressure is reduced which in turn causes the liquid to revert back to a gas causing the dissolved energetic material to precipitate out. Ideally, this would be a closed-loop system so that the gas could be collected and reused and the precipitated energetic material reclaimed or destroyed as appropriate.

(6) Biodegradation. This process uses micro-organisms or fungus to consume energetic materials and thus produce a less hazardous or inert material. The method is under development for use in disposing of red and pink water produced during the manufacture of explosives. The method may also be useful for the treatment of waste water generated from other demilitarization operations. Field tests are currently underway using this technology for the remediation of explosive-contaminated soils.

c. The U.S. Army Armament, Munitions and Chemical Command (AMCCOM) OB/OD Emissions and Residues Characterization Study.

(1) Until recently, very little field or experimental data existed for emissions and residues generated during OB/OD operations. Up to this time, emissions data were based on theoretical calculations derived from computer models. Due to lack of fieldable alternatives to OB/OD other than those currently in use by DoD, a demonstration of the environmental acceptability of OB/OD would warrant its continued use. The AMCCOM OB/OD program is being used to demonstrate which PEPs can be treated by OB/OD in an environmentally safe manner. The program methodology is supported by Headquarters EPA, Office of Solid Waste, and EPA Region VIII as necessary information for Subpart X reviews. EPA has been actively involved throughout the development and implementation of this program. The AMCCOM OB/OD program data demonstrate environmental acceptability of OB/OD for various PEPs and these data have been presented in a series of EPA seminars held throughout the United States during 1990. Based on reviews and analyses made to date, results from this program to date do not support Region VII's conclusion that hazardous materials are released to the environment by OB/OD operations for tested energetic materials.

(2) A combination of the AMCCOM OB/OD program sampling and theoretical emissions data along with dispersion/deposition and fate analysis modeling data are intended to be used to demonstrate environmental acceptability by PEP family. The study will provide individual pollutant release characterizations for applicable PEPs. For air pollutants, ground-level off-property concentrations must not exceed National Ambient Air Quality Standards (NAAQS) and other applicable

state ambient concentration standards. Some states utilize fractions of threshold limit values (TLV) as acceptability criteria for the pollutants not regulated by NAAQS such as TLV/100 and TLV/1000 for acceptable one-hour average and annual average concentrations, respectively. Additional concentration acceptability guidance is expected with the promulgation of implementing regulations for the 1990 Clean Air Act Amendments.

(3) Among the materials tested by OD were TNT, Composition B, Explosive D, and RDX. The OB test included single, double, and triple base propellants. The manufacturing residues included in the OB tests consisted of various double base and composite rocket and missile motor propellants.

(4) Air and soil samples were collected and analyzed for target analytes in all pollutant categories. Treatment efficiencies are also being calculated by determining residual material left after combustion and/or detonation. Groundwater studies have been completed by the U.S. Army Environmental Hygiene Agency and USATHAMA, and have been presented to EPA's Office of Solid Waste.

(5) Testing has been completed and the final report is being written. Data indicate that approximately 98 percent of emissions from detonation and 99 percent from burning go to carbon dioxide and water. The large hot fireballs (6,000 to 8,000 degrees Fahrenheit) generated during OD of high explosive munitions effectively destroy waste constituents considered hazardous by EPA. Analyses of the data indicate that emissions from OB/OD generally fall well within Federal and state environmental guidelines and standards.

(6) Future plans for the OD emissions/residues test program involve underground detonations of energetic materials suitable for OB/OD that are currently in the SDPDA and the development of an atmospheric dispersion model for these types of operations.

(7) The OB/OD characterization study has yielded data from which emission factors have been calculated for products of combustion for tested materials. This data base will be of value in conducting health risk assessments required under the provisions of RCRA Subpart X.

d. The U.S. Army Research, Development and Engineering Center (ARDEC). Currently, demilitarization of munitions is funded with Operational and Maintenance, Army (OMA) type funds. Because this is also the type of funding used for personnel salaries there has often been a tendency for shortfalls to occur in supporting the demilitarization program including its R&D efforts. Starting in fiscal year (FY) 1992, the demilitarization program will be funded with Procurement Ammunitions, Army (PAA) funds. By law, new technology cannot be developed using PAA funds, therefore, the technology development portion of the demilitarization program is being transferred to ARDEC and will be funded with Research, Development, Testing and Evaluation (RDT&E) funds. This administrative change is designed to resolve the problem of past insufficient funding levels for the demilitarization program and allow for the development of further alternatives to OB/OD. Initial funding levels are $83 thousand in FY91 and $1 million per year projected for FY's 92 through 97.

e. The U.S. Army Production Base Modernization Activity (PBMA). In order to identify alternative technologies, other than OB/OD, for treating propellant and explosive production wastes, PBMA has completed a review of available commercial incinerator technologies for military adaptation. Concept designs have been investigated which include material feed systems, burner parameters, and pollution control equipment. A project has been submitted for funding to develop a pilot unit to demonstrate adaptable technologies.

f. Other Military Service Programs. The U.S. Navy is developing an incinerator to destroy munitions that contain colored smoke and flare compositions. Along with development of the incinerator, the program includes the development of real time emission gas monitoring systems for polynuclear aromatic hydrocarbon (PAH) compounds and trace metals. Problems may be encountered in separating the smoke and flare materials from the munitions. The U.S. Air Force has developed a process to reclaim ammonium perchlorate from Class 1.3 (will vigorously burn with potential to detonate) solid rocket motors. The reclaimed material is being characterized for reuse. Technologies for the disposal of Class 1.1 (unconfined it may detonate) propellants which contain nitroglycerine, HMX, nitrocellulose, and ammonium perchlorate are also being

developed. In order to remove the propellant from the motor casing, a process which uses cryogenic washout is under development. Other technologies being developed at the bench scale include biodegradation, hydrothermal reduction, and supercritical water oxidation.

g. Inter-Service Programs.

(1) The Joint Ordnance Commanders Group (JOCG). The Munitions Demilitarization and Disposal Subgroup of the JOCG is conducting an R&D program for the demilitarization of large rocket and missile motors. This organization conducted a survey of technology development efforts within governmental organizations, industry, and academia. Identified existing and emerging demilitarization technologies were narrowed down to four potentially feasible R&D projects. The overall program addresses both near-term disposal of Hazard Class 1.3 propellants and long-term demilitarization of Hazard Class 1.1 propellants and explosives. Three emerging technologies have been selected to remove 1.1 energetic materials from motor cases.

(2) Large Rocket/Missile Motor (LRM) Demilitarization Program. By 1996, there will be over 83.9 million pounds of LRM solid propellant which will need to be demilitarized as a result of managing the Intercontinental Ballistic Missile's (ICBMs) normal life cycle support program and the proposed disarmament treaties. Long-term storage of these items is expensive, but more importantly, will pose an explosive safety hazard. A Joint Service LRM working group was organized and has already conducted a disposal technology review. Several technologies that could apply to LRM demilitarization have been identified. These technologies which include biological treatment methods, high pressure washout of energetic materials, critical fluid extraction, incineration, supercritical fluid oxidation, and biodegradation are in various stages of development. In addition, the technologies that are available in associated industries are also being reviewed and studied for their status and applicability.

(3) Joint Army-Navy-National Aeronautics and Space Administration-Air Force (JANNAF) Inter-Agency Committee. JANNAF's Safety and Environmental Protection Subcommittee is addressing technologies for ordnance demilitarization and disposal or reclamation of PEPs.

The Subcommittee conducts workshops which provide a forum for Government, scientific, and industry representatives to meet and exchange technology and related information.

(4) DoD Ordnance Executive Environmental Steering Committee. The objectives of this Committee, formed on 25 January 1991, are to develop a DoD unified position on ordnance-related environmental and safety issues; analyze new legislation and regulations and provide guidance to the Military Services; improve the identification of funding and support those requirements; exchange information and foster R&D; and develop a Demilitarization Management Plan. The Committee's mission is to focus high-level attention on these issues and ensure that the total effort is pulled together and directed toward accomplishment of common goals and objectives. The members of the Committee are Secretariat level civilian personnel, General Officers of each of the Military Services and a JANNAF representative.

5. Demilitarization Equipment Upgrade Programs.

a. The Army is implementing a program to upgrade twelve APE 1236 incinerators (Anniston, Letterkenny, Lexington-Blue Grass, Red River, Seneca, Sierra, Tooele (two APE 1236) Army Depot, Savanna Army Depot Activity, McAlester Army Ammunition Plant, Crane Army Ammunition Activity, and Fort Richardson), three EWI's (Iowa, Kansas, and Lake City Army Ammunition Plants) and one APE 2210 incinerator (Hawthorne Army Ammunition Plant) which are used to demilitarize ammunition items containing up to 600 grains of confined explosives and bulk explosive wastes. The second APE 1236 incinerator located at Tooele Army Depot is used to develop ammunition feed rates, to perform test burn projects, and to provide operator certification training. The APE upgrade program includes modifying the feed system to accommodate a computerized automatic waste feed cutoff, installing a high temperature afterburner, gas coolers, a shroud to trap fugitive emissions, and other pollution control equipment. This equipment is limited to small items and has a history of requiring complicated modifications to meet emission requirements.

b. The APE upgrade program began in 1987 and will continue at least into 1992. As of December 1990, the following progress has been made:

(1) All upgrade hardware has been designed and procured. Shipment has been made to 14 of the 15 installations.

(2) Major hardware installation has occurred at nine incinerators.

(3) Some late hardware modifications were made after the initial nine upgrade contracts were awarded; some were accomplished through contract vehicles, while others were accomplished by the U.S Army APE technical teams. Modifications at three incinerators have been completed; three require attention from the APE teams; and the final three require some further contract modification work.

(4) Upgrade specifications for the last seven incinerators are being prepared. A contract was awarded for Lexington-Blue Grass Army Depot. The remaining awards will follow over a six month period. These newer specifications will incorporate the features that required modifications to the first nine incinerators.

6. Policy. DoD and the Military Services have existing policies and regulations which require all OB/OD facilities to be in full compliance with all applicable requirements of Federal, State, and local environmental regulations. These policies outline the types of OB/OD operations that require compliance with RCRA hazardous waste management regulations as well as define the point at which munitions and ordnance become hazardous wastes. Regulations define general facility standards and operational procedures that operators of OB/OD facilities must follow to ensure compliance.

7. Subpart X Permit Application Support Program.

a. USATHAMA, as the Executive Agent for the Army Environmental Office for Army Subpart X permitting issues, has established and funded contracts to extend DoD's capabilities in the following areas:

(1) Draft an Army Position Paper on Subpart X permitting;

(2) Develop an Army Management Plan for Subpart X permitting;

(3) Develop an Army-wide Subpart X Status Report;

(4) Resolve NOD's received for Subpart X permit applications; and

(5) Establish an automated waste ammunition characterization data base.

b. The issues being addressed in the Army Position Paper fall into the two broad functional areas of health and environmental assessments and environmental performance standards.

(1) In the first functional area, topics under study include environmental monitoring to characterize the current migration status of any past releases; ground water; surface water and soil assessments; health and environmental criteria; waste ammunition characterization specifications; and air quality assessments.

(2) In the second functional area, topics under study include unit location requirements; selection of appropriate treatment technology; design and construction requirements; operational inspection and maintenance requirements; effectiveness of treatment; waste characterization plans; air monitoring plans; environmental monitoring plans; modeling the fate of releases to the environment; noise considerations; and closure plans. The objectives of this effort are to provide additional environmental guidance to the Military Services for the conduct and monitoring of OB/OD operations and to ensure that these are conducted in an environmentally acceptable and regulatory conforming manner.

8. Safety Considerations. Safety has always played a prominent role in DoD decisions to perform OB/OD operations. In addition to emergency EOD operations, the following safety factors are considered for continuing OB/OD operations:

a. To preclude spontaneous combustion, unserviceable artillery propellant with low or no stabilizer remaining must be treated in a short period of time through OB. Similarly, to prevent accidental detonation, any munition which is declared too dangerous to remove from its packaging (e.g., 20 millimeter U.S. Navy rounds with copper azide formulation), must be disposed of through OD.

b. Amnesty and routine turn-ins of ammunition and explosives result in the generation of items that may be unserviceable, tampered with or have unidentifiable lot or nomenclature identifications. Installations which, by regulation, are denied the ability to conduct OB/OD operations will be required to package and transport these items over public highways, thus, potentially exposing the general public to unnecessary hazards.

9. Conclusions.

a. The DoD currently considers it of the utmost importance for those installations that have submitted Subpart X permit applications in Region VII to continue to have and maintain OB/OD operational capability. The DoD will continue to work with EPA Region VII to provide necessary data and information to support the permitting of OB/OD units.

b. The Single Manager for Conventional Ammunition Demilitarization is developing an overall Demilitarization and Disposal Management Plan that considers safety to be paramount relative to environmental, cost, and energy factors. The plan will include numerous options such as separation, disassembly, destruction, HAZMIN, recycling, sales, and R&D. OB/OD are only two of several thermal treatment destruction processes, albeit important processes, that are used to demilitarize military munition and ordnance.

c. R&D efforts are ongoing to field test disassembly equipment to reduce the size of ordnance items. This will allow safe alternative demilitarization options to be applied in addition to OB/OD. DoD has ongoing R&D and upgrade programs to implement alternative technologies; however, none of these concepts are mature enough to entirely replace OB/OD or to evaluate their full impact upon human health and the environment.

d. Because the DoD inventory covers a large range of munitions and energetic materials, different alternative treatment methods need to be developed, scaled up, evaluated for overall risk, and permitted. While some alternatives have progressed past the conceptual or laboratory scale, most are still years away from showing that they would have a significant effect on the program.

e. As new technologies become available, a best available control technology analysis will be conducted when required by EPA on a munition-by-munition and PEP case-by-case basis to determine whether OB/OD or some other alternative disposal process should be applied to the evaluated munition and PEP.

List of Installations

U. S. Army

Fort Leonard Wood, Fort Leonard Wood, Missouri
Fort Riley, Fort Riley, Kansas
Iowa Army Ammunition Plant, Middletown, Iowa
Kansas Army Ammunition Plant, Parsons, Kansas
Lake City Army Ammunition Plant, Independence, Missouri
Sunflower Army Ammunition Plant, Desoto, Kansas

U. S. Air Force

McConnell Air Force Base, Kansas
Offot Air Force Base, Nebraska
Whiteman Air Force Base, Missouri

Encl 2

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

July 24, 1991

Chief Engineer
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Gentlemen:

Enclosed are three copies of subject quarterly report as required by Kansas Army Ammunition Plant's Resource Conservation and Recovery Act (RCRA) Part B Permit.

The point of contact is Glen Parish, SMCKA-CE, telephone: 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Deborah J. Blanton
Captain, U.S. Army
Acting Commander

Enclosure

Copies Furnished:

KDHE, Air & Waste Mgmt Sec (w/encl)
DZI Fac Eng/O'Brien (wo/encl)

RECEIVED
BUREAU OF
JUL 29 1991
AIR AND WASTE
MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS QUARTERLY REPORT FOR PERIOD APRIL 1 - JUNE 30, 1991

The following information is offered in response to the requirements of Section VI., Paragraph 4., Reporting Requirements, of Kansas Army Ammunition Plant's (KAAP) Resource Conservation and Recovery Act (RCRA) Part B Permit.

1. Description of Work Completed:

   A. Representatives from the EPA, COE - Kansas City District, and AMCCOM were at KAAP April 10-11, 1991 to finalize revisions required to the RCRA Facility Investigation (RFI) Work Plan. It was determined that the required revisions would be accomplished by the COE and the revised Work Plan provided to the EPA, AMCCOM, and KAAP for review and approval.

   B. Technical assistance was requested from the COE - Huntsville Division, for review of Section 5.10 of the Work Plan on April 29, 1991.

   C. On May 16, 1991, KAAP requested that the following conditions be stipulated in the Work Plan.

      The A-E shall consult and receive approval from KAAP and the Kansas City District, prior to transporting, treating, or disposing of any generated waste materials. The A-E shall not indiscriminately dispose of any waste materials which could constitute a violation of Federal, State, Army, and Installation environmental waste regulations. All waste will be collected and segregated into labeled containers identified with hazardous waste labels and with labels documenting the dates the waste was collected, associated boring number, and descriptions of contents. A complete file record of the type, quantity, and storage of each container shall be maintained at all times. A 90-day hazardous waste storage area will be identified by KAAP personnel, if necessary, with concurrence from the Kansas Department of Health and Environment.

   D. On June 12-13, 1991, representatives from the COE and Radian Corporation were on-site at KAAP to view the Solid Waste Management Units (SWMUs). Radian Corporation has been selected as the COE's contractor for efforts required by the Correction Actions Section of KAAP's RCRA Part B Permit.

State of Kansas
[redacted]
Joan Finney, Governor
Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Acting
Stanley C. Grant, Ph.D., Secretary

Respond to: (913) 296-1570
FAX (913) 296-6247

June 19, 1991

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Victoria O'Brien

Lt. Col. Uyesugi:

The Department is in receipt of your June 13, 1991 letter requesting additional open burning/open detonation (OB/OD) capacity of M67 propellant. The increase would be approximately 14,000 lbs per day.

Based on information submitted it is the Department's determination that the subject OB/OD is in the public's interest. Therefore, in accordance with the provisions of K.A.R. 28-19-47, Exemptions - Open Burning, approval is granted as requested. The revocation of this exemption is at the Department's option within 30 days notification.

The Department wishes to advise Kansas Army Ammunition Plant (KAAP) that granting of OB/OD approvals in the future will be influenced by EPA's determination in regard to OB/OD of explosive hazardous materials. Reference the May 31, 1991 letter from Lyndell L. Harrington, RCRA Branch, EPA, copy enclosed.

If there are any questions in regard to this matter please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Waste Management

clw:Uyesugi
C - Steve Broslavick

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Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
[redacted] Director of Environment (913) 296-1535
Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1619

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

June 13, 1991

Chief Engineer
(200-1a)

SUBJECT: RCRA Part A Permit

Mr. Lyndell Harrington
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. Harrington:

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/EE/VSO, dated June 11, 1991, subject as above, with enclosed EPA Form 3510-3, RCRA Part A Permit modified to increase the open burning capacity of Kansas Army Ammunition Plant (KAAP).

The M67 Propellant on hand at KAAP is rapidly becoming unstable, to a point that continued storage of the propellant could become potentially harmful. It is our belief that this propellant should be destroyed as expeditiously as possible through safe and properly managed procedures already established at KAAP. We feel that open burning of these explosives would be the most beneficial method of treatment to the government and also in the public's best interest.

Your permission is requested to increase our open burning capacity to 3,200 gallons per day. Favorable consideration of this request will be appreciated.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY
Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copies Furnished:

KDHE, Air & Waste Mgmt (w/encl):
DZI Env Eng/O'Brien (w/signed form)

RECEIVED
BUREAU OF
JUN 17 1991
AIR AND WASTE
MANAGEMENT

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

DEFENSE SYSTEMS GROUP
KANSAS DIVISION
PARSONS, KANSAS 67357-9106

June 5, 1991

FILE NO. EM-8502/EE/VSO

Administrative Contracting Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

Subject: Hazardous Waste Analyses

Reference: Chief Engineer (200-1a) letter dated May 23, 1991; subject as above

In response to the referenced letter, it is requested that the following information be provided to Mr. John S. Ramsey, Hazardous Waste Section, Bureau of Air and Waste Management, Kansas Department of Health and Environment (KDHE).

The Adsol Degreaser, Lead Azide, Lead Styphnate, and Freon Open Burning Residues were generated at the open burning grounds prior to January 1, 1990, until which time the Kansas Army Ammunition Plant (KAAP) had permission from the Air Quality Section of the KDHE to open burn these items. KAAP has not managed these waste items at the open burning grounds since January 1, 1990.

The Comp A-5 Wet Sumpage Open Burning Residue was not tested for TCLP hazardous waste characteristics because Comp A-5 does not contain trinitrotoluene. In addition, it should be noted that Comp A-5 Wet Sumpage has been tested for TCLP characteristics and that the results were negative.

The laboratory contracted to perform KAAP's hazardous waste analyses utilized EPA SW-846 Method, 1984, 2nd Edition, Test Method 1010 to analyze the zirconium sponge open burning residue. As stated in the referenced letter, the residue is a solid phase waste. Therefore, KAAP will not classify the residue as an ignitable hazardous waste.

The 700 Area Sump Sludge is considered to be a corrosive hazardous waste due to corrosivity analytical results, <2.0 S.U., performed on sludge previously generated at KAAP.

All open burning residues are kept segregated and are accumulated in separate labeled 55 gallon drums which are then placed in

Encl 1

Administrative Contracting Officer
Kansas Army Ammunition Plant

June 5, 1991

Subject: Hazardous Waste Analyses

on-site storage once the capacity of the drums has been reached. For example, when Comp A-5 Wet Sumpage is open burned, the resulting residue is removed from the burn pans and placed in accumulation drums prior to open burning another type of explosive hazardous waste such as Cyclotol Wet Sumpage or M-67 Propellant in the pans. Residues from different waste items are not placed in the same accumulation container.

Very truly yours,

DAY & ZIMMERMANN, INC.

Steve Kosman

STEVE W. KOSMAN
Director of Engineering

SWK/CJS/kj

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

MAY 31 1991

RECEIVED
BUREAU OF
JUN 5 1991
AIR and WASTE
MANAGEMENT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Lieutenant Colonel Daniel F. Uyesugi
U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Kansas Army Ammunition Plant
EPA ID No. KS0213820467
Subpart X Units

Dear Colonel Uyesugi:

The purpose of this letter is to inform you of the U.S. Environmental Protection Agency (EPA) Region VII's position concerning the permitting of open burning/open detonation (OB/OD) units under the provisions of CFR 264 Subpart X of the Resource Conservation and Recovery Act (RCRA).

A cursory review of Part B Permit Application indicates that very little information is presented as justification for use of Open Burning/Open Detonation (OB/OD) as the chosen technology to treat your facility's explosive waste. 40 CFR §264.17(b) explicitly states:

> Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:
>
> (1) Generate extreme heat or pressure, fire or explosions, or violent reactions;
>
> (2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;
>
> (3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

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PAPER CONTAINS RECYCLED FIBERS

(4) Damage the structural integrity of the device or facility;

(5) Through other like means threaten human health or the environment.

Since ". . . a ban on open burning of hazardous waste [is] contained in the General Facility Standards section . . ." (45 FR 33217) of both 40 CFR Parts 264 and 265, treatment of waste explosives or explosive material is considered to be the exception, not the rule. This exception was promulgated as an interim status regulation (40 CFR §265.382) due to comments received on the above regulation to the effect that it was unsafe, at that time, to treat waste explosives in any manner other than OB/OD.

"The Agency regards the Subpart X rule [40 CFR §264.600-603] as means of allowing flexibility for technological development and innovation." (52 FR 46947) This regulation was not intended to perpetuate use of technology that results in uncontrolled release of hazardous material to the environment (i.e., OB/OD). Therefore, all treatment units for which Subpart X permit applications were submitted, must contain sufficient information to justify the use of OB/OD as the chosen treatment technology.

Although there are inherent safety problems with handling waste explosives, as reflected in the long history of accidents that have occurred at explosive manufacturing facilities, the Agency believes that safe alternatives to open burning or open detonation of these materials can and should be developed.

As a result of the above considerations, the region will only consider issuing Subpart X permits for units which OB/OD explosive waste under the following circumstances:

(1) No alternative treatment method exists or is available; and

(2) Each item in the waste stream must have the potential to detonate (the condition must be process specific -- must consider handling, etc.)

The choice of treatment technology must be justified in terms of lack of alternatives and the protection of human health and the environment. The justification must address at a minimum the following alternatives: incineration with size reduction, defusing, munitions shearing, recycling, waste minimization, hydration, and off-site options.

If you still intend to pursue a permit to operate an OB/OD unit under Subpart X, please submit documentation which justifies continued use of the existing unit(s) including, at a minimum, a detailed evaluation of alternative technologies.

If you do not intend to pursue a permit for your existing unit, please submit a closure plan which satisfies the requirements under 40 CFR 265. If you plan to continue treatment of explosive waste at your facility using an alternative technology, an application for a new replacement unit will be required, and should contain the above referenced justification for your chosen technology.

Please provide this agency with your decision within sixty (60) days of receipt of this letter.

In the event you elect to pursue a hazardous waste permit for the X unit as an OB/OD unit, a technically acceptable Part B permit will have to be developed. The application must address the following.

1. The facility must develop plans to install a groundwater monitoring system as provided in 40 CFR 264.601 to satisfy the requirements and standards of 40 CFR 264 Subpart F. Groundwater will have to be addressed in the X application in a manner similar to that for a land disposal unit for the open detonation area and the open burning area if surface soil contamination is detected as a result of the investigation specified in comment "3" below. Groundwater monitoring wells will have to be situated in a manner and a location which will preclude the wells from being destroyed during unit operation. The groundwater monitoring system must be devised to evaluate the presence of all appropriate organic compounds, anion and cation hazardous constituents.

2. An air monitoring system must be developed which will determine the releases to the air at the boundary of the unit. The use of an air dispersion model will be limited to documenting the operational safety prior to placing and achieving the analytical data from air monitors. The models specified in the permit application must be justified with a discussion of the limitations on the use of each.

3. The facility must develop an adequate characterization plan for air releases to surface soil. This characterization would require surface soil sampling. The characterization of surface soils will be required at the time the permit is issued as well as annually. Corrective action to preclude migration

offsite resulting from erosion of contaminated soils by surface water will be required. This requirement can be found at 40 CFR 264.273 as it would apply to land treatment units.

4. At the time of closure, any affected soil would have to be removed until residual contamination is below those levels determined to be protective of human health and the environment. If residual hazardous constituent concentrations are found to be in excess of those levels and they cannot practically be removed, a closure plan for a land disposal unit would have to be developed. The closure plan would have to be consistent with the requirements found in 40 CFR 264 Subpart G. Groundwater monitoring may be required for the duration of the post-closure period.

The agency will request modification of the Part B application at a later date if the decision is reached to continue pursuit of the permit for the OB/OD unit.

KEEP IN MIND THAT MATERIAL <u>CANNOT</u> BE TREATED USING OB/OD IF IT <u>DOES</u> <u>NOT</u> HAVE THE POTENTIAL TO DETONATE.

If you have any questions, please contact Mr. Eugene N. Evans at (913) 551-7731.

Sincerely yours,

Lyndell Harrington

Lyndell L. Harrington. P.E.
Chief Permits Section
RCRA Branch
Waste Management Division

cc: Steve Broslavick,
Kansas Dept. of Health & Environment

State of Kansas
[redacted]
Joan Finney, Governor
Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Stanley C. Grant, Ph.D., Acting Secretary

Respond to: (913) 296-1
FAX (913) 296-624

File

May 20, 1991

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Attn: Chief Engineer
(200-1a)

Re: April 30, 1991 Disposal Request

Dear Colonel Uyesugi:

This letter is in response to your April 30, 1991 request to dispose of various wastes generated at your facility as non-hazardous wastes. Each waste category is addressed below.

Adsol Degreaser Open Burning Residue

Based on TCLP analytical testing and explosives reactivity testing, this waste may be managed as non-hazardous waste. Authorization to dispose of this waste in Kansas Army Ammunition Plant's (KAAP) on site landfill must be requested from and approved by the Kansas Department of Health and Environment's (KDHE) Solid Waste Section. Contact Charles Linn at (913) 296-1594, or Bob Kinder at (913) 296-1696 about submitting your requests.

Please provide an explanation of why Adsol Degreaser waste was managed at the open burning grounds. In our July 12, 1990 letter (copy attached), opening burning of this waste was specifically prohibited.

Cyclotol Wet Sumpage Open Burning Residue

Based on TCLP analytical testing and explosives reactivity testing, this waste may be managed as non-hazardous waste. Authorization to dispose of this waste in KAAP's on-site landfill must be requested from and approved by KDHE's Solid Waste Section. Contact Charles Linn or Bob Kinder at the telephone numbers previously listed.

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Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
[redacted] Director of Environment (913) 296-1535
Lorne Phillips, Ph.D., Director of Information Systems
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory

EWI Fuze Residue

Based on TCLP analytical testing and explosives reactivity testing, this waste must be managed as non-reactive D006 (cadmium) hazardous waste.

EWI Grenade Residue

Same as EWI fuze residue.

EWI Pull Test Grenades

Based on TCLP analytical testing and explosive reactivity testing for the EWI fuze residues and the EWI grenade resides, this waste must be managed as non-reactive D006 (cadmium) hazardous waste.

Comp A-5 Wet Sumpage Open Burning Residue

Based on explosive reactivity testing, this waste is not classified as an explosive reactive hazardous waste. Please provide information as to why this waste was not tested for TCLP hazardous waste characteristics. The hazardous classification of this waste will be evaluated after KAAP provides the requested information.

Lead Azide Open Burning Residue

Based on TCLP analytical testing and explosives reactivity testing, this waste may be managed as non-hazardous waste. Authorization to dispose of this waste in KAAP's on-site landfill must be requested from and approved by KDHE's Solid Waste Section. Contact Charles Linn or Bob Kinder at the telephone numbers previously listed.

Please provide an explanation of why lead azide waste was managed at the open burning grounds. In our July 12, 1990 letter, open burning of this waste was specifically prohibited.

Lead Styphnate Open Burning Residue

Same as lead azide open burning residue.

Zirconium Sponge Open Burning Residue

Based on explosive reactivity testing, this waste is not classified as an explosive hazardous waste. Our understanding is that this waste is a solid phase waste. There is no currently approved method for testing solid phase wastes for ignitibility. Please provide information on the ignitibility testing procedure used to classify this waste as an ignitable hazardous waste.

700 Area Sump Sludge

Based on 40 CFR 261.32 which identifies hazardous wastes from specific sources, unless they are excluded under Section 260.20 and 260.22, this waste must be managed as K046 hazardous waste. Based on TCLP analytical testing this waste is toxic for lead. Based on explosives reactivity testing, this waste does not exhibit the hazardous characteristic of explosive reactivity. As stated above, this waste must be managed as K046 hazardous waste.

Please provide information to explain why KAAP considers this waste to be D002, corrosive hazardous waste. If the D002 classification is appropriate, both K046 and D002 waste codes must be used to identify and manage this hazardous waste.

900 Area Diatomaceous Earth

Based on TCLP analytical testing and explosives reactivity testing, this waste may be managed as non-hazardous waste. Authorization to treat this waste in KAAP's on-site Contaminated Waste Processor (CWP) must be requested from and approved by KDHE's Air Quality Section. Contact Dana Morris at (913) 296-1578.

Authorization to dispose of the CWP residues from treating this waste must be requested from and approved by KDHE's Solid Waste Section. Contact Charles Linn or Bob Kinder at the telephone numbers previously listed.

1100 Area Diatomaceous Earth

Same as 900 Area diatomaceous earth.

Freon Open Burning Residue

Based on 40 CFR 261.31 and 40 CFR 261.3(c)(2)(i), this waste must be identified and managed as F001 hazardous waste. Based on TCLP analytical testing, this waste must also be identified and managed as D007 and D008 hazardous waste. All three waste codes, F001, D007 and D008 must be used to identify and manage this waste. Based on explosives reactivity testing, this waste is not classified as a D003 explosive reactive hazardous waste.

Our understanding is that waste freon is ordinarily sent off-site for reclamation or disposal (see page C-49 of the Part B permit application). Also note that this waste was not identified in KAAP's February 13, 1990 request for an open burning exemption. Toxic products of incomplete combustion (PIC) may result from open

burning halogenated hydrocarbons (low temperature uncontrolled combustion). Halogenated acid gases, and in some instances phosgene gas, may be formed when freon is open burned. Also, no information has been submitted to document that this waste has the potential to detonate (see 40 CFR 265.382).

OPEN BURNING OF ALL WASTE SOLVENTS, EXCEPT AS SPECIFIED IN KDHE'S ATTACHED JULY 12, 1990 LETTER IS PROHIBITED.

1100 Area Anthracite

Same as 900 Area diatomaceous earth.

Please explain how KAAP keeps burning residues from mixing (how are pans managed) to ensure no mixing of waste from different waste categories occurs.

If you have any questions about this letter, please contact me at (913) 296-1610. Your cooperation with the hazardous waste management program in Kansas is appreciated.

Sincerely,

John S. Ramsey
Environmental Engineer
Hazardous Waste Section
Bureau of Air and Waste Management

df/Uyesugi.lt2
Enclosures
C Bill Towery
Dana Morris
Don Schuyler
Lyndell Harrington

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

May 16, 1991

Chief Engineer
(200-1a)

SUBJECT: Request for Revision to RCRA Part A Permit

Mr. Lyndell Harrington
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. Harrington:

Enclosed for your approval action is EPA Form 3510-3, RCRA Part A Permit, for Kansas Army Ammunition Plant modified to increase the capacity of our open detonation facility.

Permission is requested to increase the capacity of the open detonation of mixed explosives to 1,134 gallons per day. This increase in capacity will allow for two detonation operations a day and will aid in reducing the time untreated hazardous waste remains in storage.

Your favorable consideration to this request will be appreciated.

The point of contact is Glen Parish, 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Deborah J. Blanton
Captain, U.S. Army
Acting Commander

Enclosure

Copies Furnished (w/encl):

DZI Fac Eng/O'Brien
KDHE/Ramsey

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BUREAU OF
MAY 2 1 1991
AIR and WASTE
MANAGEMENT

PARSONS
TELEX
43-6408
TELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

DEFENSE SYSTEMS GROUP
KANSAS DIVISION
PARSONS, KANSAS 67357-9106

April 25, 1991

FILE NO. EM-8502/FE/VSO

Administrative Contracting Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

Subject: Hazardous Waste Analyses

Enclosed are two copies of the analytical results of analyses performed on 14 types of Kansas Army Ammunition Plant's hazardous wastes. Also enclosed are requests to manage the wastes as nonreactive and/or nonhazardous solid wastes. It is requested that one copy of the enclosures be forwarded to the Air and Waste Management Section of the Kansas Department of Health and Environment for review and approval of said requests.

The sampling methods discussed on the enclosures were utilized to provide representative samples and analysis of the wastes involved.

Please direct any questions pertaining to this matter to Victoria S. O'Brien, Ext. 574.

Very truly yours,

DAY & ZIMMERMANN, INC.

STEVE W. KOSMAN
Director of Engineering

SWK/REW/kj

Enclosures
a/s

Encl 1

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO ATTENTION OF

April 18, 1991

Chief Engineer
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RECEIVED
BUREAU OF
APR 19 1991
AIR and WASTE MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Gentlemen:

Enclosed are three copies of subject quarterly report as required by Kansas Army Ammunition Plant's Resource Conservation and Recovery Act (RCRA) Part B Permit.

The point of contact is Glen Parish, SMCKA-OR, telephone: 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Deborah J. Blanton
Captain, U.S. Army
Acting Commander

Enclosure

Copies Furnished:

KDHE, Air & Waste Mgmt Sec (w/encl)
DZI Fac Eng/O'Brien (wo/encl)

B. A meeting will be held in April to discuss and finalize revisions required to the Work Plan. Representatives from the EPA, KAAP, AMCCOM, and COE will attend the meeting. Upon finalization of all comments, COE will revise the RFI Work Plan in house and provide the revisions to the EPA and KAAP by May 21, 1991 for review and approval.

C. Personnel from COE, AMCCOM, and KAAP will continue efforts to obtain funding for implementation of the RFI Work Plan upon receipt of approval from the EPA.

Steve Brostavick
KDHE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

APR 03 1991

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Lieutenant Colonel Daniel F. Uyesugi
Commanding Officer
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357

RE: Kansas Army Ammunition Plant
Corrective Action

Dear Colonel Uyesugi:

This is to confirm a meeting planned to be held at your facility on April 10-11, and, if needed, April 12, 1991, to resolve any remaining issues in the draft RFI workplan. The meeting is intended to provide the Army Corps of Engineers (ACE) an opportunity to discuss all remaining issues in the development of the final draft. We would appreciate having someone available to escort the attendees to the various subject areas so that appropriate sampling locations can be designated accurately. This has been discussed with ACE and has their concurrence.

The Environmental Protection Agency (EPA) would also wish to confirm a schedule for completion of the RFI workplan. The tentative schedule thus far provides for a completion date of May 21, 1991.

The following are comments on the latest draft of the RCRA Facility Investigation (RFI) workplan for your facility.

1. pp. 49, ¶ 2.3.2. Existing geotechnical bore log information, filed with the USACE, Kansas City District, should be reviewed. It may provide additional information for this section.

2. pp. 49, ¶ 2.4.1, second sentence. Which "unconsolidated deposits" are being referred to?

3. pp. 49, ¶ 2.4.2 A survey of wells at nearby dwellings should be conducted as part of Phase one.

4. pp. 60, ¶ 3.3.4 second sentence. Define "very slow" permeability.

RECYCLE

4a. pp. 62, first sentence. We do not concur that groundwater, which may discharge into surface waters or that may be used by rural residents, is of minor concern.

5. pp. 68, ¶ 5.5.2. If these geotechnical tests are going to be performed, more than one sample/type of material will be needed. Change "gram" to "grain".

6. pp. 70, ¶ 5.7, second sub-paragraph. For data on existing wells to be reliable, information about their construction should be gathered and compiled into a usable form. Information provided should, at a minimum, include well locations, well elevations, well diameters, type of screen and riser, well depths, depth to, and length of well screen, depth to filter pack, and boring logs describing the lithology at each well. Any historical water level should also be compiled.

7. pp. 74/75, ¶ 7.1.1.1. If construction drawings of the sumps are available, they should be included.

8. pp. 76, ¶ 7.1.5. See comment #6.

9. pp. 79, Figure 7-1A is not legible.

10. pp. 83, ¶ 7.2.1. Building 202 is not shown on the map, (Figure 7.2).

10a. If available, include construction drawings of structures.

11. pp. 95, ¶ 7.4.1. See comment #10a.

12. pp. 98, Figure 7-4. This figure shows five soil borings and the text describes four soil borings and one surface soil sample. Correct one or the other.

13. pp. 101, ¶ 7.5.1.1. See comment #7.

14. pp. 103, ¶ 7.5.2.1, sub-paragraph 5. See comment #6.

15. pp. 104, ¶ 7.5.3.1. According to the text, there are three ponds. Why are only two being sampled for surface water?

16. pp. 104, ¶ 7.5.4.2. Soil borings do not appear on figures.

17. pp. 105, ¶ 7.5.5. See comment # 6.

18. pp. 111, ¶ 7.6.1. Is the hole in the building 505 sump a part of the design or due to damage? If this sump did not contain liquid, what was it used for?

19. pp. 113, ¶ 7.6.4.2. Soil boring locations do not appear on map. What is the planned depth for the soil borings?

20. pp. 119. All references to Figure 7-7 should be changed to 7-7a or b as applicable.

21. pp. 119, ¶ 7.7.4.2. Boring locations do not appear on figures.

22. pp. 127, ¶ 7.8.2.2. Provide the sample analysis and define "significant contaminants".

23. pp. 127. All references to Figure 7-8 should be changed to Figure 7-8a, b, or c as applicable.

24. pp. 128. Soil borings for Building 907 do not show on the figures.

25. pp. 128, ¶ 7.8.5. Show proposed well locations on figures. Buildings 926 and 927 can not be found on the figures.

26. pp. 137, ¶ 7.9.2.2. Provide analytical results from the previous sediment and surface water sampling events.

27. pp. 138, ¶ 7.9.4.2. Boring locations are not on figure 7-9. The plan must specify the proposed boring depths.

28. pp. 149, ¶ 7.10.4.2. What are the proposed boring depths?

29. pp. 156, ¶ 7.11.3.2. Figure 7-11 shows six sediment samples. The text proposes only three.

30. pp. 191, ¶ 7.17.2. Provide analytical results from previous soil tests.

31. pp. 192, ¶ 7.17.5. See comment #6.

32. pp. 258 through 264. The minimum detection limits shown do not agree with those specified in 40 CFR 264 Appendix IX. The limits listed in the RFI may be achievable in reagent water, but they may not be practical for field samples.

33. Appen. I, pp. 4, ¶ 2.1.2, second sub-paragraph. If sample containers are used as sampling devices, the outside of the containers will have to be decontaminated. It may be better to use dedicated/disposable collection devices and transfer samples to the containers.

34. Appen. I, pp. 4, ¶ 2.1.2, third sub-paragraph. The sampling device should be decontaminated prior to, and between each sample. Provide the guidance/rationale for rinsing the sampler in the creek.

35. Appen. I, pp. 5, ¶ 2.1.2, sub-paragraphs 2 and 3. See comments 33 and 34.

36. Appen. I, pp. 5, ¶ 2.1.3. Wherever possible, the proposed up and downstream sampling locations should be specified on a map.

37. Appen. I pp. 5, ¶ 2.1.5. "Metals" should read "total recoverable metals".

38. Appen. I, pp. 7, last ¶ on the page. Samples for total recoverable metals should not be filtered.

39. Appen. I, pp. 10. Caution should be exercised if "blue ice" is used, depending on where it is frozen, it can reach temperatures low enough to freeze water in small sample containers.

40. Appen. I, pp. 17, third ¶. It is possible to obtain bottom sludge from any depth. It may require, however, alternative equipment (e.g. drill rig).

41. Appen. I pp. 17, fourth ¶. Samples should be observed and described in a log with location, depth, and visual description.

41a. Describe how the underlying soil will be sampled separately from the bottom sludge/sediments.

42. Appen. I, pp. 18, ¶ 2.3, sub-paragraphs 2.3.1 and 2.3.2. Since one of the primary objectives of the soil sampling is to characterize site specific lithology, continuous soil cores should be obtained. The samples should be logged in detail using a scale of 1 inch equal to one foot. It is recommended that sampling devices which provide 3" minimum diameter samples be used. This will enable the on-site geologist to collect analytical samples from inside the soil core thereby reducing the potential for contamination by the sampling device.

This section should provide detailed information on drilling and sampling, including; types of drilling equipment, types and sizes of drilling and sampling equipment, description of sample handling equipment, decontamination plan for all equipment and tools, disposition of drilling fluid, drilling spoils and decontamination fluids, and methods for backfilling holes.

43. Appen. I, pp. 19/20, ¶ 2.3.3. How and when will vertical control at sampling locations be established?

44. Appen. I, pp. 20, section 2.4. Prior to any monitor well sampling, all available information on the wells should be compiled and presented in a usable format. This information should include the following; Well identification numbers, locations, boring logs with lithologic descriptions, ground surface and top of well elevations, bore hole depths, well depths, casing and screen types and sizes, depth to top of the well screen, depth to top of filter packs, length of well screens, filter pack gradations, screen slot size, type of annular seal, and type of back fill.

45. Appen. I, pp. 21. This table belongs in Appen. IV. The table also should be modified to reflect the equipment that will actually be used.

46. Appen. I, pp. 22. Electric water level indicators measure depth to water. The elevation will have to be calculated using surveyed well elevations. The bottom of the well should be sounded (using a weighted steel tape) so that purge volume and degree of siltation can be determined.

47. Appen. I, pp. 22, "Purging". Initially, the submerged well volumes should be calculated from the water level measurements and well soundings. Describe how the volume of purged water will be measured. Measure the pH, specific conductance, and temperature when purging begins. Repeat these measurements for each well volume removed. Once these parameters have stabilized to within ±10%, for three consecutive well volumes, purging can be considered complete. Alternatively, purging can be considered complete after five well volumes have been removed. If wells are low yielding, and bail dry, sampling can begin as soon as the wells recover enough to do so.

48. Appen. I pp. 23, first ¶. The paragraph is not clear.

49. Appen. I, pp. 24. Depending on the well depth, water level indicators are generally not reliable tools for making well soundings. A decontaminated, weighted, steel tape measure should be used. The weight should be 1"-1.5" in diameter and have a flat bottom so that it will rest on top of any soft sediments on the bottom of the well.

50. Appen. I, pp. 41 and 42. The information which is intended for these pages needs to be provided.

51. Appen. II, pp. 11, Section 4.2, 2nd ¶. The first sentence needs to be reworded.

52. Appen. IV, pp. ii. A preliminary review of data from the existing wells should be done as part of this document. The information should be used to describe site specific subsurface conditions (e.g., lithology, hydraulic gradient, presence or absence of contaminants, etc.).

53. Appen. IV. This appendix appears to be more of a " guide specification" for contracting drilling services than a project specific soil boring and monitor well installation plan. The responsibilities and authorities of the Contractor and the Contracting Officer are not pertinent to the RFI.

54. Appen. IV. pp. 5. Does 9" refer to the inside or outside diameter of the auger?

55. Appen. IV, pp. 5. Describe the size and type of bedrock drilling equipment proposed.

56. Appen. IV, pp. 5. Describe decontamination procedures.

57. Appen. IV, pp. 6, Section 4.0. Air rotary is an inappropriate drilling technique for the installation of monitor wells. There is no way to quantify air or air/groundwater loss into fractures, open bedding planes etc. Air injected into aquifers may alter the chemistry, possibly irreversibly, so that representative ground water samples may never be obtained. It is difficult to contain and inspect drill cuttings from air rotary operations. Some of the explosives which may be present can be less stable when they are dry and they may present an increased safety hazard if drilled with air.

58. Appen. IV, pp. 6, Section 4.0. See comment #55. List the proposed sizes of soil sampling tools. If Shelby tubes are to be used, where and how will the samples be extruded? Soil sampling should be continuous to fully characterize overburden material.

59. Appen. IV, pp. ¶ 5.1. Describe how drilling spoils will be isolated from the ground surface around the drill sites.

59a. Include the specific regulatory requirements which will be used in this disposal decision process.

60. Appen. IV, pp. 7, ¶ 5.2. Specifically, what equipment is covered by this paragraph? Where will equipment decontamination take place and how will decontamination fluids be handled?

61. Appen. IV, pp. 8, ¶ 6.1.1. See comment #57. The preferred method of drilling is to use water/mud rotary with non-chlorinated, potable water. Samples of drilling water should be tested periodically. Drilling fluid should be recirculated into

a portable sump with a known volume so the depth and quantity of lost or gained drilling fluid can be documented on the boring log.

Provide details on how ground water from one aquifer will be isolated from other aquifers to preclude the bore hole from becoming a conduit for contaminant migration.

62. Appen. IV, pp. 9, ¶ 6.2.2.2. Provide the basis for well screen slot size selection. A review of past geotechnical drilling may assist in designing a filter pack range. From this, well screen openings can be selected. It will be to the facilities benefit to have the largest filter material and screen openings compatible with the aquifer. This allows quicker and more complete development and better yield for purging and sampling.

62a. Explain the basis that will be used for selecting hole depth and screen placement.

62b. Appen. VI, pp.10. How will the thickness of "underlying aquitards" be determined?

63. Appen. IV, pp. 10, ¶ 6.2.3. See comment #62. How far above the well screen will filter pack extend?

64. Appen. IV, pp. 11, ¶ 6.2.4. Explain under what conditions bentonite pellets, as opposed to slurries, will be used. How long will pellets be allowed to hydrate prior to completing the well installation?

65. Appen. IV, pp. 11, ¶ 6.3.1. Solid stem augers are not suitable for logging or sampling.

66. Appen. IV, pp. 11, ¶ 6.3.2. Soils should be continuously sampled for descriptive logging purposes.

67. Appen. IV, pp. 11, ¶ 6.3.3. Hollow stem auger inner barrel systems are recommended for sampling cohesive to semi-cohesive material.

68. Appen. IV, pp. 12, ¶ 6.3.4. Samples will have to be considered contaminated until testing proves differently.

69. Appen. IV, pp. 12, ¶ 6.3.5. Explain the purpose for the geotechnical testing on all samples.

70. Appen. IV, pp. 12/13, Section 6.4. Paragraph 6.2.4 describes a grout seal all the way to the ground surface. After the grout sets up, installation of a protective pipe deep enough for it to be stable will be difficult. Both the protective pipe

and the concrete pad are subject to frost heave. For this reason, we recommend using the top of the well casing for surveyed elevation control points. Steel protective posts embedded in the 4" thick concrete pad will not be stable.

71. Appen. IV, pp. 13, ¶ 6.5. Since incomplete wells may act as a conduit for cross-contamination, more detail needs to be presented on this subject. We recommend that wells are not left incomplete.

72. Appen. IV, pp. 13, ¶ 6.6. As stated in an earlier comment, boring log scale should be 1" = 1'.

73. Appen. IV, pp. 18, Section 7.0. Development should also include the removal of any fines pulled into the well.

74. Appen. IV, pp. 19, Section 8.0. Provide the field methods and calculations which will be used.

75. Appen. IV, pp. 24, Section 2.0. If the first water is anticipated to be 5 to 15 feet below ground, why are the wells being drilled to 25 feet? This comment also applies to pp. 27, 30, 33, and 36.

76. Appen. V, pp. 11, ¶ 4.1. A trench, with 2h:1v side slopes, 10'deep by 2' wide by 5' long at the bottom, will be 45'by 42'at the top. This may present significant problems when compacting in backfill.

77. Appen. V, pp. 12, ¶ 4.2.3. Add "of this Appendix" after " Section 9".

78. Appen. V, pp. 17, ¶ 8.1 and 8.2. Define "examined and determined".

79. Appen. V, pp. 17, ¶ 8.3.1. Borrow areas should be available to replace excavated material that is not suitable for backfill? Describe excavation and backfill equipment. We suggest that the top of excavations be crowned to allow for settlement and to prevent ponding of rain or snow.

It is our understanding that the Kansas District Corps of Engineers (USACEMRK) will be revising the subject RFI Workplan. EPA will keep in close contact with the USACEMRK geologist responsible for the revisions, in an effort to expedite interagency review and approval. Other sections of the RFI workplan, e.g., QA/QC, sample preservation, etc., should be provided as they become available.

If there are any questions, please contact Mr. Eugene Evans at (913) 551-7731.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
RCRA Branch
Waste Management Division

cc: Steve Lemons, ACE
Julia Kisser, ACE
Jeff Wandke, EPA ENSV
Steve Broslavick, KDHE
Carloyn Smalley, Day and Zimmerman, Parsons, Kansas

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

January 17, 1991

Chief Engineer
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

RECEIVED
BUREAU OF
JAN 25 1991
AIR AND WASTE
MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Dear Sir:

Enclosed are three copies of subject quarterly report as required by Kansas Army Ammunition Plant's Resource Conservation and Recovery Act (RCRA) Part B Permit.

The point of contact is Glen Parish, telephone: 316-421-7596.

Sincerely,

ORIGINAL SIGNED BY

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copy Furnished:

KDHE, Air & Waste Mgmt Sec (w/encl)
DZI, Facilities Engineering (wo/encl)

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment

Stanley C. Grant, Ph.D., Secretary

Forbes Field, Bldg. 740, Topeka, KS 66620-0002

(913) 296-1535
FAX (913) 296-6247

December 5, 1990
Permit No. 19000010

RECEIVED
BUREAU OF
DEC 0 6 1990
AIR and WASTE
MANAGEMENT

Deborah J. Blanton
Captain
U.S. Army
Commander (Acting)
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Frank Candelaria

Captain Blanton:

The Department is in receipt of the Kansas Army Ammunition Plant (KAAP) November 28, 1990 letter requesting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption is for the open burning of six categories of explosive hazardous waste. The categories are as follows:

1) Comp A-5 Wet Sumpage
2) Cyclotol & Octol Wet Sumpage, Anthracite and Diatomaceous Earth
3) Comp B and TNT Wet Sumpage, Sump Sludge and Dratomaceous Earth
4) Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX & TNT Scrap
5) Absorbent Materials from Cleanup of TNT Wastewater Spills
6) M-10 and M-67 Propellant and Charges

By letter dated July 12, 1990 the Department provided KAAP a critique of each of the above mentioned categories in regard to open burning. The Department findings were that all categories were acceptable to be open burned with exception of the lead foil lined bags associated with item no. 6, M-10 and M-67 Propellant and Charges.

Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting exemption to KAAP for the burning of explosive hazardous waste, items 1 through 6 with the exception of lead foil lined bags.

This exemption is valid through December 31, 1991. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice at the Department's option.

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343

James Power, P.E., Director of Environment (913) 296-1535

Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415

Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1619

If there are further questions in regard to this matter please contact me at (913) 296-1574.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Waste Management

clw:Blanton
OBL 90-21
c: Steve Broslavick, BAWM
John Ramsey, BAWM

REPORT OF RCRA COMPLIANCE INSPECTION

AT

KANSAS ARMY AMMUNITION PLANT

PARSONS, KANSAS

EPA ID NUMBER: KS0213820467

NOVEMBER 14 - 15, 1990

By

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Waste Management Division (WSTM), a RCRA joint compliance evaluation inspection was performed with the KDHE at the Kansas Army Ammunition Plant, East Main Street, Parsons, Kansas, on November 14 - 15, 1990. The inspection was conducted under the authority of Section 3007 of the Resource Conservation and Recovery Act (RCRA), as amended. This report presents the results of the inspection.

PARTICIPANTS

Kansas Army Ammunition Plant (KAAP):
- LTC Daniel F. Uyesugi, Commanding Officer, U.S. Army
- Frank Candelaria, Environmental Coordinator, U.S. Army
- Carolyn J. Smalley, Project Engineer, Day and Zimmerman, Inc.(D&Z)
- Victoria S. O'Brien, Environmental Engineering, D&Z
- Paul L. Milks, Environmental Group, D&Z
- Carl Johnson, Foreman of Hazardous Waste, D&Z

Kansas Department of Health and Environment (KDHE):
- William T. Towery, Environmental Technician, Southeast District

U.S. Environmental Protection Agency (EPA):
- Robert F. Webber, Environmental Engineer

INSPECTION PROCEDURES

Prior to arriving at the facility, I met with Mr. Towery who would be conducting the inspection, to discuss inspection procedures. We then proceeded to the KAAP gate where we identified ourselves with our credentials and received facility passes. We proceeded to the main office building where we met with facility representatives of the Army and the contractor operator, Day and Zimmerman, Inc. Mr. Towery explained the purpose of the inspection and the procedures he would follow. The inspection consisted of a discussion of facility operations, waste generation and waste management practices, a visual inspection of the hazardous waste management areas and a review of hazardous waste management plans and records. At the conclusion of the inspection we met with LTC Uyesugi and his staff, and Mr. Towery reviewed the inspection findings.

FACILITY DESCRIPTION

The KAAP is a government owned (U.S. Army) contractor operated (Day and Zimmerman, Inc.) military installation. The current activities at the plant include loading, assembly and packaging munitions for military use. In addition to the assembly and packaging of detonators and charges for grenades, projectiles and other munitions, the KAAP operates a laboratory, maintenance areas, an explosives detonation area, an open burning area, and the EWI. The principal production areas or lines are known as the 300 area, the 700 area, the 900 area and the 1100 area. The maintenance area is known as the 200 area. The munitions are stored in a series of igloos.

The total area of the KAAP site is approximately 35 square miles. The facility was issued a permit for the storage and incineration of hazardous wastes on December 7, 1989. The permit is effective for five years and covers the storage of hazardous wastes in eighteen soil covered, above ground concrete vaults called igloos, as well as one magazine area at the facility. Storage capacity for the igloos is 206,720 gallons. For the one magazine the total storage capacity is 118,800 gallons. The permit also covers incineration of explosive hazardous wastes in an explosive waste incinerator (EWI).

Wastestreams

There are a large number of hazardous wastes that are routinely generated at KAAP. These have been summarized in biennial reports submitted by the facility and in previous CEI reports.

FINDINGS AND OBSERVATIONS

Permitted Areas

The following information on hazardous wastes currently stored at KAAP is based on visual observations of hazardous waste management areas and/or records maintained for those areas.

Igloo A019 - Reactive off-specification and reject Fuzes (D003/D008), approx. 66,000 units.

Igloo 1705 - Empty.

Igloo 1709 - Reactive off-specification, waste, and rejected non-lead containing M42 grenades (D003), approx. 94,000 units.

Igloo 1711 - Reactive off-specification M67 propellant (D003), approx. 55,000 units.

Igloo 1712 - Reactive waste anthracite (D003), approx. 46,000 lbs.

Igloo 1717 - Reactive off-specification grenades (D003): M42 Grenades, approx. 24,000 units; M46 Grenades, approx. 12,000 units; M77 Grenades, approx. 64,000 units.

Magazine 1813
- Spent Carbon (K045), approx. 550 55-gal. drums;
- Spent Diatomaceous Earth (D003), 100 lbs.;
- Waste EWI grenades (D003), approx. 21,000 lbs.;
- Waste open burning residue - zirconium sponge (D003), 1050 lbs.;
- Contaminated soil (D003), 600 lbs.;
- EWI fuze residue (D003/D008), 20,000 lbs.;
- Waste EWI Pull test grenades (D003/D008), 5,950 lbs.;
- Open burning residue (D003/D008), 3,150 lbs.;
- Open burning residue (D003/F001), 700 lbs.;
- Waste asbestos fiber (D003/D008), 150 lbs.;
- Waste CWP residues - basket ash, air pollution control residues (D006/D008), 26,000 lbs.;
- Waste M67 propellant bags with lead (D008), 50,000 units;
- CWP spent carbon ash (D030), 9,000 lbs.;
- Open burning residue from cyclotol sludge (K044), 9,300 lbs.

Igloo 1914 - Empty.

Igloo 1915 - Waste anthracite (D003), 37,000 lbs.

Igloo 1916
- Waste paint solvents (D001/D007/D008/F003), 165 gal.;
- Waste paint solvents (D001/F005), 275 gals.;
- Waste rust remover (D002), 0.5 gal.;

- Reactive spill residue (D003), 2225 lbs.;
- Open burning residue (D003/D008), 1,650 lbs.;
- Open burning residue (D003/F001), 250 lbs.;
- CWP residues (D006/D008), 2200 lbs.;
- WWTS filters (D008), 600 lbs.;
- Waste mercury (D009), 166 lbs.;
- Waste silver recovery cartridges (D011), 145 lbs.;
- Waste electrostatic solution (F001), 14 gal.;
- Waste freon (F001), 110 gal.;
- Waste acetone/rags (F003), 110 gal.;
- Waste toluene/soil/debris (F005), 690 lbs.;
- Open burning water ash-wet sumpage (K044), 165 gal.;
- Sump sludge (K044/K046), 880 gal.;
- Open burning residue/spent carbon (K045), 1035 lbs.
- Unknowns from 200 line (?), (3) 55-gal. drums;
- Used trim-sol coolant (?), (6) 55-gal. drums;

Igloo 1917
- Waste explosives/alcohol solutions (D001/D003/D008), 9000 lbs.;
- Waste acetone/ink/thinner (D001/D007/D008/F003), 55 gal.;
- Waste diatomaceous earth (D003), approx. 6,000 lbs.;
- Waste liquid explosives (D003), 405 lbs.;
- Waste adsolv/Freon with explosives (F001/D003), 110 gal.;
- Waste acetone with explosives (F005/D003), 110 gal.;
- Waste adsolv 744 (F001), 55 gal.;
- Waste acetone (F003), 55 gal.;
- Sump sludge (K044), 1210 gal.;
- Sump sludge (K044/K046), 55 gal.

Igloo 1958 - Waste lead azide mixture (D001/D003/D008), 630 lbs.

Igloo 1961
- Reactive off-specification explosive component items (D003), 2690 units.
- Reactive off-specification explosive component items and rejected final explosive items (D003/D008), approx. 2 million units.

Igloo 1974 - Off-specification M42 grenades (D003), 36,000 units.

Igloo 1976
- Reactive off-specification explosives/component items (D003), 2300+ lbs.;
- Waste sumpage (K044), 897 lbs.

Igloo 2707
- Waste zirconium sponge (D003), 1626 units;
- Waste zirconium sponge dust (D003), 76 lbs.

Explosive Waste Incinerator (EWI) - This unit was not operating during the inspection. A trial burn is currently scheduled for April 1991.

Unpermitted Areas
Most of the following areas use small portable storage enclosures equipped with secondary containment for accumulating wastes nearby the points of generation.

2700 Area

Open Burning Ground - One labeled 55-gal. drum (partially filled) of open burning residue (D003). Open burning of various hazardous wastes have been conducted according to approvals by KDHE (Attachment 1). In the past open burning of K044 and K045 has occurred. This practice appears to be in conflict with a recent memorandum from Cynthia Hutchinson, Region VII LDR Coordinator, that indicates open burning of waste explosives under 40 CFR 265.382 applies to materials that do not meet the K044 or K045 listing. An Open Burning/Open Detonation (OB/OD) Part B permit application is currently under review.

Open detonation area - No wastes were observed at this area. In this secured area waste explosives are buried in dirt piles and set off remotely. The resulting shrapnel waste is sent to a landfill.

Chemical Waste Processor (CWP)
- One labeled 55-gal. drum (partially filled) of spent baghouse bags (D006/D008).
- One labeled 55-gal. drum (partially filled) of baghouse residue (D006/D008).
- One labeled 55-gal. drum (partially filled) of gas cooler residue (D006/D008).

700 Area

Bldg. 715 West - One labeled 55-gal. drum of F-listed solvent.

Bldg. 715 East - One labeled 55-gal. drum (1/2 full) of spent freon (F001) from the ultrasonic cleaning of small aluminum detonator cups.

Bldg. 723 Southwest - One labeled 55-gal. drum (1/3 full) of spent paint/thinner (D001/F005).

700 line wastewater treatment plant - A wastewater treatment system located at the 700 this line consists of floculation, filtering, pH neutralization, holding tank, and NPDES Discharge. On average two 4,000 gallon batches a month of wastewater are treated and discharged to nearby Labett Creek. The treatment system generates D008 cartridge and bag filters, and K044/K046 wastewater sludges. This area was not inspected during the visual inspection of the facility due to the temporary unavailability of an entrance key.

300 Area

Bldg. 327 wastewater treatment plant - One labeled partially filled 55-gal. drum of spent carbon (K045). Treated wastewater is discharged to an unnamed tributary of the Neosho River under NPDES permit.

Bldg. 315 East - One 55-gal. drum (1/3 full) of waste acetone/ink/ink solvent (D001/D007/D008/F003).

Bldg. 315 West - One 55-gal. drum containing approx. five gallons of waste acetone/rags (F003). This drum was not being kept closed pursuant to 40 CFR 265.173 (it did not have a securing ring in place). At this area M155 projectiles are loaded, packed, and stenciled.

Laboratory - Building 58

South Explosive Laboratory Room
- Three partially filled brass containers of 1.5 gal. capacity containing explosive contaminated solvents (D003/F003/F005);
- Three similar partially filled brass containers of waste dry explosives, mostly RDX (D003);

At most three gallons of the contaminated solvents and six pounds of the waste dry explosives are generated per month from mil-spec testing at this area.

General Chemical Laboratory Room - One labeled 5-gallon container of waste toluene/fuel oil (F005/D001) from the testing of boiler oils. Note: All old excess chemicals were disposed of five years ago. Orders for new chemical supplies are made in small quantities to reduce excess.

Biochemical Laboratory Room - One 1-gallon glass bottle of "COD Test Waste" was present. Container was not marked "hazardous waste." Facility has apparently not made a hazardous waste determination. Based on my previous experience with this type of waste it may have silver and mercury salts that would make it characteristic hazardous waste.

Tooling Calibration Room - One labeled 5-gallon container of spent Adsol 744 solvent/denatured ethanol (D003/F001).

200 Area

Bldg. 247 (Vehicle Maintenance Paint Shop)
- One labeled 55-gal. drum of spent paint sludge/thinner (D001/D007/D008). Drum was missing small bung.
- One labeled 55-gal. drum (1/2 full) of Adsol 744 solvent (F001). Drum appeared to have a pin-hole size leak near its bottom. Liquid was observed under grating and within secondary containment of portable storage enclosure where drums are stored. In addition, there was liquid on top to the drum which

appeared to be from spillage during the transfer of liquid into the drum.
- Three spent lead acid batteries.

During a visual inspection of the paint shop, both a water-wall air filtration system and dry paint filter system were observed. According to a facility representative, the water-wall system has not been cleaned out for over three years, but the sludge is handled as a hazardous waste. The spent dry filters are changed out every six months and then placed into the on-site landfill. Although the paints used at this location contain both lead and chromium, facility representatives could not provide documentation that the spent filters have been tested to determine if they are hazardous waste.

1100 Area

Bldg. 1109
- One labeled 55-gal. drum (1/4 full) of waste stencil ink/thinner/acetone (D001/D007/D008/F003) from Bldg. 1104. According to Mr. Milks, this drum was brought to this area six months ago when Bldg. 1104 shut down operations. This waste is being stored for greater than ninety days in an area other than satellite accumulation and is in violation of Permit Condition V.B.2.
- One labeled 55-gal. drum (1/4 full) of spent stencil solvent/ink (D001/D007/D008/F003) from Bldg. 1109.
- One labeled 55-gal. drum (<1/2 full) of waste Adsol 774 solvent (F003/F001).

Bldg. 1103 (Maintenance Paint Operation)
- One labeled 55-gal. drum (<1/4 full) of waste paint solvents (D001). This drum was found with the large bung unsecured on top of the drum. This is a violation of 40 CFR 265.173 (a) as referenced by KAR 28-31-4(j). This violation is similar to a violation noted during the last CEI at this location (a small bung was missing).
- One labeled 55-gal. drum (3/4 full) of waste kerosene (D001).
- One labeled 55-gal. drum of waste oil.

Bldg. 1127 (wastewater treatment plant)
- One labeled 55-gal. drum (1/2 full) of spent diatomaceous earth filter material (D003).
- One labeled 55-gal. drum (3/4 full) of spent carbon (D030/K045)

Note: KAR 28-31-4 (j) (1) states that a Kansas or EPA generator may accumulate as much as 55 gallons <u>of each type of hazardous waste</u> in no more than one container at a satellite accumulation area. This appears to conflict with current EPA Region VII policy allowing a combined total of 55 gallons for all hazardous wastes at a satellite accumulation area.

Bldg. 1114 - One labeled 55-gal. drum of black stencil ink/thinner (D001/D007/D008/F003).

Bldg. 1136 - One labeled 55-gal. drum (1/3 full) of spent paint thinner/acetone (D001/D007/D008/F003).

Bldg. 1113 - One labeled 55-gal. drum of waste ink/thinner (D001/D007/D008/F003).

Laundry Area - Building 112

This building generates laundry sump sludge (D006/D007/D008) and was not visually inspected.

Review of Records and Plans

During the course of the inspection the hazardous waste plans and records were reviewed by Mr. Towery and myself. Training records, inspection records, contingency plan, and waste analysis plan were reviewed. Since no shipments of hazardous wastes have been made since the last inspection, no manifests were reviewed.

CONCLUSIONS

The inspectors identified the following deficiencies and areas of concern to KAAP management at the exit briefing:

1. During a review of the Contingency Plan it was noted that the Contingency Plan has not been updated with the new address and phone number for emergency coordinator Carolyn Smalley.

2. KAAP has failed to make hazardous waste determinations for the following wastes:
   - (3) 55-gal. drums dated 3/9/89 at Igloo 1916;
   - (6) 55-gal. drums of used coolant at Igloo 1916;
   - COD Test Waste at the Laboratory (Bldg. 58);
   - Spent paint filters at the Vehicle Maintenance Paint Shop (Bldg. 247).

3. The following containers of hazardous waste were not dated while in permitted storage:
   - (2) 55-gal. drums of CWP gas cooler residue (D006/D008) at Igloo 1916.
   - (1) 55-gal. drum of spent paint thinner (D001/F005) at Igloo 1917.

4. Ten drums containing sump sludge from the 900 area being stored at Igloo 1917 were not clearly marked to indicate the K044 listing.

5. The following drums were observed to be in violation of 40CFR 265.173 container standards:

- One open 55-gal. drum of acetone/rags (F003) at Bldg. 315 West;
- One open 55-gal. drum of waste paint sludge/thinner (D001/D007/D008) at Bldg. 247 (Vehicle Maintenance Paint Shop). Drum was missing small bung.
- One labeled 55-gal. drum (1/2 full) of Adsol 744 solvent (F001). Drum appeared to have a pin-hole size leak near its bottom. Liquid was observed under grating and within secondary containment of portable storage enclosure where drums are stored. In addition, there was liquid on top to the drum which appeared to be from spillage during the transfer of liquid into the drum.
- One open 55-gal. drum of waste paint solvents (D001) at Bldg. 1103.

6. One 55-gal. drum (1/4 full) of waste stencil ink/thinner/acetone (D001/D007/D008/F003) from Bldg. 1104 was being stored for greater than ninety days in an area other than satellite accumulation and is in violation of Permit Condition V.B.2.. This drum was being stored in a locked portable enclosure equipped with secondary containment near Bldg. 1109 since Bldg. 1104 operations shut down six months ago.

7. A number of prohibited wastes located at Igloo 1916 were observed to have dates that indicate storage for over a year. This is a violation of the land disposal restriction (LDR) storage prohibition per 40 CFR 268.50:

Number and Capacity of Waste Containers	**Wastecode(s)**	**LDR Effective Date(s)**
(9) 55-gal. Sump Sludge	K044/K045	8/8/90 (8/8/88 soft hammer)
(3) 55-gal. Spent Carbon	K045	8/8/90 (8/8/88 soft hammer)
(3) 55-gal. Wet Sumpage	K044	8/8/90 (8/8/88 soft hammer)
(1) 55-gal. Red Water filters	K047	8/8/90 (8/8/88 no land disposal)
(3) 1-gal. Electrostatic Soln.	F001	11/8/86
(1) 55-gal. Paint Thinner	F005/D001	11/8/86

Robert F. Webber
Environmental Engineer
Date: 12/5/90
Activity Number: ARF80

John W. Bosky
Chief, RCRA Monitoring Section
Date: 12-6-90

Attachments

1. KDHE Open Burning correspondence (7 pages)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

OCT 25 1990

MEMORANDUM

SUBJECT: Open Detonation of K044 and K045

FROM: Cynthia L. Hutchison, LDR Coordinator

TO: Sandy MacLeod, RCOM
Marc Rivas, RCOM
John Bosky, ENSV
Lynn Slugantz, IOWA

It has come to my attention that we may have several facilities, specifically Army ammunitions plants, in violation the Land Disposal Restrictions on disposal of K044 and K045. I have verified this interpretation with HQ Land Ban staff and th tell me that Region V has been prosecuting these cases. This K044 and K045 waste has specific methods of treatment for wastewater and non-wastewater forms that do not include open detonation. This requirement is final under the Third Third regulations, effective August 8, 1990. Contaminated soil and debris for these codes have a two year capacity extension until May 8, 1992. In the period between August 8, 1988 and May 8, 1990 this waste should have been managed as a soft hammer waste. It could have been land disposed in an MTR facility as long as the proper paperwork was done. Also, the interim status regulation, under 265.382, allowing open burning of waste explosives applies to materials that do not meet the K044 or K045 listing.

Please call me if you want to discuss this further (7478).

Copies sent TB SAAP De Soto
12/4/90 ~~KAAP~~ ~~Parsons~~
JSP

RECYCLE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

OCT 15 1990

CERTIFIED MAIL
Return Receipt Requested

Mr. H. O. Everitt
Chief, Engineering Division
Department of the Army
Huntsville Division, Corps of Engineers
P.O. Box 1600
Huntsville, Alabama 35807-4301

RE: Kansas Army Ammunition Plant
RFI Workplan Review Comments

Dear Mr. Everitt:

The August 1990 plan entitled "RCRA Facility Investigation (RFI) Work Plan, Kansas Army Ammunition Plant, Parsons, Kansas" has been reviewed for its compliance with the HSWA permit issued to the Kansas Army Ammunition Plant on November 7, 1989. The work plan does not meet the permit requirements of Permit Section VI, Condition 7. The deficiencies with respect to this permit condition are noted below.

General Comments

1. The plan does not state that all existing data will be assessed as required by the permit and 40 C.F.R. 264 Subpart F and 40 C.F.R. 270.14. The plan states in several sections that samples were previously obtained from some of the Solid Waste Management Units (SWMUs). The RFI report must include all available data from each of the identified SWMUs. The data analysis must be plotted, tabulated, and illustrated in a usable form which must be included in the plan.

   The groundwater elevation data collected to date also has not been included in the plan. All existing groundwater data must be tabulated, contoured, and presented in the RFI report. All trends in any of the data must be identified, plotted, and explained in the report.

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2. No discussion of previous spills, leaks, and releases known to have occurred at the facility was provided in the plan. These must be discussed and work must be proposed in the plan to assess the environmental impact of each of these.

3. The plan does not provide a methodology for determining the rate of contaminant migration. EPA recognizes that Phase I will not exactly define the extent of contamination at each SWMU. However, a discussion of the procedures used to determine and assess the data collected from existing wells and wells installed during Phase I must be included in the plan. The rate must also be determined before proposing additional work for Phase II.

4. The plan must specify that the Agency will be notified in advance of all sampling activities to allow EPA to plan oversight activities. The plan also must state that all final sample locations selected in the field will be approved by EPA or EPA's representative before sample collection.

Specific Comments

1. The number of samples shown on Figure 7-10B is not consistent with the number described in the text. Page 151

2. SWMU No. 64 (1100 Area Wastewater Treatment System) is not shown on the figures. It has been reported that Pink water had been discharged from the treatment building. At a minimum, surface water and sediment samples should be collected from the discharge ditches. Page 146

3. The number of samples shown on Figure 7-1B is not consistent with the number described in the text. Page 80

4. The three sediment samples proposed for the 2700 area burning pads do not appear adequate to characterize the large area (approximately 20 acres) and the potential for surface runoff in numerous directions. More samples should be collected in the obvious drainage ways. Page 156

5. The four monitoring wells proposed to encompass the 2700 area burning pads do not appear to be adequate to assess groundwater contamination in the area. At a minimum, one well should be placed immediately down gradient from each of the four inactive pads and one well should be constructed in an upgradient location. Page 156

6. The sampling depths proposed for the soil borings in the 100 Area Classification area will not adequately assess any possible surficial contamination. The plan states that it

is unknown whether or not hazardous wastes were disposed in this area. Therefore, the surface soils should be evaluated. It is recommended that the sampling intervals be changed in the soil borings to 0-2 ft., 4-6 ft., and at bedrock. It is understood that these intervals may not be possible if the area is occupied by a landfill. Page 162

7. The depth of the subsurface soil samples should be specified for the soil borings in the Group No. 13 closed landfill. Page 168

8. The locations of the groundwater monitoring wells located near the Group 15 landfill should be shown on Figure 7-15. Page 182

9. There is a discrepancy between the number of wells listed on pages 179 and 180 for the Group 15 landfill. The text should be corrected to reflect the proper number, either two or three. Page 179

10. Surface soil samples collected from the Group 15 Active landfill should also be tested for VOCs, SVOC, and explosives. Page 183

11. The locations of the monitoring wells in the vicinity of the Group 16 Closed landfill should be shown on Figure 7-16. Page 188

12. Groundwater samples should be collected from all three of the monitoring wells in the vicinity of the Group 16 Closed landfill. Page 186

13. The sampling locations proposed for the Group 17 Open detonation field are unacceptable. The sample locations have been placed on high ground surrounding the field and will probably not intercept the areas with the highest levels of contaminants. The surface soil and soil boring locations must be relocated into the obvious drainage ways in more downgradient locations.

    An evaluation of the surface topography indicates that the groundwater flow is apparently to the south and east. Therefore, the monitoring wells must be moved further to the south and east into downgradient locations. An alternative to moving the monitoring well locations would be to add a fifth well at the southeast corner of the area. Page 194

14. The subsurface soil samples collected from the vicinity of the STP sludge drying beds should be analyzed also for VOCs and SVOCs. Page 202

15. The plan should state that all container storage units will be thoroughly inspected for evidence of spills. Wipe sampling should be conducted in all apparent spill areas. Page 221

16. The Contaminated Waste Processor (CWP) has reportedly been constructed on top of a former open burning pad. It is therefore required that surface soil/sediment and subsurface soil samples be collected in the vicinity of the CWP. The sampling program should be similar to that proposed for the other burning pads in Section 7.11. Page 230

17. The number of surface soil samples listed in the text and on Table 7-24 is not consistent with the description of the samples presented in Section 7.24.4.1. The correct number of surface soil samples is seven, not four as stated. Page 243

18. The monitoring well locations are not shown on Figure A-1 of the Soil Boring and Monitoring Well Installation Plan. The locations must be added. App. IV

Quality Assurance Program Plan

The following comments address the deficiencies found in the quality assurance program plan.

1. When surface water and sediment samples are collected the sampling order should be from downstream to upstream to avoid cross-contamination of the downstream stations. When sampling different drainage areas, sampling should proceed from areas of least contamination and progress to areas of higher contamination as specified in section 2.1.2. At stations where water and sediment will be collected, there is less possibility for cross-contamination when the water sample is collected first and slightly downstream of the sediment to be sampled. Page I-4

2. The in-situ measurements that "will be performed as deemed necessary by the field hydrogeologist" should have a decision criteria to guide the field hydrogeologist. The criteria for determining whether these measurements are necessary must be a part of this plan. Page I-22

3. The details of the surface wipe sampling need to be included in the workplan. At a minimum, the following procedures need to be included: the size of the area to be sampled, the method for marking the area, and the solvent to be used on the gauze. Page I-23

4. The equipment documentation procedures should be included in each appropriate sampling section or Annex 1 should be included in this document. At present only the title page is attached. Page I-25

5. Section 3.1 refers to a Sampling/Analysis-QC/QA plan to be provided by the contractor. The cited plan is critical to the success of this investigation and must be provided to U.S. EPA for review before this workplan can be approved. Page I-27

6. An example of the sample tag should be included and the tag should include the specific analyte(s) for that container. This will allow the receiving laboratory to route and analyze the samples more efficiently. Page 277

7. Appendix V is referenced for a copy of the chain-of-custody form. This form is not found in Appendix V. Page 278

These comments have been prepared to facilitate the development of a final workplan. If you have any questions, please contact Mr. Gene Evans of my staff at (913) 551-7731.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
RCRA Branch
Waste Management Division

cc: John Ramsey, KDHE

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Stanley C. Grant, Ph.D., Secretary

(913) 296-15
FAX (913) 296-62

July 23, 1990

19000010

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Samuel E. Cantey, Jr.
Lieutenant Colonel
U.S. Army
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Attn: Mr. Frank Candelaria

Colonel Cantey:

By letter dated February 13, 1990, Kansas Army Ammunition Plant (KAAP) requested the Department to consider granting exemption from K.A.R. 28-19-45 Open Burning Prohibited. The requested exemption was for the open burning of nine categories of explosive hazardous waste. The categories are as follows:

1) Alcohol and Sawdust Residue from Dextrinated Lead Azide, Lead Styphnate, Special Purpose Lead Azide, and Tetracene.
2) Chemistry Laboratory Explosive Wastes
3) Explosives in Adsol Degreaser and Acetone
4) Comp A-5 Wet Sumpage
5) Cyclotol & Octol Wet Sumpage, Anthracite and Diatomaceous Earth
6) Comp B and TNT Wet Sumpage, Sump Sludge and Diatomaceous Earth
7) Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX and TNT Scrap
8) Absorbent Materials from Cleanup of TNT Wastewater Spills
9) M-10 and M-67 Propellant and Charges

By letter dated July 12, 1990 (copy attached) the Department provided KAAP a critique of each category in regard to open burning. The findings of the Department were that categories 4 through 9 (except for lead foil lined bags) would be considered acceptable to be open burned.

Therefore, based on the Department's findings and in accordance with the provisions of K.A.R. 28-19-47(c) Exemptions - Open Burning, it is considered by the Department that the public's interest will be served by granting this exemption to KAAP for the open burning of explosive hazardous waste, Category 4 through 9 (except for lead foil lined bags).

This exemption is valid through December 31, 1990. Any further open burning after that date without having requested exemption will be in violation of K.A.R. 28-19-45 Open Burning Prohibited. This exemption is revocable upon thirty (30) days notice at the Department's option.

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
James Power, P.E., Director of Environment (913) 296-1535
orne Phillips, Ph.D., ector of Information ms
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laborator

If there are further questions in regard to this matter please contact the undersigned.

Sincerely,

Donald A. Schuyler
Environmental Technician
Bureau of Air and Waste Management

clw:Cantey
OBL 90-15
c: J.P. Goetz, BAWM

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

July 19, 1990

Sec 12

Chief Engineer
(200-1a)

SUBJECT: Corrective Action for Solid Waste Management Units Quarterly Report

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JUL 24 1990
AIR AND WASTE
MANAGEMENT

RCRA Branch Chief
U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Gentlemen:

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/FE/PLM, dated July 17, 1990, subject as above, with quarterly report for period April 1, 1990, through June 30, 1990.

The point of contact is Frank Candelaria, telephone: 316-421-7588.

Sincerely,

ORIGINAL SIGNED BY

Daniel F. Uyesugi
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copy Furnished (w/encl):

KDHE, Air & Waste Mgmt Section

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State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Stanley C. Grant, Ph.D., Secretary

Respond to:
FAX (913) 296-6247

July 12, 1990

Samuel E. Cantey, Jr.
Lieutenant Colonel
U.S. Army
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Attn: Chief Engineer
(200-1a)
EPA I.D. #KS0213820467

Dear Colonel Cantey:

This letter is in response to your February 13, 1990 request for evaluation of your November 8, 1989 open burning exemption for explosive hazardous waste.

As noted in our December 19,1989 letter from Harish Agarwal, 40 CFR 265.382 prohibits the open burning of hazardous waste, except for the open burning and detonation of waste explosives. Waste explosives are defined as wastes which have the potential to detonate and bulk military propellants which cannot be disposed of through other modes of treatment.

Your February 13, 1990 correspondence outlines nine categories of waste for open burning. These categories are listed below along with our evaluation of each category.

CATEGORY 1

<u>Alcohol and Sawdust Residue from Dextrinated Lead Azide, Lead Styphnate, Special Purpose Lead Azide, and Tetracene.</u>

The lead based explosives are packed in cloth bags. The cloth bags are packed in an alcohol/sawdust mixture. Migration of the explosives into the alcohol/sawdust packaging is the basis for classification of this waste as explosive. Our understanding is that the generation rate of this waste is approximately two drums every two weeks.

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Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
James Power, P.E., Director of Environment (913) 296-1535
Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1619

The first issue is whether this waste is actually defined as a waste explosive which has the potential to detonate. You have made the assumption that since this waste was in contact with explosives it is also an explosive waste. We do not believe that contact with an explosive necessarily makes the alcohol/sawdust residue an explosive waste. You will have to submit data or information verifying this is actually an explosive waste with the potential to detonate before open burning could be allowed.

This waste may also contain significant quantities of lead. Therefore, KAAP must provide sufficient data to demonstrate that lead emissions will not pose an adverse impact on human health and the environment, if this waste is to be open burned. Four separate representative samples of the waste must be collected and analyzed for total lead content. Each sample must be collected from a separate drum. Once KAAP submits the lead content data to our office, it will be reviewed by our Air Quality and Hazardous Waste Sections. Open burning of this category of waste is prohibited until further notice and evaluation of the waste explosive and lead content data.

CATEGORY 2

Chemistry Laboratory Explosive Wastes

These wastes are generated from quality assurance testing. All of these wastes are placed in or contain liquids. The liquids are water, acetone, acetonitrile, chloroform, N,N-Dimethylformamide and methyl alcohol. Various toxic products of incomplete combustion (PIC) may result from open burning all of the above solvents (low temperature uncontrolled combustion), except for water. The recommended method of disposal for all of these solvents is incineration (see attached data sheets). The PIC emissions may pose an adverse impact on human health and the environment. Also no information has been submitted documenting this waste has the potential to detonate. Open burning of this category of waste, except for those containing water and explosives only, is prohibited.

CATEGORY 3

Explosives in Adsol Degreaser and Acetone

No information has been submitted documenting this waste has the potential to detonate. Also open burning of the wastes in this category have the same potential to generate PIC emissions as the chemistry laboratory explosive wastes. Open burning of this category of waste is prohibited.

CATEGORY 4

Comp A-5 Wet Sumpage

These wastes are primarily filter wastes generated from treatment of production line washdowns. The waste consists of a cheese cloth, dirt, small metal fragments, along with a significant amount of comp A-5 explosive. Open burning of this waste is not believed to cause an adverse impact on human health and the environment. Open burning of this category of waste, as described in your February 13, 1990 correspondence, is approved.

CATEGORY 5

Cyclotol and Octol Wet Sumpage, Anthracite, and Ditomaceous Earth

This category of waste consists primarily of Anthracite and Diatomaceous earth (filter media) contaminated with explosives. Open burning of this category of waste is not believed to cause an adverse impact on human health or the environment. Approval is granted to open burn this category of waste, as described in your February 13, 1990 correspondence.

CATEGORY 6

Comp B and TNT Wet Sumpage, Sump Sludge, and Diatomaceous Earth

This category of waste is similar to that in Item 5 above, except that the explosives are Comp B and TNT. Approval is granted to open burn this category of waste, as described in your February 13, 1990 correspondence.

CATEGORY 7

Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX and TNT Scrap

These wastes are generated from floor sweepings and vacuuming operations. The waste contains small metal parts, lint, dirt along with explosives. Open burning of these wastes is not believed to cause an adverse impact on human health or the environment. Approval is granted to open burn this category of waste, as described in your February 13, 1990 correspondence.

CATEGORY 8

Absorbent Materials from Cleanup of TNT Wastewater Spills

Open burning of this waste is not believed to cause an adverse impact on human health and the environment. Approval is granted to open burn this category of waste, as described in your February 13, 1990 correspondence.

CATEGORY 9

M-10 and M-67 Propellant and Charges

These wastes, except for the lead foil lined bags, meet the definition of explosive hazardous waste contained in 40 CFR 265.382. Approval is granted to open burn this category of waste, except for the lead foil lined bags, as described in your February 13, 1990 correspondence.

To summarize, open burning of the wastes in categories 1, 2 and 3 is prohibited. Open burning of category 1 may be approved at a later date, if sufficient data is submitted that demonstrates that open burning of this category of waste does not pose an adverse impact on human health and the environment and is an explosive waste. Approval is granted, effective immediately, to open burn the wastes described in categories 4, 5, 6, 7, 8 and 9.

On a related subject, please provide the rationale for why the wet sumpage wastes in categories 4, 5 and 6 are not classified as K044 hazardous waste, wastewater treatment sludges from the manufacturing and processing of explosives. Also provide a description of how the residues from all of the open burning activities are collected and managed. Please provide a response by August 15, 1990.

Also, please be aware that KAAP and the U.S. Army are encouraged to investigate alternative treatment technologies to replace open burning and open detonation (OB/OD) of waste explosives. The appropriateness of OB/OD technology for treatment of hazardous waste at your facility will be evaluated again when this department and EPA complete review of your OB/OD Part B permit application.

Your continued cooperation with the hazardous waste management program in Kansas is appreciated. If you have any questions about this letter, please contact me at (913) 296-1610.

Sincerely,

John S. Ramsey
Environmental Engineer
Hazardous Waste Section
Bureau of Air and Waste Management

sc/kaap.jsr
C Bill Towery
Don Schuyler
Wes Bartley

Parsons

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

JUN 27 1990

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. H. O. Everitt
Chief, Engineering Division
Department of the Army
Huntsville Division, Corps of Engineers
P.O. Box 1600
Huntsville, Alabama 35807-4301

ATT: CEHND-ED-PM

Dear Mr. Everitt:

The RCRA Facility Investigation (RFI) Work Plan prepared for the Kansas Army Ammunition Plant (KAAP) proposes to conduct the investigation in a phased approach. Phase I will apparently entail a limited sampling program at the 24 Solid Waste Management Unit (SWMU) Groups. The SWMUs in the 700 area are not addressed in the plan since the 700 area is undergoing a separate corrective action. The purpose of Phase I is to eliminate any non-problem areas from further consideration. Phase II will apparently be designed to assess the horizontal and vertical extent of hazardous constituent releases at contaminated areas identified in Phase I. The plan also states that a Phase III investigation may be performed to further refine the results of Phase II.

Given the size of the facility and the apparent magnitude of the contaminated areas, phased investigations appear to be a reasonable approach to assess the extent of contamination at the facility. In addition, several technical methods proposed in the plan do not follow recognized EPA guidelines. The following sections detail general and specific comments. The attached EPA RCRA Corrective Action Plan Checklist, which has been completed for the KAAP RFI Work Plan, also shows the major deficiencies of the plan. When reviewing the checklist, please note that an inadequate/incomplete section was entered as an "N" or no.

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Due to the phased nature of the proposed workplan and the very limited amount of sampling to be conducted during Phase I, the location of the samples, borings and monitoring wells is critical to assess the potentially contaminated area accurately. The plan must commit to providing EPA advance notice before all sampling activities to allow EPA to plan oversight activities. The plan must state that all sample locations will be approved by EPA or EPA's representative before collection.

General Comments

No sample locations other than monitoring well sites have been detailed in the plan. The text of the plan presents only general locations which are not sufficient to assess the representativeness of the sampling programs. EPA can not adequately assess proposed sample sites until all sampling locations have been plotted on a plan(s) of usable scale. The locations of surface water, soils and subsurface soils are to be on the first figure associated with each SWMU group. Those figures must be provided. Under the provisions of the permit, the work plan must be approved prior to initiation of sampling events. The approval of phase I will not be given until the exact locations have been provided and assessed by this agency.

The figures presented in the plan are not at a usable scale to show sample locations or detailed layouts of the SWMUs accurately. In addition, the majority of the figures do not contain a north arrow, scale, or legend to allow the reader to orient the figure. A map of the general facility at a minimum scale of 1 inch equals 1320 feet must be provided. The sample location figures should be at a minimum scale of 1 inch equals 200 feet.

The plan was not certified by a qualified geologist or geotechnical engineer as required by 40 C.F.R. 264 Subpart F. A certification page with appropriate signatures must be included in the plan.

The plan does not assess all existing data. The plan states in several sections that samples were previously obtained from some of the SWMUs. All existing data must be included and assessed. For example, we are aware of analytical data regarding hazardous constituent releases at the site of the explosive waste incinerator as well as at the open detonation area. The data to be assessed include, but are not limited to, soil chemistry, groundwater chemistry, headspace analysis, groundwater elevation, aquifer test data and bedrock elevations. During the analysis of the existing data, the data must be plotted, tabulated, and illustrated in a usable form which must be included in the plan. The groundwater elevation data collected to date also have not been included in the plan. All existing groundwater data must be

tabulated, contoured, and presented in the plan. All trends in any of the data must be identified, plotted, and explained. No discussion of previous spills, leaks, and releases known to have occurred at the facility was provided in the plan. These must be discussed and work must be proposed in the plan to assess each of these.

The plan does not adequately address data reporting. The reporting requirements specified in 40 C.F.R. 264 Subpart F and all data collected during the RFI and post-RFI period must be included and discussed in the plan. Specific details must be provided in the plan discussing how the data will be evaluated, presented, and reported to EPA. The frequency and contents of the reports must be included. Provisions for submitting all groundwater monitoring data in a form for groundwater modeling programs must also be included. An acceptable form would be on a computer diskette using "dBase III Plus".

The plan does not provide or describe a method for determining the rate and extent of contaminant migration. EPA recognizes that Phase I will not exactly define the extent of contamination at each SWMU. However, a discussion of how the rate will be determined and assessed based on data collected from existing wells and wells installed during Phase I must be included in the work plan. To the extent possible, the rate must also be determined before proposing additional work for Phase II.

The workplan must provide for evaluation of all stack emissions. This could be based on existing data and modeling or may require stack testing of units for which the data is not available.

Specific Comments

Section 1.6 should be modified to indicate that the facility will provide a health and environmental assessment and submit it to this agency for approval.

Figure 2-2 is not a topographic map as it is labeled. A topographic map at a usable scale must be provided in the plan.

The geologic column on Figure 2-4 does not show the uppermost rock units encountered at the facility as described in the text of the plan. The units described in the text must be shown on the figure.

The Bandera Shale described as the uppermost unit underlying the facility is not shown on the Surface Geology, Figure 2-5. The Bandera Shale unit must be identified on the figure.

The second and third sentences of the last paragraph of Section 2.3.1 on page 41 appear to be missing a few words. These sentences must be rewritten.

Section 3.0 describes the public water supply intake for the City of Parsons on the Neosho River, but does not describe its location. The plan must identify the location of the intake and whether the intake is upstream or downstream of the KAAP.

Sections 3.2.1 and 3.2.2 are insufficient to describe the potential receptors. The plan must provide the number of KAAP employees, the number of downstream receptors and their distance from the KAAP, the number of people living within one mile of KAAP and the number and location of drinking water wells within one mile of KAAP. The plan must also list the recreational uses of the surface water (e.g., swimming and wading) and the consumption of fish both on and off-site as potential receptors and exposure pathways.

Section 4.3 must list the approximate total number of potential receptors by each pathway.

Section 5.5 of the plan must state the criteria which will be used to determine the parameters for each sample location and environmental media to be sampled.

Section 8.0 lists the activities to be conducted during Phase I of the RFI. To be included on the list are:

1. soil gas surveys;

2. performance of air emissions analyses based on known hazardous constituent release as well as projection of analytical needs to define additional air sampling and analytical needs,

3. elevation surveys,

4. groundwater elevation surveys,

5. review of existing data,

6. geophysical surveys,

7. data interpretation and analyses; and

8. identification of contaminant trends.

Section 9.3 states that reports will be provided to the U.S. Army Corps of Engineers. The plan must also specify that four (4) copies of all final comprehensive (i.e., not the monthly reports) reports will also be submitted to the EPA and a copy to

the Kansas Department of Health and Environment (KDHE). A single copy of the monthly reports must be submitted to both agencies, however.

The last sentence on page I-4, Section 2.1.2 of the Quality Assurance Program Plan (QAPP), Appendix I, states that the bucket used to collect surface samples will be rinsed with distilled water between samples. This is not acceptable decontamination procedures. A section on decontamination procedures for all sampling equipment; e.g., drill equipment, bailers, backhoes, etc., must be developed in the plan and at a minimum provide for a soap wash and solvent rinse. Appropriate soaps and solvents must be selected based on the anticipated contaminants. All decontamination materials must be collected and managed in accordance with all appropriate regulations.

The QAPP does not specify the exact procedures for surface soil sampling and pond/lagoon sampling.

You are encouraged to use the EPA Manual "Preparing Perfect Project Plans" dated October 1989.

Section 2.1.3 of the QAPP mentions the collection of background samples, yet these are not described in detail anywhere in the plan. The plan must provide details for the collection of background samples for each sample media, the number used to represent background, the method used to determine similar soil horizons as noted at the subject area, the method used to determine if the area is indeed background and must provide the exact location for the samples.

The workplan must provide a rationale for the horizontal spacing of the soil gas sampling points specified in Appendix II. The dimensions of the study areas must be specified for each location.

Appendix V should include a rationale for the use of test pits at each specific location and the information that is to be gained from installing the units in a known disposal area. Section 2.0 of the Soil Boring and Monitoring Well Installation Plan (Appendix IV) states that locations of the wells and borings will be approved through the USACE prior to commencement of drilling activities. The plan must also commit to obtaining approval from EPA both for locations and depths before installing any monitoring wells or borings. Subsequent design and placement of Phase II monitoring wells, if necessary, will be contingent on the Phase I data. The texts "Handbook of Suggested Practices for the Design and Installation of Ground-Water Monitoring Wells" by Linda Aller, et.al., and the book "Technical Enforcement

Guidance Document" should be used for guidance for specifying the design and installing groundwater monitoring wells consistent with the requirements of this agency.

Section 6.9.2 of the Safety, Health, and Emergency Response Plan (SHERP, Appendix VI) states that no personnel decontamination procedures beyond normal sanitation are required. This is unacceptable. Personnel decontamination stations, including boot wash and equipment doffing areas, are required in each work area. Personnel decontamination procedures required for exiting the work zones must be detailed in the plan. All decontamination materials must be managed in accordance with all applicable regulations.

The geophysical survey is to use a device which emits electrical fields into the soil. Consideration should be given in the SHERP to precautions taken to ensure that electro-sensitive devices are not detonated as a result of use of a device such as this.

Comments regarding the "introduction" and "general installation information" of the work plan will be provided by Ms. Carolyn Smalley of Day and Zimmermann, Incorporated. Ms. Smalley is quite familiar with site conditions and would be able to provide more accurate input.

If you have any questions, please contact Mr. Eugene Evans at (913) 551-7731.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
RCRA Branch
Waste Management Division

cc: John Paul Goetz, KDHE

DEPARTMENT OF THE ARMY
HUNTSVILLE DIVISION, CORPS OF ENGINEERS
P.O. BOX 1600
HUNTSVILLE, ALABAMA 35807-4301

REPLY TO
ATTENTION OF

June 13, 1990

Project Management Branch

SUBJECT: Draft Final RCRA Facility Investigation (RFI) Work Plan and Community Relations Plan for Kansas Army Ammunition Plant, Parsons, Kansas - Contract Number DACA87-88-D-0079

Mr. Tom Gross
Department of Health & Environment
Waste Program and Inspection Bureau
of Air & Waste Management
Building 740, Forbes Field
Topeka, Kansas 66620

Dear Mr. Gross:

Reference the subject reports submitted to you on June 5, 1990.

Request your comments be provided to this office, ATTN: CEHND-ED-PM, no later than June 22, 1990.

If comments are not provided, the subject reports will be the final deliverables under this contract. If comments are received, the appropriate actions will be taken to incorporate revisions and submit the final documents no later than July 9, 1990.

Point of contact is Mr. Tim Smith at 205-722-1511.

Sincerely,

Vincent J. Grear

for H. O. Everitt
Chief, Engineering Division

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JUN 18 1990
AIR and WASTE
MANAGEMENT

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment

Stanley C. Grant, Ph.D., Secretary

Forbes Field, Bldg. 740, Topeka, KS 66620-0002

(913) 296-1535
FAX (913) 296-6247

May 31, 1990

Samuel E. Cantey
Lieutenant Colonel
U.S. Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Re: April 30, 1990 Correspondence
EPA I.D. #KS0213820467

Attn: Chief Engineer (200-1a)

Dear Colonel Cantey:

This letter is in response to your April 30, 1990 request to treat 1,234,093 M55 waste detonators that were received from Accudyne at your facility.

Our understanding is that these detonators were originally sold to Accudyne as products. Handling of the detonators by Accudyne caused the detonators to be unusable. Accudyne then shipped the unusable detonators to the KAAP facility. Accudyne did not mark the shipment as hazardous waste and did not use a uniform hazardous waste manifest.

Since the shipment from Accudyne was not marked as hazardous waste, the detonators were accepted by your facility. Since the detonators are a regulated hazardous waste, KAAP requested to treat the detonators at the open detonation grounds on site. Permission is granted from the hazardous waste section to dispose of the detonators at your facility as proposed. However, you should also contact Mr. Harish Agarwal in the Air Engineering section for their approval.

In addition, KAAP must submit a plan/procedure to our office for review and approval that outlines the procedures KAAP will take to ensure that future occurrences of this type do not happen. These procedures should address prevention of a company, such as Accudyne

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343
James Power, P.E., Director of Environment (913) 296-1535
Lorne Phillips, Ph.D., Director of Information Systems
Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory

or other army installations, from shipping hazardous waste to KAAP as well as in house procedures for identifying such a waste shipment when received. The plan/procedures should be submitted to our office by July 1, 1990. In addition to this plan we need the mailing address and the name of a contact person for Accudyne. We will be contacting Accudyne and the State of Oregon about this illegal shipment of hazardous waste.

If you have any questions about this letter, please contact me at (913) 296-1610. Your continued cooperation with the hazardous waste management program in Kansas is appreciated.

Sincerely,

John S. Ramsey

John S. Ramsey
Environmental Engineer
Hazardous Waste Section
Bureau of Air and Waste Management

sc/cantey.ltr

C Bill Towery
Wes Bartley

95

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

February 13, 1990

Chief Engineer
(200-1a)

SUBJECT: Opening Burning Exemption

Mr. John Ramsey
Kansas Department of Health & Environment
Forbes Field
Topeka, KS 66620-0001

Dear Mr. Ramsey:

Reference letter, Kansas Department of Health and Environment, December 19, 1989, regarding subject.

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/FE/VSO, dated February 7, 1990, subject as above, with enclosed additional information as requested.

The point of contact is Frank Candelaria, ext. 588.

Sincerely,

Samuel E. Cantey, Jr.
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Copy Furnished (w/encl):

KDHE/Don Schuyler

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FEB 21 1990

PARSON'S
TELEX
43-6408
TELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

February 7, 1990

FILE NO. EM-8502/FE/VSO

Administrative Contracting Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

Subject: Open Burning Exemption

Reference: Chief Engineer (200-1a) letter dated January 4, 1990; subject: Requested Exemption

It is requested that the enclosed Request for Open Burning Exemption for Explosive Hazardous Waste be submitted to the Air and Waste Management Section of the KDHE for consideration. The Request has been prepared in accordance with Kansas Air Regulation 28-19-47 (c).

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/SWK/cb

Enclosure
a/s

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FEB 21
AIR &

REQUEST FOR
OPEN BURNING EXEMPTION
FOR EXPLOSIVE HAZARDOUS WASTES

1. Name, address, and telephone number of the person responsible for open burning operations.

Owner: LTC Samuel E. Cantey, Jr.
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357
(316) 421-7446

Operator: Carl L. Wilson
Day & Zimmermann, Inc.
Kansas Division
Parsons, Kansas 67357
(316) 421-7473

2. Location and type of open burning operation involved.

All open burning operations will be conducted on Pad No. 5 of the Kansas Army Ammunition Plant's Open Burning Area to thermally treat explosive hazardous wastes with the potential to detonate.

3. Reason why the proposed operation is in the public interest and no alternative method if feasible.

With exception of the propellants, all of the following explosive hazardous wastes contain high explosives with the potential to detonate. The majority of the wastes, especially those that contain lead azide and lead styphnate explosives, are of such sensitivity that strict safety measures must be maintained at all times to ensure that the explosives remain damp or in liquid to prevent uncontrolled detonations from occurring. The propellants that are currently in storage at KAAP are in an ever descending state of affairs and will become a safety concern if stored until the condition of the propellant is allowed to further deteriorate. Only KAAP personnel that have been trained in proper management procedures, i.e. transportation, storage, and thermal treatment of explosives, are allowed to handle these wastes. In addition, KAAP has emergency response and disaster control plans that will be placed into effect in the event that an incident involving these items occurred on site. Open burning of these explosive wastes at KAAP, under strict control procedures, will be in the public's best interest. Each open burning operation will involve the use of four burning pans. No more than 150 pounds of waste such as wet sumpage or 70 gallons of waste such as

alcohol/sawdust residue will be open burned in each pan at one time. It is essential to keep the quantities of unstable explosives handled to a minimum. The effects of incidents involving large quantities of unstable explosives cannot be accurately predicted. Outshipments would involve several thousand pounds of explosive hazardous waste and increase the possibility of traffic accidents, fires, etc. which would have the potential to harm the public.

No alternative method of management for these wastes is feasible. KAAP's explosive waste incinerator is not capable of injecting liquid or semi-solid wastes into the rotary kiln. Outshipment of the explosive hazardous wastes is unfeasible due to instability of the explosives involved, lack of adequate treatment facilities operated by other Army installations or commercial vendors, and RCRA permit requirements at other Army installations.

4. **Description of the open burning operation including the estimated amount and nature of material to be burned each time; the proposed frequency, duration, and schedule of such burning; the size of the area to which the burning will be confined; and the method of igniting the material.**

KAAP requests an exemption to open burn, daily as weather conditions permit and quantities dictate, explosive hazardous wastes twice per day. All open burning operations will be conducted on weekdays only in eight elevated burning pans located on Pad No. 5 of KAAP's Burning Grounds Area. The burning pans measure approximately 4' x 4' x 1' and the pad measures approximately 100' x 300'. Pad No. 5 is located in the middle east portion of the installation, see enclosed drawing. Four of the pans will be utilized to burn waste in the morning and the remaining four pans will be utilized in the afternoon. Due to safety concerns regarding the wastes involved, at no time will all eight pans be used at the same time. In addition, hazardous waste inspections will be performed on each of the pans daily as they are utilized to ensure that no wastes are released during open burning operations. Copies of the inspection reports will be maintained in the Facilities Engineering Office for review.

As mandated by KAAP's Standing Operating Procedures (SOP) for open burning operations, no more than 150 pounds of waste such as wet sumpage or 70 gallons of waste such as alcohol/sawdust residue will be placed in each burning pan. The maximum quantity of wastes such as wet sumpage or alcohol/sawdust residue that will be burned each day will be 1,200 pounds or 560 gallons, respectively. Approximate burn times for KAAP's explosive hazardous wastes will range from

30 minutes to four hours which includes smoldering time. The majority of KAAP's explosive hazardous wastes will burn within 30 minutes of ignition.

To ignite and burn the wastes, the following procedures will be conducted. Two wooden pallets will be placed in the bottom of each burn pan and wooden dunnage placed around the edges of the pan. The waste to be open burned will be placed on top of the wooden pallets and excelsior placed over the waste. The excelsior is also used to form an ignition train to the ground adjacent to the pan. Wooden dunnage will be placed on top of the excelsior inside the pan. An electrical squib with a 4 ounce explosive charge will be inserted to the train of excelsior located on the ground. The squib will be connected to an electric wire attached to an ignition control box located approximately 500 yards from the burning pad. All personnel will be evacuated from the burning pad area and the burn initiated from the ignition control box.

Descriptions of the nature of the explosive hazardous waste that will be open burned are as follows:

- **Alcohol & Sawdust Residue from Dextrinated Lead Azide, Lead Styphnate, Special Purpose Lead Azide, and Tetracene** - Drums of bagged Dextrinated Lead Azide, Lead Styphnate, Special Purpose Lead Azide, and Tetracene are received on-plant packed in an alcohol/water mixture in sawdust. The purposes of the alcohol/water mixture and the sawdust are to keep the explosives in the bags wet at all times and to minimize movement of the explosives within the containers to prevent detonation of the explosives. After the bags of explosives have been removed from the drums, the alcohol/water mixture and sawdust residue is left in the drums. These explosives, especially lead azides, are highly sensitive (reactive) to static, friction, heat, etc. To prevent uncontrolled detonations, the explosives must remain in contact with the alcohol/water in sawdust mixture. There is a great possibility that the residue is contaminated with initiating explosives. Therefore, KAAP personnel handle the residue as initiating explosive hazardous waste with the potential to detonate.

- **Chemistry Laboratory Explosive Wastes** - KAAP's chemistry laboratory conducts quality assurance analyses on the explosives used by the installation. The waste explosives and waste explosives in solvents resulting from these analyses are handled as follows. Explosives that are fairly stable when dry such as M-10

Propellant, M-67 Propellant, and Comp A-5 are accumulated in no more than two pound quantities. RDX and TNT which are high explosives are placed in gallon containers containing water. Various analyses generate waste explosives in acetone, acetonitrile, chloroform, N, N - dimethylformamide, and methyl alcohol. These wastes are placed in gallon containers for explosive liquid wastes. The wastes are then managed by KAAP personnel as high explosive hazardous wastes which have the potential to detonate.

3 **Explosives in Adsol Degreaser and Acetone** - The 300, 700, 900, and 1100 Production Line facilities use Adsol Degreaser (100 percent petroleum naptha) to remove oil, grease, dirt, and explosives from metal tooling, parts, and machinery such as conveyor belts and lead machines. The used Adsol Degreaser is then placed in 55 gallon drums and identified as being high explosive hazardous waste with the potential to detonate.

The 300 and 1100 Production Line facilities use Acetone on an intermittent basis to clean explosive production machinery. The used Acetone is then placed in 55 gallon drums and identified and managed as being high explosive hazardous waste with the potential to detonate.

4 **Comp A-5 Wet Sumpage** - Wastewater that contains Comp A-5 explosive and is generated from washdown of the 300 Area Production Line facilities is transferred to collection sumps prior to being pumped to a holding tank for treatment through a diatomaceous earth filter and carbon columns. Wire baskets lined with cheesecloth are positioned on the influent side of the collection sumps to remove solids from the wastewater prior to its entry into the sumps. The solids removed from the wastewater are normally comprised of large particles of explosives, but may consist of small metal fragments from the brass cones that are a component part of the grenades produced on the 300 Line. The Wet Sumpage may also contain small amounts of lint and dirt from employees clothes and shoes. The typical appearance of the Comp A-5 Wet Sumpage is that of a wet (damp) grayish clay. The Comp A-5 Wet Sumpage and cheesecloth are removed from the wire baskets at least once a week, but may be removed more often depending on production schedules. The Comp A-5 Wet Sumpage is packaged and managed as high explosive hazardous waste with the potential to detonate.

Cyclotol and Octol Wet Sumpage, Anthracite, and Diatomaceous Earth - Wastewater that contains Cyclotol or Octol explosive is generated from building washdown and bomb body sumpout procedures conducted on the 1100 Area Production Line. The wastewater flows through a settling area to remove the larger solid particles of explosives. The solids collected in the settling area are designated as Wet Sumpage which has the normal appearance of reddish brown clay. The major component of Wet Sumpage is Cyclotol or Octol, but it may contain metal parts and lint/dirt from employees clothes/shoes generated during washdown of the facilities. The Wet Sumpage is removed from the settling area, packaged, and managed as high explosive hazardous wastes with the potential to detonate.

The wastewater then flows into sumps that contain anthracite in the bottom of the sumps. The wastewater gravity flows through the anthracite which is used for additional removal of explosive solids. When the explosive solids begin to accumulate on top of the anthracite, approximately three to five inches of the explosive solids and anthracite are removed, packaged, and managed as high explosives. The wastewater then enters a sump known as the clear well. Additional explosive solids (sump sludge) accumulate in the bottom of the clear well. When the sump sludge has accumulated to a depth dictated by safety, they are removed, packaged, and managed as high explosive hazardous waste with the potential to detonate.

The wastewater is pumped through a diatomaceous earth filter for further removal of solids and then through activated carbon columns for removal of the remaining Cyclotol or Octol in the wastewater. Expended diatomaceous earth which contains Cyclotol or Octol is packaged and managed as high explosive hazardous waste with the potential to detonate.

Comp B and TNT Wet Sumpage, Sump Sludge, and Diatomaceous Earth - Wastewater that contains Comp B or TNT explosive is generated from building washdown and bomb body sumpout procedures conducted on the 900 Area Production Line. The wastewater flows through a settling area to remove the larger solid particles of explosives. The solids collected in the settling area are designated as Wet Sumpage which has the normal appearance of reddish brown clay. The major component of Wet Sumpage is Comp B or TNT, but it may contain metal parts and lint/dirt from employees clothes/shoes generated during washdown of the facilities. The Wet

Sumpage is removed from the settling area, packaged, and managed as high explosive hazardous waste with the potential to detonate.

The wastewater then flows into sumps which are used for additional removal of explosive solids (sump sludge). When the sump sludge has accumulated to a depth dictated by safety, they are removed, packaged, and managed as high explosive hazardous waste with the potential to detonate.

The wastewater is pumped through a diatomaceous earth filter for further removal of solids and then through activated carbon columns for removal of the remaining Comp B or TNT in the wastewater. Expended diatomaceous earth which contains Comp B or TNT is packaged and managed as high explosive hazardous waste with the potential to detonate.

7. **Comp A-5, Comp B, Comp CH-6, Cyclotol, Octol, RDX, and TNT Scrap** - Scrap high explosives are generated from floor sweeping and vacuum operations conducted in the 300, 700, 900, and 1100 Production Line facilities. The main component of the floor sweepings is explosives, but they may also contain small metal parts such as lead cups and lint/dirt from employee's clothing/shoes. Small quantities of bulk waste high explosives are generated when the explosives are rejected for use due to quality analyses performed by the KAAP Chemistry Laboratory. When generated, floor sweepings, vacuum waste, and bulk explosives are packaged and managed as high explosive hazardous wastes with the potential to detonate.

4. **Absorbent Materials from Cleanup of TNT Wastewater Spills** - In the event of a spill of wastewater contaminated with TNT, hay and/or straw is used to soak up the spill. The used hay or straw is then placed in drums and managed as K047 hazardous waste.

9 **M-10 and M-67 Propellant and Charges** - Waste propellants and charges are generated when the propellants are rejected for use due to quality analyses performed by the KAAP Chemistry Laboratory or upon receipt of orders from the Department of the Army stipulating that the propellants be thermal treated. Waste M-10 Propellant and Charges are packaged and managed as propellant explosive hazardous wastes with the potential to detonate. The waste M-67 Propellant

Charges consist of seven bags attached together. The fifth bag is lined with lead foil; therefore, the fifth bag will be detached and opened to allow the propellant to be poured into a receptacle and managed as propellant explosive hazardous waste with the potential to detonate. The bag lined with lead foil will be placed in a separate receptacle and managed as hazardous waste until adequate EP Toxicity analyses can be performed.

5. **Sketch indicating the location of the open burning with respect to all public roadways and dwellings within 1,500 feet or less of the proposed operation, and the names and mailing addresses of all heads of households occupying such dwellings.**

A drawing annotated in red to reflect the location of KAAP's Open Burning Pad No. 5 is enclosed. The burning pad is located approximately 3,500 feet from the nearest boundary of KAAP. Therefore, no public roadways and/or dwellings are located with 1,500 feet of the proposed operation.

6. **Evidence that such open burning has been approved by any official fire control authority having jurisdiction over the area.**

KAAP's Fire Department has jurisdiction over all fire control operations conducted at the installation. The Fire Department is manned 24 hours per day every day of the year. The local Parsons Fire Department does not have jurisdiction over the installation and will not be allowed to fight explosive fires on the installation.

REPORT OF RCRA COMPLIANCE INSPECTION

AT

KANSAS ARMY AMMUNITION PLANT

PARSONS, KANSAS

EPA ID NUMBER: KS0213820467

FEBRUARY 13, 1990

By

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Waste Management Division (WSTM), a RCRA joint compliance evaluation inspection was performed with the KDHE at the Kansas Army Ammunition Plant, East Main Street, Parsons, Kansas, on February 13, 1990. The inspection was conducted under the authority of Section 3007 of the Resource Conservation and Recovery Act (RCRA), as amended. This report presents the results of the inspection.

PARTICIPANTS

Kansas Army Ammunition Plant (KAAP):
- LTC Samuel E. Cantey, Commanding Officer, U.S. Army
- Frank Candelaria, Environmental Coordinator
- Carolyn Smalley, Project Engineer, Day and Zimmerman, Inc.
- Victoria O'Brien, Environmental Engineering, Day and Zimmerman, Inc.
- Paul L. Milks, Environmental Group
- Carl Johnson, Foreman of Hazardous Waste

Kansas Department of Health and Environment (KDHE):
- William T. Towery, Environmental Technician, Southeast District
- John Ramsey, Environmental Engineer, Hazardous Waste Section, BWM

U.S. Environmental Protection Agency (EPA):
- Robert F. Webber, Environmental Engineer

INSPECTION PROCEDURES

Prior to arriving at the facility, I met with Mr. Ramsey and Mr. Towery who would be conducting the inspection to discuss inspection procedures. We then proceeded to the KAAP gate where we identified ourselves with our credentials and received facility passes. We proceeded to the main office building where we met with facility representatives of the Army and the contractor operator, Day and Zimmerman, Inc. Mr. Towery explained the purpose of the inspection and the procedures he would follow. The inspection consisted of a discussion of facility operations, waste generation and waste management practices, a visual inspection of the hazardous waste management areas and a review of hazardous waste management plans and records. At the conclusion of the inspection we met with LTC Cantey and his staff and Mr. Towery reviewed the inspection findings.

FACILITY DESCRIPTION

The KAAP was issued a permit for the storage and incineration of hazardous wastes on December 7, 1989. The permit is effective for five years and covers the storage of hazardous wastes in eighteen soil covered, above ground concrete vaults called igloos, as well as one magazine area at the facility. Storage capacity for the igloos is 206,720 gallons. For the one magazine the total storage capacity is 118,800 gallons. The permit also covers incineration of explosive hazardous wastes in an explosive waste incinerator (EWI).

The KAAP is a government owned (U.S. Army) contractor operated (Day and Zimmerman, Inc.) military installation. The current activities at the plant include loading, assembly and packaging munitions for military use. In addition to the assembly and packaging of detonators and charges for grenades, projectiles and other munitions, the KAAP operates a laboratory, maintenance areas, an explosives detonation area, an open burning area, and the EWI. The principal production areas or lines are known as the 300 area, the 700 area, the 900 area and 1100 area. The maintenance area is known as the 200 area. The munitions are stored in a series of igloos.

Wastestreams

There are a large number of hazardous wastes that are routinely generated at KAAP. These are summarized as follows:

Freon/Adsolv degreaser - This F001 waste is generated from the cleaning of detonators and lead cups at the 700 and 1100 lines at the 700 and 1100 lines. It is generated at the rate of 4000 lbs./month and is stored in drums at igloo 1914 for later shipment by the Defense Reutilization and Marketing Service (DRMS).

Explosive contaminated Freon/Adsolv degreaser - This F001/D003 waste is also generated from the 700 and 1100 lines, but is contaminated with explosives. It is generated at the rate of 700 lbs./month and is stored in drums at igloo 1914 for later shipment by DRMS.

Tetrachloroethylene - This F002 solvent is generated from the office duplicating equipment at the 101 Building. It is generated at the rate of 2 1/2 lbs./month and is stored in drums at igloo 1914 for later shipment by DRMS.

Explosive contaminated Acetone - This F003/D003 waste is generated at the 300 and 1100 lines. It is generated at the rate of 22 1/2 lbs./month and is stored in igloo 1717. KAAP is seeking permission to open burn this waste.

Spent Acetone/Paint/Ink thinners - This F003/D007/D008 waste is generated from stencil cleaning at the 300 and 1100 lines at the rate of 280 lbs./month. The waste is stored in igloo 1717 for later shipment by DRMS. A similar waste is generated from general plant operations at the rate of 96 lbs./month and is stored in igloo 1914.

Spent Toluene/Fuel oil - This F005 waste is generated from a laboratory area in Building No. 58 from testing fuel oil. It is generated at the rate of 20 lbs./month and stored for later shipment by DRMS. This waste is no longer burned in the boiler at the 300 line.

Laundry Sump Sludge - This D006/D007/D008 waste is generated at Building 112 at the rate of 764 lbs./month. The waste is stored for later shipment by DRMS.

Spent cartridge and bag filters - This D008 waste is generated at the wastewater treatment facility at the 700 line. This waste is generated at the rate of 87 lbs./month and is stored at igloo 1914 for later shipment by DRMS.

Ash residue from CWP and EWI - The D006/D008 ash and residue from both the Chemical Waste Processor (CWP) and Explosive Waste Incinerator (EWI) has been tested and found to consistently exceed EP toxicity levels for cadmium and lead. The waste is also considered D003 unless tested for reactivity. It is generated at the rate of 947 lbs./month and is stored in igloo 1813 until shipped off-site by DRMS. If found not to be nonhazardous it is landfilled.

Off-spec and rejected explosives - All varieties of off-specification munitions from the 300, 700, and 1100 lines as well as detonation and wet sumpage are stored separately by type in igloos prior to open detonation or thermal treatment in the EWI. Lead contaminated explosive waste (D003/D008) is generated at the rate of 130 lbs./month. Other explosive waste (D003) is generated at the 6740 lbs./month.

Spent lithium batteries - Spent lithium batteries (D002/D003) from computer equipment (PLC controller) at the 1100 line are generated on a non-regular basis at one pound at a time. These batteries are stored in igloo 1914 for later shipment by DRMS.

Explosive contaminated alcohol & sawdust - This D001/D003/D008 waste is generated at the 700 line at the rate of 2481 lbs./month. The waste is stored in igloo 1717.

Alcohol/Sawdust (nonlead) - This D001/D003 waste is also generated at the 700 line. It is generated at the rate of 61 lbs./month and stored in igloo 1717.

Spent Paint Thinner - This waste is generated from the 300, 700, and 1100 lines at the rate of 207 lbs./month. The spent paint thinner from the 700 line is classified as F005. The waste from the other two lines is classified as D001.

Wastewater Sludge - This K044/K046 waste is generated at the on-site wastewater treatment building for lines 300, 700, and 1100. It is generated at the rate of 207 lbs./month and stored prior to shipment by DRMS.

Spent Explosive Contaminated Carbon - This K045 waste is generated from the treatment of wastewater containing explosives at the 300 and 1100 lines. It is generated at the rate of 2737 lbs./month. It is stored in drums for later shipment by DRMS.

Spent Sulfuric Acid - This D002 waste is generated at the 700 line at the rate of 2500 - 3000 lbs./month. It is stored in drums prior to shipment by DRMS.

Adsorbents/Wastewater from TNT operations - This K047 waste is generated at the 900 and 1100 lines. In 1989, 1000 lbs. were generated and open burned.

Sump Sludge - This K044 waste is generated from the 900 and 1100 lines at the rate of 3000 lbs./month. It is currently being stored.

Silver Recovery Cartridges - This D011 waste is generated at the 900, 1000, and 1100 lines from x-ray processing operations. Approximately 200 lbs./month is generated and stored prior to shipment by DRMS.

Barium Nitrate - This D005 waste is generated at the 700 line at the rate of less than 100 lbs./month. It is stored in drums prior to shipment by DRMS.

Adsolv Degreaser - This D001 waste is generated at the 700 line at the rate of 1,000 lbs./month. It is stored in drums prior to shipment by DRMS.

Explosive Contaminate Adsolv Degreaser - This D001/D003 waste is generated at the 300, 700, and 1100 lines. It is also generated from Building 58. It is generated at the rate of 500 lbs./month and stored in drums prior to open burning.

FINDINGS AND OBSERVATIONS

Visual Inspection

A visual inspection was conducted of the following areas:

Igloo 1712 - Thirty 40-pound boxes and two 40-pound cans of K045 waste.

Igloo 1711 - Fifteen boxes of grenade rejects.

Igloo 1717 - Six 55-gallon drums and one 20-gallon overpack of spent sulfuric acid.

Igloo 1709 - Sixteen 20-pound containers of grenades (with lead in fuse, without powder.

Igloo 1705 - Empty for the last month. At time of inspection had water accumulation on floor from leak. Past storage of wet sumpage. Future storage for M67 propellant.

Magazine (1813) - Six hundred and fifty 55-gallon drums of spent carbon from 300, 1000, and 1100 lines. Fifty-seven drums of grenade carcasses. Sixty drums of ash residue from CWP and EWI.

Igloo 1914 - Three 55-gallon drums containing unknowns brought in on 3/9/89 which are awaiting test results for EP toxicity. Six drums of spent coolant used in metal cutting operations also awaiting test results for EP toxicity. One drum of spent cartridge and bag filters. Ten drums of assorted residues from open burning area. Two drums of toluene/fuel oil dirt mixture. Two drums of ash residue from CWP.

Igloo 1917 - Fifty-eight drums total. Mainly explosive contaminated solvents. Few drums of sump sludge. One problem noted at this location was that one drum of Sump sludge (K044) dated 10/17/88 did not have a ring bolt.

Igloo 1916 - Twenty-seven 55-gallon drums of ash residue from CWP. Twenty-three 5-gallon plastic cans of spent silver solutions. Five 1-gallon cans of F002 blankrola solvent. One 1-gallon can of D001 cleaning solvent.

Igloo 1915 - Eight boxes of K044/K046 sump sludge. Twenty-nine 30-pound boxes of spent K045 waste.

Igloo 1961 - Twenty-three fiber drums of M55 detonators. Twenty-seven

six feet tall bomb body sections with linear section charges.

Igloo 1976 - Two fiber drums of off-spec explosives. Ten 3'x2'x2' boxes (140 pounds each) of propellant explosives to be used for trial burn of EWI.

Igloo 1958 - Eleven 55-gallon drums of explosive contaminated alcohol & sawdust (D001/D003/D008).

Open Burning Ground - Explosive and ignitable wastes are burned in shallow pans and the residue is placed in drums. No wastes were observed in this area.

Explosive Waste Incinerator - This unit was not operating during the inspection.

Open detonation area - In this secured area waste explosives are buried in dirt piles and set off remotely. The resulting shrapnel waste is sent to a landfill. No wastes were observed at this area.

1100 Area

The production of combined effects munitions for the U.S. Air Force in this area resulted in the accumulation of several wastes. Single drums of waste being accumulated at this line during the inspection included:

Waste	**Building #**
Diatomaceous Earth (K044/K046)	1127
Stencil ink/thinner (D001)	1113
Paint thinner/acetone (F002/D001/D007/D008	1114
Stencil ink/thinner (D001)	1136
Adsolv degreaser w/ explosive (D003/F001)	1109
Paint thinner (D001)	1104
Kerosene Mixture (D001)	1103
Paint Related Material (D001)	1103

One problem was noted during the inspection was that the drum of Paint Related Material (D001) at Building 1103 had a small bung missing.

700 Area

The 700 Area is the site of lead azide packaging. Single drums of the following wastes were being accumulated at the time of the inspection:

- Ad Solv 744 (F001),
- Freon (F001),
- Paint Thinner (F005/D001).

A wastewater treatment system located at this line consists of floculation, filtering, pH neutralization, holding tank, and NPDES

Discharge. The treatment system generates D008 cartridge and bag filters, and K044/K046 wastewater sludges.

300 Area

Single drums of the following wastes were observed in this area:

- Ad Solv 744 (F001),
- Ink/Ink Solvent (F003/D001/D007/D008).

A closure plan for an underground storage tank which previously contained waste oil and minor amounts of toluene burned in Area 300 boilers is currently being reviewed by KDHE.

200 Area

This maintenance area had single drums of the following wastes:

- Paint Sludge/thinner (D001/D006/D008),
- Ad Solv 744 (F001).

Laundry Area - Building 112

This building generates laundry sump sludge (D006/D007/D008).

Review of Records and Plans

Following the visual inspection the hazardous waste plans and records were reviewed by Mr. Towery. Manifests, training records, inspection records, contingency plan, and waste analysis plan were reviewed. Two shipments occurred in 1989:

- one on 11/14/89 for a total of 183 drums to Tricil Corporation;
- one on 3/7/89 for a total of 38 drums to USPCI.

CONCLUSIONS

Mr. Towery identified the following deficiencies and areas of concern to KAAP management at the exit briefing:

1. Although not a violation, a few drums in igloo 1917 (eg. barrel # 663) were not labeled with EPA waste codes.

2. One drum of Sump sludge (K044) dated 10/17/88 stored in igloo 1917 did not have a ring bolt.

3. One drum of Paint Related Material (D001) at Building 1103 had a small bung missing.

4. The return copy of the manifest used for the 11/14/89 shipment of hazardous wastes (Manifest Document No. 89157) was not returned until 1/5/89, 52 days after the shipment. A Exception Report was not filed when the return manifest was not received within 45 days of the day of shipment.

Robert F. Webber
Environmental Engineer
Date: 3/12/90
Activity Number: ARF50

John W. Bosky
Chief, RCRA Monitoring Section
Date: 3/13/90

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment
Forbes Field, Bldg. 740, Topeka, KS 66620-0002

Stanley C. Grant, Ph.D., Secretary

(913) 296-153
FAX (913) 296-624

December 19, 1989

Lieutenant Colonel Samuel E. Cantey, Jr.
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Lt. Col. Cantey:

The Department is in receipt of your November 8, 1989 letter requesting exemption from K.A.R. 28-19-45, Open Burning Prohibited. The purpose of the requested exemption is for the conduct of open burning for the disposal of "explosive contaminated hazardous waste".

By KAAP document dated June 13, 1989, identified as EM-8502/EF/V20 and titled Open Burning Operations Kansas Army Ammunition Plant (KAAP) the definition of explosive contaminated hazardous waste is separated into two categories.

> "The first category includes explosive contaminated solvents generated from performing analyses at the plant's chemistry laboratory, acetone, alcohol/sawdust, Freon, Adsolv 744 (contains 1,1,1-Trichloroethane), and Adsol Degreaser. The Waste acetone, Freon, Adsolv 744, and Adsol Degreaser are generated from cleaning explosive machinery. Several of the explosives used at KAAP are received on plant packed in an alcohol/sawdust mixture. The waste alcohol/sawdust mixture is generated when the explosives are removed from the original containers".
>
> "The second type of hazardous waste open burned includes wet sumpage, anthracite, diatomaceous earth, sump sludge, and spent carbon generated from the treatment of explosive contaminated wastewater".

Upon review, it is the Department's determination that the request to open burn the aforementioned waste materials be denied. This denial is based upon the fact that the subject material is classified hazardous waste. 40 CFR 265.382 only allows open burning and detonation of waste explosives. Only if this waste can be shown to meet the explosive definition of reactivity under 40 CFR 261.23 would open burning be considered.

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343

James Power, P.E., Director of Environment (913) 296-1535

Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415

Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1619

If you have any questions, please contact the undersigned at (913) 296-1572 or Don Schuyler at (913) 296-1574.

Sincerely,

Harish S. Agarwal

Harish S. Agarwal, P.E., Chief
Engineering & Enforcement Section
Bureau of Air and
Waste Management

tam:Cantey
cc: J.P. Goetz

State of Kansas
Mike Hayden, Governor

Department of Health and Environment
Division of Environment

Stanley C. Grant, Ph.D., Secretary

Forbes Field, Bldg. 740, Topeka, KS 66620-0002

(913) 296-1535
FAX (913) 296-6247

November 7, 1989

Lieutenant Colonel Samuel J. Cantey
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9106

Certified Mail Number P 915 387 785

Re: Hazardous Waste Facility Permit
EPA I.D. Number KS0213820467

Dear Colonel Cantey:

This letter is to notify you that a final decision has been made to issue a hazardous waste treatment and storage permit to your facility located at Parsons, Kansas. Your copy of the permit is enclosed, along with a copy of the responsiveness summary which addresses those comments received during the public comment period.

As you are aware, Kansas received final authorization to implement all portions of the RCRA program, except for those portions covered by the 1984 Hazardous and Solid Waste Amendments (HSWA). Therefore, EPA's portion of this permit (Section VI) covers the HSWA requirements. As a result, this final decision is a joint decision made by both the U.S. Environmental Protection Agency (EPA) and the Kansas Department of Health and Environment (KDHE). The joint decision is based on the belief that the information submitted in your company's permit application is accurate and that the facility will be operated as specified in the application.

Charles Konigsberg, Jr., M.D., M.P.H., Director of Health (913) 296-1343

James Power, P.E., Director of Environment (913) 296-1535

Lorne Phillips, Ph.D., Director of Information Systems (913) 296-1415

Roger Carlson, Ph.D., Director of the Kansas Health and Environmental Laboratory (913) 296-1610

All applicable requirements of 40 CFR Parts 260 through 264, 270, and 124 must be complied with, whether or not the requirements are explicitly stated in the permit.

The permit will become effective on December 7, 1989, unless a review is requested under 40 CFR 124.19 or an evidentiary hearing is held (40 CFR 124.74). Also enclosed is a copy of 40 CFR 124.19 which contains the procedures for appealing RCRA permit decisions. The final permit decision may be appealed by anyone who filed written comments or who participated in the public hearing. An appeal must be filed within thirty (30) days of the final permit decision (by December 7, 1989).

If you have any questions, or require additional information please contact Mr. Lynn Harrington at EPA or Mr. John Paul Goetz at KDHE.

Sincerely yours,

John C. Irwin, Bureau Director
Bureau of Air and Waste Management

David A. Wagoner, Director
Waste Management Division
U.S. Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

AUG 0 9 1989

RECEIVED
BUREAU OF
AUG 1 1 1989
AIR AND WASTE
MANAGEMENT

Mr. John Paul Goetz
Chief, Hazardous Waste Section
Kansas Department of Health and Environment
Building 321, Forbes Field
Topeka, Kansas 66620

Re: Kansas Army Ammunition Plant
Completeness Review

Dear Mr. Goetz:

We have reviewed the Kansas Army Ammunition Plant revised Resource Conservation and Recovery Act (RCRA) Part B permit application. Our review has resulted in a determination that the permit is complete excluding reference to those units addressed by 40 CFR 264 Subpart X. Those units are addressed in a separate permit application.

Also this letter does not address closure of the explos waste incinerator. The closure plan is to be tailored after approved closure plan for the Lake City Army Ammunition Plant is to be available on August 11, 1989. After review and modification, if necessary, the closure plan will be public noticed concurrently with the permit application.

These activities are consistent with your June 30, 1989 letter. If you have any questions, please contact Mr. Eugene N Evans at (913) 236-2888.

Sincerely yours,

William C. Pedicord

Robert L. Morby
Chief, RCRA Branch
Waste Management Division

STATE OF KANSAS

DEPARTMENT OF HEALTH AND ENVIRONMENT
Forbes Field
Topeka, Kansas 66620-0001
Phone (913) 296-1500

Mike Hayden, *Governor*

Stanley C. Grant, Ph.D., *Secretary*
Gary K. Hulett, Ph.D., *Under Secretary*

July 6, 1989
Permit No. 19000010

Samuel E. Cantey, Jr.
Lieutenant Colonel, U.S. Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Lieutenant Colonel Cantey:

ON April 4, 1989 Kansas Army Ammunition Plant (KAAP) requested "Documentation of KDHE"S concurrence with KAAP's Open Burning Operations."

On May 30, 1989 KDHE staff conducted an evaluation of KAAP open burning facilities. At that time it was requested by KDHE that KAAP submit to KDHE written procedures for the conduct of open burning by KAAP. On June 23, 1989, KDHE received written documentation of the open burning procedures conducted by KAAP. The following procedures are as stated by KAAP:

> "KAAP open burns, daily as weather conditions permit, explosive contaminated hazardous wastes twice a day. The open burning operations are conducted in eight elevated pans which measure approximately 4' x 4' x 1' and are located on Pad 5 of the 2700 Area. Four of the pans are utilized to burn waste in the morning with the remaining four pans being utilized in the afternoon. The types of hazardous wastes open burned are separated into two categories. The first category includes explosive contaminated solvents generated from performing analyses at the plant's chemistry laboratory, acetone, alcohol/sawdust, Freon, Adsolv 744 (contains 1,1,1-Trichloroethane), and Adsol Degreaser. The waste acetone, Freon, Adsolv 744, and Adsol Degreaser are generated from cleaning explosive machinery. Several of the explosives used at KAAP are received on plant packed in an alcohol/sawdust mixture. The waste alcohol/sawdust mixture is generated when the explosives are removed from the original containers. The maximum quantity of explosive contaminated hazardous waste that is thermal treated during one burn is 280 gallons. The second type of hazardous waste open burned includes wet sumpage, anthracite, diatomaceous earth, sump sludge, and spent carbon generated from the treatment of explosive contaminated wastewater. Although these items are hazardous because of the reactivity factor, they cannot be open detonated due to the

possibility of incomplete detonation which would result in soil contamination. In addition, the items cannot be processed in the Explosive Waste Incinerator (EWI) because of liquid content and/or current five hazards experienced with bag houses at similar Explosive Waste Incinerators when processing items such as spent carbon."

It is the Department's consideration that burning of the aforementioned waste is necessary and in the public's interest. It is further considered that the method of burning is acceptable. Therefore, based on staff observation(s) and informative materials submitted to the Department and in accordance with the provisions of K.A.R. 28-19-47(C) Exemptions - Open Burning, the Department grants approval for open burning of materials as described.

This approval is valid until December 31, 1989. Any further open burning after that date without having requested exemption extension would be in violation of K.A.R. 28-19-45 Open Burning - Prohibited. This exemption is revocable upon thirty (30) days notice at the Department option.

If there are further questions in regard to this matter, please contact the undersigned.

Sincerely,

Donald A. Schuyler

Donald A. Schuyler
Environmental Technician
Bureau of Air & Waste Management

DAS/clw

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

June 28, 1989

Chief Engineer
(200-1a)

SUBJECT: Resource Conservation and Recovery Act (RCRA) Part B Permit Application

RECEIVED
BUREAU OF
JUN 29 1989
WASTE
MANAGEMENT

Mr. Joseph E. Galbraith
U.S. Environmental Protection Agency
726 Minnesota Avenue
Kansas City, KS 66101

Dear Mr. Galbraith:

It is requested that the Resource Conservation and Recovery Act (RCRA) Part B Permit Application submitted by the Kansas Army Ammunition Plant (KAAP) on January 25, 1985, be withdrawn and replaced with the enclosed RCRA Part B Permit Application dated June 1989.

The point of contact is Frank Candelaria, telephone: 316-421-7588.

Sincerely,

ORIGINAL SIGNED BY

Samuel E. Cantey, Jr.
Lieutenant Colonel, U.S. Army
Commanding Officer

Enclosure

Copy Furnished (w/encl):

KDHE/John Ramsey

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

CERTIFIED MAIL
Return Receipt Requested

JUN 0 8 1989

Samuel E. Cantey
Lieutenant Colonel, U.S. Army
Commanding Officer
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Re: Kansas Army Ammunition Plant
EPA ID No. KS0213820467
Corrective Action

Dear Colonel Cantey:

In preparation of the hazardous waste permit action for your facility, a RCRA Facility Assessment (RFA) was completed early this spring. As a result of the RFA and under the authority of the Hazardous and Solid Waste Amendments of 1984, we have drafted the corrective action portion of your facility's operating permit. The remainder of the permit will be drafted by the Kansas Department of Health and Environment (KDHE). As noted in our June 1, 1989 letter, issuing the permit is contingent on an acceptable permit application being received within the time frames negotiated during the February 2, 1989 meeting with Major Bobby Templin.

We are making the draft corrective action portion of the permit available to you for your review and comment in an attempt to expedite permit issuance. Please provide the comments as soon as possible but no later than 15 days from the receipt of this letter.

If you have questions or wish to arrange a meeting, please contact Mr. Eugene Evans at (913) 236-2888.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
RCRA Branch
Waste Management Division

cc: John Paul Goetz, KDHE
John Ramsey, KDHE
Michael Leggieri, AMC COM

RECEIVED
BUREAU OF
JUN 0 9 1989
WASTE
MANAGEMENT

HAZARDOUS AND SOLID WASTE AMENDMENTS (HSWA) PERMIT

CORRECTIVE ACTION FOR SOLID WASTE MANAGEMENT UNITS

1. SUMMARY OF RFA FINDINGS/RESULTS

Following is a list of the specific solid waste management units (SWMUs)identified as a result of the RFA and a brief synopsis of the RFA findings regarding those SWMUs.

a. Building 112 Sump and Oxidation Pond
b. Building 247 Paint Booth Sump
c. Oil Land Farm
d. Area 200 Oil and Grease Trap
e. Area 300 Sump and Trough System
f. Building 315 Hazardous Waste Accumulation Area
g. Building 321 Hazardous Waste Accumulation Area
h. Area 500 Sumps
i. Building 721 Hazardous Waste Accumulation Area
j. Area 800 Sump and Trough Systems
k. Area 900 Sumps and Trough Systems
l. Area 1000 Sumps and Trough Systems
m. Area 1100 Sump and Trough Systems
n. Area 1300 Former Dumping Grounds
o. Hazardous Waste Burning Pads #5 and #6
p. Hazardous Waste Flashing Pad, Demolition Grounds, Burning Cages and Former Hazardous Waste Burning Pads
q. Mercury Fulminate Burial Site
r. Former Open Ammunition Storage Area
s. Ditch/Oxidation and Evaporation Pond Systems
t. Sanitary Landfill Area #1
u. Fill Area and Former Demolition Landfill Area
v. The waste oil storage tank west of Building 314
w. The open burning/ open detonation areas
x. The waste water sludge drying basins
y. The area of the pink water tanks

The requirements specified at each waste management unit in the narrative above will serve only to identify the need for additional activities. The additional activities are specified below.

2. DEFINITIONS

For purposes of this permit, terms used herein shall have the same meaning as those in RCRA and 40 CFR Parts 124, 260, 261, 264,and 270, unless this permit specifically provides otherwise; where terms are not defined in the regulations, the permit or EPA guidances or publications, the meaning associated with such terms shall be defined by a standard dictionary reference of the generally accepted scientific or industrial meaning of the term.

DRAFT

State Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
25 FUNSTON ROAD
KANSAS CITY, KANSAS 66115

JUN 2 1989

RECEIVED
JUN 02 1989
USEPA, RCRA Branch

MEMORANDUM

SUBJECT: Transmittal of RCRA Compliance Overview Inspection

FROM: John W. Bosky
Acting Chief, RCRA Monitoring Section, EMCM/ENSV

TO: Robert L. Morby
Chief, RCRA/WSTM

This memorandum transmits the following compliance monitoring inspection report performed by the RCRA Monitoring Section, Environmental Monitoring and Compliance Branch, Environmental Services Division.

Facility	EPA ID Number	Activity No.	Areas of Non-Compliance
Kansas AAP Parsons, KS	KS0213820467	ADF23	Not Applicable

Attachments

RECEIVED
JUN 05 1989
RADM - SECTION

John Ramsey KDHE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

Certified Mail
Return Receipt Requested

JUN 01 1989

Samuel E. Cantey, Jr.
Lieutenant Colonel, U.S. Army
Commanding Officer
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Re: Kansas Army Ammunition Plant
EPA ID No KS0213820467
Part B Hazardous Waste Permit Application

Dear Colonel Cantey:

On May 5, 1989, we received your most recent Part B hazardous waste permit application which was prepared by EBASCO. This "updated" copy was supposed to be a near-final draft, as many of the deficiencies in the earlier drafts had been resolved during a February meeting with Mr. John Ramsey of the Kansas Department of Health and Environment (KDHE). The latest submittal appears to be a regression, however.

The schedule for permitting the incinerator and storage units at your facility, which was negotiated with the Army on February 2, 1989, did not, and does not now, have time periods for any additional iterations and preparation of responses. We trust that we will have your cooperation in submitting an acceptable Part B permit application in accordance with the previously negotiated schedule.

The following are general comments which identify the major deficiencies in the permit application.

1. The application does not include the information required in a Part A permit application as required by Title 40 Code of Federal Regulations (40 CFR) 270.14(b)(1).

2. The information and features on the topographic map specified in 40 CFR 270.14(b)(19) are missing, with the exception of the onsite land use information. The required information must be submitted.

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JUN 02 1989
WASTE
MANAGEMENT

3. The Figures in the B section are not included. Review of the information without the supporting documents is nearly impossible.

4. The map delineating the 100 year flood plain must be that specified in regulation or prepared in accordance with the specifications found at 40 CFR 270.14(b)(11). If the map cannot be that specified in regulation, a flood map prepared by a similar agency may be substituted if the source is identified and the map is accepted as a valid map by this agency.

5. There is reference to using a "test burn" to gather information regarding an unknown waste. This practice appears to be a rather hazardous procedure and depending on the waste involved could be a violation of the hazardous waste permit.

6. The Table C - 2, as well as the other tables in the waste analysis section, must be reviewed and amended so that it accurately reflects a comprehensive list of wastes managed at the EWI. It is our belief that Nitroguanidine has not been managed at this unit. A waste analysis plan and typical waste analysis must be supplied for the sludges described on C - 9.

7. The waste analysis plan should specify the precise protocol that will be required for each waste stream management practice. Wording that only implies certain actions will be initiated as a result of a certain condition is not acceptable.

8. The information found in Tables C - 3 appears to be inconsistent or incomplete. The tables must be amended to reflect only correct information.

9. Table C - 4 refers to EWI Gas Cooler A, Gas Cooler B, Baghouse A and Baghouse B. This would imply that there are dual units. There is no reference to bottom ash generated when the sludges listed earlier are processed. There is no reference to the ash generated from the cyclone. There is no indication of the wastes that were processed to generate the ash. The purpose of the Table must be determined and all appropriate information must be included.

10. The title of Table C - 5, "Hazardous Wastes Thermally Treated at Kansas Army Ammunition Plant", implies that the wastes listed in the table are thermally treated. However, the specified treatment method for several items does not provide for thermal treatment. The table should be corrected.

11. The reference to processing spent carbon at the Open Burning area would appear to be an illegal activity. Only explosives that qualify for the exemption found at 40 CFR 265.382 may be open burned. Other waste management practices should be

reviewed so that only legal activities are specified in the permit application. (Please note: recent discussions with AEHA staff indicated that it was their rule of thumb that a material would have to have a concentration of at least 10 percent explosive by weight to be considered an explosive.)

12. At the very end of Table C - 5, there is a reference to desensitized lead sludge having the EPA RCRA Code of K045. It would appear that the waste should have the EPA RCRA Code of K046. The application should be reviewed and a rationale for the correct designation should be provided.

13. On page C - 43, there is reference to disposing of reactive waste at a permitted hazardous waste disposal unit. It must be pointed out that reactive waste may not be land disposed in accordance with the provisions of 40 CFR 265.312. The application must be amended to reflect only legal disposal methods.

14. At the bottom of C - 45, there is reference to performing ignitability tests on explosive-containing solvents. The method of performing the ignitability test would appear to create a severe hazard. A discussion of the safety aspect when performing the test should be provided.

15. Under the heading "Frequency of Analyses" on page C - 49, the reference to ash residues being drummed does not appear consistent with waste handling information found elsewhere in the permit application. The exact waste management practice for the ash must be provided.

16. The Section "C" does not provide a rationale for parameter selection for all waste reportedly processed at the EWI. Also, there is no discussion addressing other wastes that are only stored.

17. Figure C - 1 does not provide for the management practices for wastes listed in 40 CFR 261 Subpart D. These wastes may be considered as non-hazardous waste only after the waste has been delisted in accordance with the provisions of 40 CFR 260.22 or found to be non-hazardous in accordance with the provisions of 40 CFR 261.3.

18. The request for the trial burn exemption found at 40 CFR 264.340 must be provided as soon as possible if the facility wishes to pursue the exemption. Major Bobby Templin had indicated earlier that the facility would not qualify for the exemption due to the nature of the waste burned. The wastes

that are incinerated should have already been analyzed in accordance with the provisions of 40 CFR 265.13. Hence, the documentation for the exemption and its submittal should not be delayed.

19. The process description of the incinerator should be provided using the thermal and mass balance calculations which were used to design the treatment unit. The description should also address submittal of information regarding all the features specified at 40 CFR 270.62. It will not be considered adequate to defer submittal of the equipment information until the new facility is actually functional. It is our understanding that the Tooele Army Ammunition Plant has the specified information.

20. The inspection sheet does not include all of the information that should be gathered in accordance with the provisions of 40 CFR 264.15(b). The inspection sheet and schedule must address all provisions of the regulation.

21. The monitoring schedule on page F - 4 does not include items to be inspected at the EWI. On page F - 7, the parameters that must be monitored continuously must include waste feed rate and combustion gas velocity, as well as other parameters the Regional Administrator/the Secretary deems appropriate. The information specified in 40 CFR 264.347 must be included in the Part B permit application.

22. On page F - 11, there is no indication of the adequacy of the emergency equipment and the water supply. The information must be supplied so as to document compliance with the regulations.

23. There does not appear to be a section directed toward satisfying the requirements of 40 CFR 264.37 in the preventive/preparedness section. The contingency plan of the permit application indicates that the section is supposed to be in the appendices which have not been supplied.

24. The procedures specified as existing in Appendix F and Appendix B of the application must be included in the permit application for review.

25. The discussion of run-off found on page F - 15 appears to outline a procedure for disposing of contaminated soil at the OB/OD area. There is no discussion of the procedure to be utilized to document that "...no explosive residue remain." The whole section on run-off should be reviewed to determine more appropriate procedures for managing run-off. (Please refer to comment "11" for additional discussion of this waste management practice.)

26. The section on power outage on Page F - 16 gives rise to concern that an auxiliary power supply may be necessary. The critical situation would exist when wastes are being fed and the incinerator would be out of service for an extended length of time. Untreated waste could remain on the feed conveyer and conceivably be heated to the explosive limit.

Also unexploded munitions could possibly remain in the kiln. Upon restart of the unit, waste would be processed through the equipment prior to its achieving its operating temperature. This is a violation of 40 CFR 264.345. Partially treated waste would appear to be a significant personnel hazard.

If the facility elects to provide auxiliary power, it would have to be adequate to provide for all of the critical power needs to prevent the hazards mentioned earlier. The requirement for the auxiliary power has yet to be determined. The facility may wish to develop and provide emergency procedures, exclusive of the auxiliary power feature, which would mitigate as much as possible any potential hazards during an emergency event. One such procedure mentioned by KAAP staff would involve bringing the after burner to operating temperature before the retort was activated.

27. The discussion of the equipment to be used to prevent undue exposure of personnel does not include enough information to determine its adequacy; e.g., quantity, location, etc. This information must be provided.

28. The "HWCP" is not included for review. Documents such as this must be included.

29. Technical comments regarding the Contingency Plan "items" in section G, page G - 8 include:

a. Care should be exercised such that all spill debris are managed in a manner such that contamination is not spread about the facility.

b. It is unclear what technology will be used to segregate hazardous waste from waste water in item "2".

c. There is no description of the water decontamination materials that will be used to re-establish the pre-incident quality of surface water.

d. The activity specified for flowing water must include the notification aspects of item "3". The remedial activities should be dependent on the characteristics of the material spilled.

e. Spills of gasoline or acid should not be rinsed with copious amounts of water except in certain incidences. Upon introduction to an enclosed area, a potentially explosive condition may develop. Neutralizing acid with 3% solution of soda ash appears to be adequate.

f. In the event of a spill of liquid pesticide, liquids are to be soaked up, collected and containerized. There is no provision made in the application for cleaning up contaminated soils.

g. There is no provision for using respiratory protection when sweeping up dusts.

h. The use of hydrated lime or sodium hypochlorite should not be designated as a treatment process for all pesticides. Indiscriminant use of these chemicals with certain pesticides may yield situations with rather severe consequences; e.g., chlorinating a previous unchlorinated compound.

i. The section G - 4g indicates a spill response that appears to be a trial-and-error reaction rather than a well thought out spill response.

30. The completeness of the contingency plan can not be determined until the appendices are provided. The completeness will be determined by comparing the submittal with the requirements found at 40 CFR 264 Subpart D. As it appears in the draft application, it is unacceptable.

31. The appendices in the training plan are also missing, thereby making evaluation of the document nearly impossible.

32. The training plan outline does not address the following aspects of the contingency plan:

a. procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment,

b. key parameters for automatic waste feed cut-off systems,

c. communications or alarm systems,

d. response to fires or explosions, and

e. shutdown operations.

33. The requirements of 40 CFR 264.16(b) as they apply to the need and timeliness of training are not addressed in the training plan.

34. For a facility to clean-close a unit, hazardous constituents at concentrations at or below background must be achieved. Alternatively, hazardous constituents at or below those concentrations determined to be safe utilizing a health basis may also be used. A discussion of these standards is found in the March 19, 1987 Federal Register as it applies to closure of a surface impoundment. Alternatively, Kansas Army Ammunition Plant may elect to propose that the facility will clean close by achieving residual levels below that specified by the agency at the time closure is effected.

35. The tables associated with the closure plan section are also missing. These must be provided.

36. The closure schedule does not contain the detail specified in 40 CFR 264.112(b)(6). This information must be included.

37. The closure plan does not contain the closure steps specified in 40 CFR 264.112(b)(4) and (5) or provisions for submittal of the specified information at the time closure is imminent. This information must be included.

38. The section on corrective action must be comprehensive for the entire facility. Although this may be repeated in subsequent permit applications, a comprehensive report regarding solid waste management units should appear in this application. A document such as the one prepared by the AEHA dated 10 - 18 August 1988 may suffice for this purpose.

39. The Part B application must include a specific section to address the comments of 40 CFR 264 Subpart E.

40. During a recent conversation with the AEHA, it was learned that the trial burn plan as it appears in the permit application will be replaced with one drafted by that agency. Consequently, no comments are offered regarding the plan.

41. Specific comments regarding the incinerator operation and trial burn plan, including the evaluation of the quality assurance/quality control procedures, will be provided under separate cover. Comments regarding the incinerator operation have been informally offered to the Tooele AAP staff earlier. It is our understanding that Tooele AAP will be preparing the section containing the technical discussion of the incinerator operation.

Comments regarding the trial burn plan will be provided when review of the document is complete. The comments are tentatively scheduled to be completed by June 5, 1989.

This agency offers these comments so that any subsequent application drafts will be appropriately modified. It is imperative that the next draft permit application be as complete as possible. Failure to address these comments in your next scheduled submittal will seriously jeopardize issuance of the permit by the statutory deadline of November 8, 1989, for permitting incinerators.

If we can be of assistance in your preparing the permit application or if you have questions, please contact Mr. John Ramsey (KDHE) at 913/296-1610, or Mr. Joe Galbraith or Mr. Eugene Evans (EPA) at 913/236-2888.

Sincerely yours,

Robert L. Morby
Chief, RCRA Branch
Waste Management Division

cc: Mr. John Ramsey, KDHE
Captain Legieri, AMC COM, Rock Island
Jerry Miller, Tooele Army Depot

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

APR 10 1989

Ms. Carolyn Smalley
Kansas Army Ammunition Plant
East Main
Parsons, Kansas 67357

Re: Kansas Army Ammunition Plant
EPA ID No. KS0213820467
RFA Draft

Dear Ms. Smalley:

Enclosed is a copy of the draft RCRA Facility Assessment (RFA) that was conducted by DPRA Incorporated. We request that the RFA be reviewed for accuracy. A meeting has been tentatively scheduled for April 17, 1989 to discuss any comments you may have regarding the RFA.

If you have any questions, please contact Mr. Gene Evans at 913/236-2888.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
RCRA Branch
Waste Management Division

Enclosure

cc: John Ramsey, KDHE

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John Ramsey
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

MAR 17 1989

John Darabaris, P.E.
Technical Director
A.T. Kearney, Inc.
Three Lagoon Drive
Redwood City, California 94065

Re: Kansas Army Ammunition Plant - RFA
EPA ID No. KS0213820467

Dear Mr. Darabaris:

We have reviewed the draft RCRA Facility Assessment (RFA) submitted under cover dated January 30, 1989. The following comments are offered in the order that the specific items appear in the document.

EXECUTIVE SUMMARY

PAGE

5-2 The second sentence should state "A drainage divide splits the plant along a northwest-southeast line..."

5-3 Also to be included on the list under the heading of Air Pathway is the explosive waste incinerator, the contaminated waste incinerator and the area 200 burning grounds. The permit exemption was for emissions regulated under the air quality program. The effect of the open burning/ open detonation activities will be evaluated during review of the Title 40 Code of Federal Regulations (CFR) 264 Subpart X. The permitting activities associated with receiving an incinerator permit will address the environmental impact of the Explosive Waste Incinerator. The RFA should be amended to specify that the release at the treatment, storage or disposal RCRA units may be addressed during permitting activities or as corrective action depending on the severity of the environmental release.

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8-11 The statement is made that there is high potential for soil and groundwater contamination as evidenced by stains on the concrete. The comment should be qualified to the extent that the previous statement would be true in the event that the stains were not rust stains.

8-12 All components of the Contaminated Waste Processor (CWP) should be listed as one Solid Waste Management Unit (SWMU). This comment also applies to the Explosive Waste Incinerator (EWI). At the bottom of page 8-12 the wording should be changed to reflect that the emissions are currently regulated by the air program of the Kansas Department of Health and Environment (KDHE). A statement that the trial burn associated with the RCRA permitting process for the EWI is designed to evaluate the emissions from this unit should be included also.

8-13 -15 This section should reflect that hazardous constituent releases from the open burning areas will be addressed under the permitting provisions as provided under 40 CFR 264 Subpart X.

The following comments are directed to other portions of the draft RFA.

3-4 The section (OB), should be amended to describe separately both past and present the exact waste management protocol at this unit. It appears that both current and anticipated protocol are blended in this entry.

3-6 The section entitled Explosive Waste Incinerator(EWI) states that in the past the ash from this unit was hazardous as a result of cadmium washers being introduced into the unit. The discussion of the unit does not indicate whether the waste was always shipped off, whether the washers are no longer introduced into the unit and whether any listed waste were ever introduced into the incinerator. Note Wastes having the hazardous waste code K046 was processed through the EWI as was indicated in the facility's Part A. This information must be provided.

3-6 Immediately below the opening paragraph for the EWI there is discussion of 40 CFR 264 Subpart X units followed by storage violations and later followed by a discussion of Line 700. The format should be such that the headings discuss the appropriate information.

3-6 There is no discussion of the reason for the apparent inconsistency in the NPDES numbering system. A discussion of this apparent error may yield additional hazardous constituent releases.

STATE OF KANSAS

DEPARTMENT OF HEALTH AND ENVIRONMENT
Forbes Field
Topeka, Kansas 66620-0001
Phone (913) 296-1500

Mike Hayden, *Governor*

Stanley C. Grant, Ph.D., *Secretary*
Gary K. Hulett, Ph.D., *Under Secretary*

February 15, 1989

Lieutenant Colonel Samuel Cantey
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9106

Attn: Carolyn Smalley, Day and Zimmerman

Dear Commander Cantey:

Please find enclosed an outline for our planned site visit on February 27, 1989 to address the Department's concerns with the hazardous waste facility permit for your facility.

Please note that the February 27, 1989 site visit will concentrate on the hazardous waste storage section of your application. A site visit is also planned for March 13, 1989. The March 13, 1989 site visit will be used to review the open burning/open detonation section of the application. At a later date, a site visit will be scheduled to review the explosive waste incinerator (EWI) section of the application.

To be able to meet the November 8, 1989 deadline for the EWI, a complete permit application for your entire facility must be submitted by June 30, 1989. The current schedule calls for preparation of a draft permit and public notice by September 1989 and a final permit issued on or before the November 1989 deadline.

If you have any questions, or wish additional information, please call me at (913) 296-1610. Your cooperation with the Hazardous Waste Management Program in Kansas is appreciated.

Sincerely yours,

John S. Ramsey
Environmental Engineer
Hazardous Waste Section
Bureau of Waste Management
sc/cantey.jsr
Enclosure
C Bill Towery w/enclosure
Wes Bartley w/enclosure
Joe Galbraith w/enclosure

REPORT OF RCRA COMPLIANCE OVERVIEW INSPECTION

AT

KANSAS ARMY AMMUNITION PLANT

PARSONS, KANSAS

EPA I.D. NUMBER: KS0213820467

NOVEMBER 15-16, 1988

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Waste Management Division (WSTM), a RCRA overview compliance evaluation inspection was conducted at the Kansas Army Ammunition Plant, East Main Street, Parson, Kansas on November 15-16, 1988. The inspection was conducted under the authority of Section 3007 of the Resource Conservation and Recovery Act (RCRA), as amended. This narrative report and attachments present the results of the inspection.

PARTICIPANTS

Kansas Army Ammunition Plant (KAAP):
LTC Sam Cantey, U.S. Army
Don Dailey, Engineer, U.S. Army
Victoria O'Brien, Environmental Engineering, Day and Zimmerman, Inc.
Carl Wilson, Plant Manager, Day and Zimmerman, Inc.

Kansas Department of Health and Environment (KDHE):
William T. Towery, Environmental Technician, Southeast District
John S. Ramsey, Environmental Engineer, Hazardous Waste Section, BWM

U.S. Environmental Protection Agency (EPA):
Robert B. Dona, Supervisory Environmental Engineer
Robert F. Webber, Environmental Engineer

INSPECTION PROCEDURES

Prior to arriving at the facility, Mr. Webber and I met with Mr. Ramsey and Mr. Towery who would be conducting the inspection to discuss inspection procedures. The KDHE and EPA inspectors then proceeded to the KAAP gate where we identified ourselves with our credentials and received facility passes. We proceeded to the main

office building where we met with facility representatives of the Army and the contractor operator, Day and Zimmerman, Inc. Mr. Towery explained the purpose of the inspection and the procedures he would follow. The inspection consisted of a discussion of facility operations, waste generation and waste management practices, a visual inspection of the hazardous waste management areas and a review of hazardous waste management plans and records. At the conclusion of the inspection we again met with LTC Cantey and his staff and Mr. Towery reviewed the inspection findings.

FACILITY DESCRIPTION

The Kansas Army Ammunition Plant is a government owned (U.S. Army), contractor operated (Day and Zimmerman, Inc.) military installation. The current activities at the plant include loading, assembly and packaging munitions for military use. In addition, to the assembly and loading of detonators and charges for grenades, projectiles and other munitions, the KAAP operates a laboratory, maintenance areas, an explosives detonation area, an open burning area and an explosives waste incinerator (EWI). The principal production areas or lines are known as the 300 area, the 700 area, the 900 area and 1100 area. The maintenance area is known as the 200 area. The munitions are stored in a series of soil covered, above ground concrete vaults called igloos.

There are a large number of hazardous wastes that are routinely generated at KAAP. These are summarized as follows:

Waste Paint Thinner - This waste solvent is classified as D001 hazardous waste and is generated at a rate of 1100 kg/yr from the production areas. Past practice has been for the Defense Reutilization and Marketing Office (DRMO) to ship the waste paint thinner off-site for recycling. None has been shipped since the last EPA inspection and the waste is being stored in igloo 1914.

Tetrazine Contaminated Alcohol/Sawdust - This waste explosive is generated at a rate of 300 kg/yr from the 700 line. It is stored in 55-gallon drums before being burned in the explosives burning area.

Toxic Waste Paint Thinner - The 200 area generates waste paint thinner that is classified D001/D007/D008. It is stored in drums in igloo 1914 until DRMO sends it to a recycler to reclaim the solvent.

Lead Azide Contaminated Alcohol/Sawdust - The 700 line generated 13,500 kg in 1987. It is stored prior to burning.

Spent Acetone - The spent acetone is generated from stencil cleaning in the 300 and 1100 lines at a rate of 1529 kg/yr.

Fuel Oil/Toluene - The laboratory in building 58 generates a fuel oil/toluene mixture from testing the fuel oil. 109 kg were generated in 1987 and burned in a boiler.

Lithium Batteries - Spent lithium batteries from computer equipment at the 1100 line were generated at a rate of 5 kg/yr in 1987. They have been disposed of by DRMO.

Off-Specification Explosives - All varieties of off-specification munitions from all production areas as well as detonation and wet sumpage are stored separately by type in igloos prior to disposal by open detonation or burning in the EWI. The lead contaminated off-specification detonators from the 300 and 700 areas are disposed of by open detonation.

Halogenated Solvents - The Adsol 744 halogenated solvent is classified as D003/F001 hazardous waste and is generated from all four production lines where it is contaminated with explosives and from the maintenance area. It is accumulated in 55-gallon drums in igloo 1717 before disposal by open burning.

Explosive Contaminated Acetone - This spent F003 solvent is likely to be generated from any line but most is generated from the 300 and 700 lines by cleaning equipment. It is stored in igloo 1717 then disposed of by open burning.

EWI Ash/Residue - The ash and residue from the EWI and also from the contaminated waste processor have consistently exceeded E P Toxicity criteria and are classified D006/D008 hazardous waste. It is stored in drums in igloos until disposed of by DRMO.

Cartridge/Bag Filters - This lead contaminated hazardous waste from the 700 line in stored in 55 gallon drums in 18 igloos and one magazine. None has been shipped off-site.

Freon - This F001 waste is generated from the cleaning of detonators and lead cups at the 700 and 1100 lines. It is stored in igloo 1914 until disposed by DRMO.

Tetrachloroethylene - This F001 spent solvent is generated from the office duplication equipment.

700 Area Sump Sludge - In the 700 area are 16 locations where sumps generate K044 and K046 sludge that may be contaminated with lead. Although pumps at each sump will transfer the sludge and wastewater to the wastewater treatment plant, eventually some sludge in the corners and other dead spaces in the sumps will have to be cleaned out.

Spent Carbon - This waste is classified as K045 and was generated at a rate of 14,900 kg/yr in 1987 from the 300, 900 and 1100 lines. It is stored in 55-gallon drums and disposed of by DRMO.

Laundry Sump Sludge - This waste from building 112 has been classified as D006/D007/D008 hazardous waste and is generated at a rate of 4,000 kg/yr. The related wastewater goes to a NPDES permitted discharge. The sludge is stored in 55-gallon drums until disposed of by DRMO.

Non-routine wastes may be generated by KAAP. Out of date hexachlorophene and formaldehyde was generated in 1987 and disposed of through DRMO. Sump treatment of wastewater from TNT operation in the 900 and 1100 areas is regulated under the NPDES permit so that no K047 waste to generated unless there is a spill. Spilled material will cleaned up as a RCRA hazardous waste.

FINDINGS AND OBSERVATIONS

A visual inspection was conducted of the following areas:

700 Area - Only two wastes were found in satellite accumulation, one drum of Freon located outside the building under an active roof drain and waste paint thinner in a storage shed. There appeared to be no regular inspection of the satellite accumulation areas. At the wastewater treatment plant, Ms. O'Brien stated that when the sludge is cleaned out, about 20 drums of K046 waste are generated and they would be moved to storage within three days.

300 Area - One drum of waste acetone was observed in satellite accumulation at building 321. In building 327 the inspectors found one drum of spent carbon, K045, that was covered by an unfastened top. The stencil waste in this area is classified as D001/D007/D008/F003 due to the heavy metals from the inks that have contaminated the acetone.

200 Area - Two drums were observed at building 210, one of Adsol 744 labeled F001 and one of paint waste classified as D001/D007/D008. Also observed was a plastic pail containing an unknown liquid.

1100 Area - The production of combined effects munitions for the U.S. Air Force in this area resulted in the accumulation of several wastes. One drum of paint waste without solvent was classified D001 at building 1104. There was also a drum of Adsol 744 contaminated with explosives, a drum of acetone that appeared to be empty but was marked with an accumulation start date, four drums of spent carbon K045 waste with an accumulation start date of 11/15/88 and one drum of diatomaceous earth with an accumulation start date of 10/25/88. When Mr. Towery questioned the start date on the drum of diatomaceous earth, KAAP representatives concluded it was incorrect as the drum had just been filled and they had the date corrected.

Explosives Detonation Area - In this area explosives are buried in dirt piles and set off remotely. The resulting shrapnel waste is sent to a landfill. No wastes were observed at this area.

Open Burning Ground - Explosive and ignitable wastes are burned in shallow pans and the residue is placed in drums. One drum with a label dated 12/87 was observed at this site.

Explosive Waste Incineration - This unit was not operating during our inspection, but is scheduled for daily inspection during operation. We observed one open drum labeled D003 that was on-third full located under the end of the conveyer. Three more drums that were located at the air emissions control were labeled D006/D008.

Building 58 - The chemistry laboratory, explosive laboratory and gage laboratory were toured. In addition to the toluene and waste fuel oil from the chemistry lab and the Adsol 744 from the gage lab previously noted, a chromic acid cleaning solution is generated and is discharged to the wastewater treatment plant with other lab wastewaters.

Storage Areas - Igloos 1914 and 1705 were inspected. Igloo 1914 contained mostly K044/K046 sump sludge, including four overpack drums. There were also 21 drums of spent freon dated 2/9/87 and 2/10/87. Igloo 1705 contained D003 wet sumpage in cardboard boxes with inner liners of plastic. Those boxes showing leakage or deterioration have been placed in plastic bags. The igloo contained approximately 1200 boxes on 40 pallets. Three outside plastic bags had brownish liquid outside the cardboard box and two other outside plastic bags were torn. The inspectors did not see evidence of leaking wastes on the pallets or floor.

Following the visual inspections the hazardous waste plans and records were reviewed by Mr. Towery. A review of manifest revealed that the last off-site shipment occurred on 11/24/87, prior to the previous EPA inspection. Mr. Towery also reviewed weekly inspection reports, personnel training requirements, preparedness and prevention requirements and the contingency plan. The review of the weekly inspection reports showed that no leaking boxes in igloo 1705 were noted on 11/1/88. When deficiencies were noted, the weekly reports did not contain any remarks on repairs or remedial action, for example, the detonation ground fence being in need of repair. The review of training records revealed that Ms. O'Brien is the trainer of other staff but this was not documented in the computer records.

CONCLUSIONS

Mr. Towery identified the following deficiency and areas of concern to KAAP management at the exit briefing:

1. 300 Area - Open container
2. 700 Area - Freon container under the roof drain without benefit of a drum cover.
3. 200 Area - Plastic pail of unknown liquid.
4. 1100 Area - Two barrels without dates on labels.
5. EWI - One open barrel.

6. Igloo 1705 - Three boxes were observed to be leaking into outside plastic containers.
7. Open Burning Ground - A drum being filled for over one year.
8. Building 1136 - Acetone waste drum labeled, but empty.
9. Sludge in the oxidation pond of the wastewater treatment maybe hazardous and should be tested since the sump sludge was found to exceed E P Toxicity criteria for lead and chromium.

Robert B Dona

Robert B. Dona
Environmental Engineer
Date: 6-1-89
Activity Number: ADF23

John W. Bosky

John W. Bosky
Acting Chief, RCRA Monitoring Section
Date: 6/1/89

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

CERTIFIED MAIL
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MANAGEMENT

Lieutenant Colonel Samuel E. Cantey, Jr.
Commanding Officer
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Colonel Cantey:

The U.S. Environmental Protection Agency (EPA) will be conducting a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) of the Kansas Army Ammunition Plant (KAAP). The EPA will use the results of this work to determine the applicability of Section 3004(u) of the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. §6924(u), to any RCRA permit issued to KAAP.

The EPA has contracted with A.T. Kearney, Inc., Denver, Colorado, (Contract No. 68-01-7038) to conduct the RFA. DPRA, St. Paul, Minnesota, is the subcontractor to A.T. Kearney. DPRA is the authorized representative of EPA who will require access to information concerning KAAP's solid waste management practices.

This letter is to notify KAAP that EPA intends to give DPRA access to information required to proceed with this work. This information will concern KAAP's past and present solid waste management practices. Some of this information has been claimed by KAAP to be confidential business information. However, EPA may disclose confidential information to a contractor or subcontractor under authority of 42 U.S.C. §6927(b) and EPA regulations (40 CFR 2.305(h)) when the contractor or subcontractor is carrying out duties for EPA under RCRA. Contractors or subcontractors who receive confidential information are subject to the provisions of 42 U.S.C. §6927(b)(2). With regard to such information, EPA's regulations require the contract or subcontract to state that the contractor or subcontractor not disclose confidential information to anyone other than EPA without prior written approval of the affected business or appropriate EPA legal office. In addition, each contractor or subcontractor employee that will have access to RCRA confidential business information is required to sign a separate RCRA Contractor's Employee Confidentiality Agreement.

The regulation at 40 CFR 2.305(h)(2)(ii)(c) requires the contractor or subcontractor who will have access to confidential business information to acknowledge and agree that the contract or subcontract provision concerning the use and disclosure of business information are included for the benefit of, and shall be enforceable by, both EPA and any affected party having an interest in information concerning it supplied to the contractor or subcontractor.

The information we propose to release to DPRA, for which a claim of confidentiality has been made, is the March 29, 1985, Solid Waste Management Unit Questionnaire Response. This letter constitutes the notice required by 40 CFR 2.305(h)(2)(iii). You are hereby provided five (5) working days from the date of receipt of this letter to submit comments, if any, regarding the contemplated disclosures.

If you have comments or questions, please contact Mr. John J. Smith of my staff at (913) 236-2888.

Sincerely yours,

Michael J. Sanderson
Chief, RCRA Branch
Waste Management Division

cc: John Ramsey, KDHE
John Darabaris, A.T. Kearney
Bill Rohrer, DPRA

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

November 2, 1988

REPLY TO
ATTENTION OF

Chief Engineer
(200-1a)

SUBJECT: Part B Permit Application for Open Burning/
Open Detonation

RECEIVED
BUREAU OF
NOV 4 1988
WASTE
MANAGEMENT

U.S. Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, KS 66101

Gentlemen:

Enclosed is a copy of the Kansas Army Ammunition Plant Part B Permit Applications for Open Burning/ Open Detonation.

Please provide notification upon receipt of these documents to: Commander
Kansas Army Ammunition Plant
ATTN: SMCKA-CE/Frank Candelaria
Parsons, KS 67357-9107

The point of contact is Frank Candelaria, Environmental Coordinator, telephone: 316-421-7588.

Sincerely,

ORIGINAL SIGNED BY

Donald D. Dailey
Chief Engineer

Enclosure

Copy Furnished (w/encl):

KDHE

THESE DOCUMENTS ARE IN MY OFFICE AREA (JOHN RAMSEY 11/4/88)

State of Kansas
DEPARTMENT OF HEALTH AND ENVIRONMENT
Bureau of Water Protection

M E M O R A N D U M

RECEIVED
BUREAU OF
OCT 15 1987
WASTE
MANAGEMENT

TO: John Ramsey, BWM

FROM: Marian Massoth MM

DATE: October 13, 1987

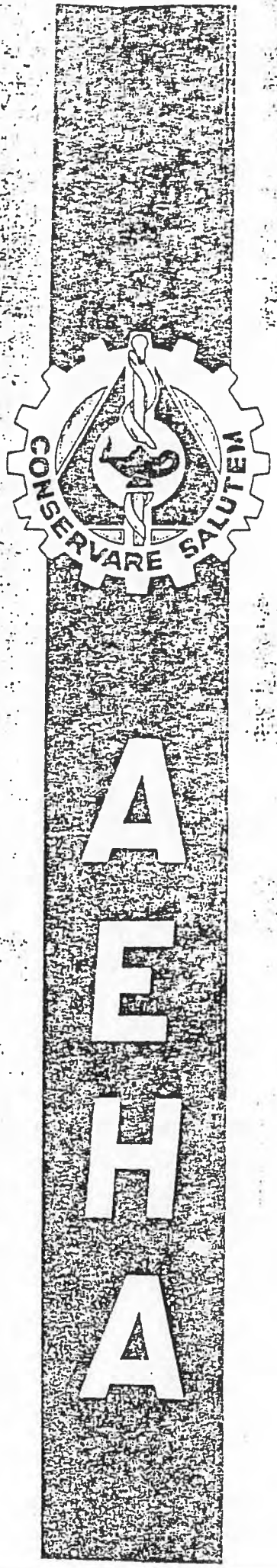
SUBJECT: Kansas Army Ammunition Plant - Parson, Kansas Groundwater Potential Contamination Survey No. 38-26-0562-86

Pursuant to our phone conversation on October 12, 1987, I am sending you a copy of the above referenced report. It was received by the Bureau of Remediation on September 15, 1987 in response to our request for the locations of the proposed groundwater monitoring wells.

Since the current burning grounds and demolition area were considered an area of potential groundwater contamination, three monitoring wells are proposed for this site. This report is being sent to your for your information and follow up because the EP Toxicity analysis for lead on the soil and residue in the area exceeded the RCRA hazardous waste criteria (see item No. 4 on page 8).

Please contact me if you have any questions.

bd
Enclosure



UNITED STATES ARMY ENVIRONMENTAL HYGIENE AGENCY

ABERDEEN PROVING GROUND, MD 21010-5422

GROUND-WATER POTENTIAL CONTAMINATION SURVEY NO. 38-26-0562-86
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS
16-20 SEPTEMBER 1985

Distribution limited to US Government agencies only; protection of privileged information evaluating another command; Dec 85. Requests for this document must be referred to Commander, Kansas Army Ammunition Plant, Parsons, KS 67357-9107.

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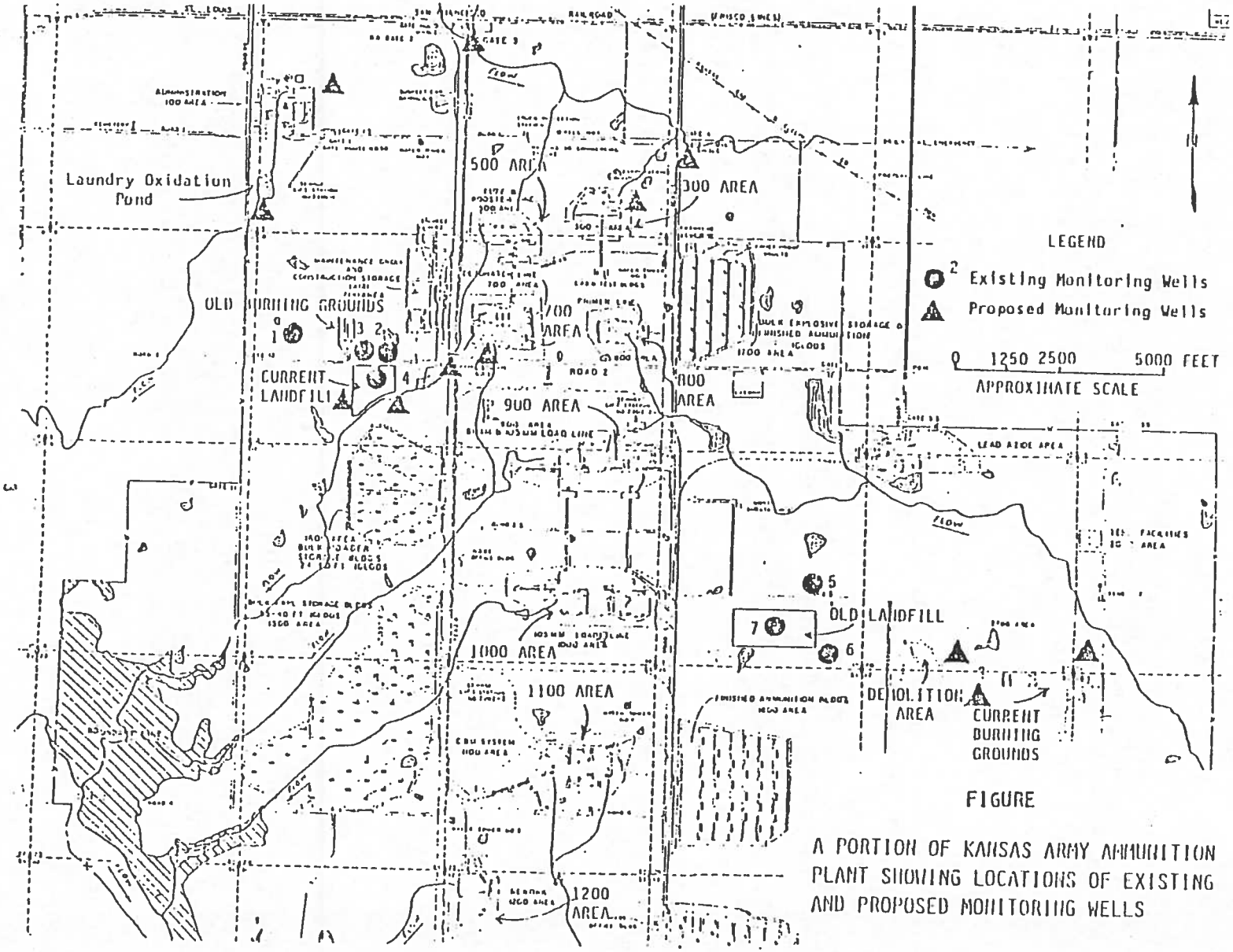
(gpm) with groups of wells or collection galleries placed at some locations along the flood plain of the Neosho River (reference 1). Soils on the installation range in thickness from 0.3 to over 10 feet (0.09 to over 3 meters) according to boring logs (reference 2).

(2) Consolidated rocks, occurring immediately below the soil on the installation, from youngest to oldest are the Bandera Shale, Pawnee Limestone, Labette Shale, and the Fort Scott Limestone Formations of the Marmaton Group of Middle Pennsylvanian Age. The Bandera is a sequence of interbedded sandstone, siltstone, and sandy shale ranging in thickness up to 100 feet (30 meters). This unit in Labette County may yield as much as 40 gpm of ground water to wells locally; however, most wells yield up to 10 gpm. The Pawnee consists of interbedded limestone and shale with a thickness of about 25 feet (7.5 meters). This unit in Labette County yields very small quantities of ground water. The Labette Shale contains sandstone and sandy shale lenses and the thickness is about 75 feet (22.5 meters). The Labette yields about 5 gpm of ground water to wells located in the outcrop area of the County. The Fort Scott, which crops out in the stream bed located northeast of the burning ground (see the Figure) at the installation, consists of a gray crystalline, thin-bedded limestone and thin, black, platy shale with a thickness of about 28 feet (8.4 meters). This unit yields small quantities of ground water to wells in Labette County, especially downdip from the outcrop area. Ground water is in limited supply in most of Labette County (reference 1).

(3) A deep water-supply well was drilled in 1941 to a depth of at least 1,459 feet (438 meters) and is located about 1,900 feet (570 meters) northwest of the present day 300 Area (Figure). The static water level in this well was 178 feet (53.4 meters); however, this well was not completed as a water well due to the poor quantity and quality of the water (reference 2). The installation obtains potable water from the Neosho River.

(4) The flow of surface water drainage is the same as the general flow of the shallow ground water at the two areas where monitoring wells are installed (Figure). The installation is drained by unnamed streams which flow generally to the southwest towards Labette Creek and also to the southeast towards the Neosho River. A ground-water and surface-water divide occurs in a northwest-southeast direction generally from the Administration Area (100 Area) to the southeast boundary east of the Igloo Area (1900 Area) (reference 2).

(5) The water table within the plant boundary reportedly ranges from 1.4 to 20 feet (0.4 to 6 meters) below the surface (reference 2). Seven ground-water monitoring wells were drilled by personnel from this Agency in October 1978 (reference 3), and the well completion data and water level measurements are listed in the Table. The Figure shows the locations of these seven monitoring wells which are located near two sanitary landfills and an old burning ground. These wells were completed with 2-inch inside diameter polyvinyl chloride (PVC) well casings and screens; however, there were no larger diameter protective steel casings placed around these PVC well casings. Some of these PVC well casings have been cracked or broken by mowing machines, cattle, or other causes. Wells 1 and 7 could not be located during this survey.



FIGURE

A PORTION OF KANSAS ARMY AMMUNITION PLANT SHOWING LOCATIONS OF EXISTING AND PROPOSED MONITORING WELLS

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TABLE. EXISTING WELL COMPLETION DATA AND WATER LEVEL MEASUREMENTS

Well No.	1	2	3	4	5	6	7
	(measured in feet below ground)						
Depth of well*	55	35	25	25	30	40	37
Depth to top of sand*	22	3	9	12	13	22	15
Depth to bottom of sand*	53	32	23	25	30	37	36
Depth to top of well screen*	43	22	13	15	16	25	17
Water level when drilled in October 1973*	14	9	5	10	7	11	12
Water level measured in December 1980†	15.0	7.2	3.5	10.8	5.6	11.4	6.2
Water level measured 17 September 1985	Could not be located	4.2	5.1	9.7	3.4	9.7	Could not be located

* Appendix A, reference 3
† Appendix A, reference 4

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b. Ground-water Quality Data from Existing Monitoring Wells.

(1) Ground-water samples were collected and analyzed by personnel from this Agency on two separate occasions. The first samples were collected and analyzed following the drilling in 1978 (reference 3), and the second sampling was during a hazardous waste special study in 1980 (reference 4). The ground-water quality data from each of these studies were discussed and tabulated in reference 4. Sulfate, total dissolved solids (TDS), iron, and manganese exceeded the National Secondary Drinking Water Regulations (NSDWR) criteria in most of the ground-water samples collected from these seven wells in 1980 (reference 4). Because the concentrations of cadmium (collected during the latter sampling period) exceeded the National Interim Primary Drinking Water Regulation (NIPDWR) standard, and the concentrations of cyanide (which also were collected during the latter sampling period) exceeded the generally accepted drinking water criterion in all seven samples (reference 4), the wells were resampled twice during 1981 (references 5 and 6).

(2) The results of the July 1981 sampling showed no detectable amounts of cadmium or cyanide present in the ground-water samples collected from the seven monitoring wells (reference 5). The analytical data from samples collected later that summer (reported in reference 6) showed that cadmium exceeded the NIPDWR standard in samples from wells 3, 4, and 7 and cyanide exceeded the generally accepted drinking water criterion of 0.2 milligrams per liter (mg/L) in the sample collected from Well 3. This Agency recommended that the installation collect ground-water samples for cadmium and cyanide on a monthly basis for a year (reference 6).

(3) Water samples were collected by installation personnel once a month during calendar year 1982 and analyzed by the installation's chemistry laboratory and by a private laboratory (reference 7). These analytical results, discussed and tabulated in reference 7, showed that TDS, iron, and manganese still exceeded the NSDWR criteria in most of the ground-water samples collected during each of the 12 months of calendar year 1982. The samples collected from upgradient wells 1 and 6 were also shown to have iron, manganese, and TDS which exceeded the NSDWR criteria. Although cadmium, chromium, lead, and mercury also slightly exceeded the NIPDWR standards in a few of the samples from some of these wells (including the two upgradient wells), no elevated NIPDWR-listed metal contamination occurred more than twice out of the 12 samples. Cyanide was not found to exceed the generally accepted drinking water criteria of 0.2 mg/L in any of the monthly samples collected during calendar year 1982. According to reference 7, the concentrations of the heavy metals and TDS which exceeded the NIPDWR standards and NSDWR criteria in the past were not considered harmful in water that is not now, nor probably ever will be, used as a source of drinking water.

c. Analysis of Composite Sediment and Surface-Water Samples Collected from 15 Oxidation Ponds.

(1) During World War II, and possibly up to the early 1970's, an accepted method for decontamination of ammunition plant wastewaters was the use of oxidation ponds. Kansas Army Ammunition Plant has produced a

variety of explosive-filled munitions requiring the use of several explosive and nonexplosive potential pollutants. Historically, production facilities were washed down daily with water which subsequently flowed into unlined oxidation ponds for treatment (references 7 and 8). Most of these old oxidation ponds are located along natural drainage courses and are currently stocked with fish and used for livestock watering.

(2) Composite sediment and surface-water samples were collected by installation personnel in 1984 from 15 oxidation ponds. These soil and water samples were collected from four points at each pond whenever possible: sediment from the bottom, and water from the bottom, middle, and top. The number of samples comprising each composite sample depended on whether the pond contained water (three ponds were dry) and also on the size of the ponds. The contaminants and pollutants analyzed were lead, barium, antimony, RDX, TNT, DNT, toluene, phenol, 2,4-dinitrophenol, 2-nitrophenol, 4-nitrophenol, nitroso-dimethylamine, nitroso-di-n-propylamine, and nitroso-di-phenylamine. A private chemical laboratory analyzed for toluene, but the other chemical parameters were analyzed by the installation's chemical laboratory (reference 8).

(3) Lead concentrations in the 15 composite soil samples ranged from 0.0 to 15.0 milligrams per gram (mg/g). The concentrations of lead in the 15 composite water samples collected from the ponds ranged from 0.02 to 0.35 parts per million (ppm) with the higher amounts both in the soil and water samples collected from a pond located about 2,000 feet southwest of the 700 Area (Figure). Barium concentrations in the soil ranged from 0.0 to 20.0 mg/g with the higher concentration from a pond located about 7,000 feet west of the 1200 Area (Figure). Barium in the water samples ranged from 0.0 to 0.9 ppm with the higher concentration located in a pond about 1,300 feet southwest of the 1000 Area (Figure). There was no antimony found in any of the soil samples; however, the concentrations in the water samples ranged from 0.1 to 0.25 ppm. The higher concentrations were each found in four ponds located about 1,300 feet southwest of the 1000 Area; about 7,000 feet west of the 1200 Area; the laundry oxidation pond; and a pond located about 2,000 feet southwest of the 700 Area, respectively (Figure). Concentrations of RDX, TNT, and DNT in the soil ranged from 0.0 to 28.8, 1.3, and 1.3 mg/g, respectively. The higher concentrations of all three explosive parameters were found in the soil in a pond located approximately 1,900 feet northeast of the 300 Area (Figure). There were no detectable amounts of these three explosive parameters found in the water samples. There were no appreciable concentrations detected, if any, of the other parameters analyzed in the soil or surface waters collected from these 15 ponds (reference 8).

d. Areas of Potential Ground-water Contamination.

(1) Plant Laundry. Untreated effluent from the plant laundry located within the Administration 100 Area (Figure) is eventually discharged into an oxidation pond located about 1500 feet (450 meters) south of this area, following removal of the solids and lint which are subsequently destroyed at the burning ground. The suspected contamination in the effluent is from the explosives and heavy metal particles that may cling to the garments supplied by the installation to the personnel working in the various production lines. These contaminants include TNT, RDX, tetryl, mercury, lead, and nitrate/nitrite.

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(2) Ammunition LAP Line Areas.

(a) Area 300. Fuzes were assembled in this area during World War II (July 1942 to August 1945) and the M51A5 Fuze and the M1 Delay Plunger were assembled during the Korean Conflict (1951 to 1956). This area was deactivated between and after these two production periods; however, in January 1975, this area was modernized and currently produces the 155 mm, M483A1 round. Explosive metal particle contaminants in the wastewater are currently collected in three concrete sumps and transported to a pink/red water filter system which uses diatomaceous earth and activated carbon columns (references 2, 4, and 8).

(b) Area 700. Detonators and relays were assembled in this area during World War II and the Korean Conflict. This area was also deactivated between and after these production periods; however, in December 1966, this area was reactivated for assembly of the M-17 and M-55 Detonators and the M-219 Lead Cup. Production of the M-55 Detonator and the M-219 is still continuing (reference 8). The explosive and metal particle contaminants in the wastewater are chemically treated to deactivate, i.e., "kill," the reactivity of the explosive compounds which are then collected in 16 concrete sumps where the solids area are allowed to settle. The solids are periodically removed and destroyed at the burning ground. The wastewaters have been allowed to overflow the sumps and slowly drain to shallow, open, ditches; however, a filter system was being constructed during this particular survey. The explosive contaminants include but are not limited to cyclonite (i.e., RDX), lead azide, lead styphnate, and tetracene (references 4 and 8).

(c) Area 1100. This line produced 250- and 1,000-pound bombs in World War II, and 100- and 700-pound bombs during the Korean Conflict. This area was also deactivated between and after these production periods. During the period from 1966 through 1977, 24B/B, 29B/B, and 49B/B Cluster Bombs were produced in the Cluster Bomb Unit. The lines were again deactivated following the Vietnam Conflict, but since early 1985, the Combined Effects Munition System products are assembled in this area. The explosive-and metal particle-contaminates in the wastewaters are collected in three concrete sumps where the solids are allowed to settle. The solids are periodically removed and destroyed at the burning ground. The water is filtered using diatomaceous earth and activated carbon columns. The filtered water is carefully tested as the carbon columns reach their absorptive capacity. This filtered water is discharged to surface drainageways (references 2 and 8).

(d) Area LAP lines 500 (boosters, metal and paper supplementary charges, and fuzes), Line 800 (M282B2 Primers, M-2 Delay Elements), Line 900 (75 and 105 mm shells, 81 mm M374 mortar cartridges), and Line 1000 (105, 120, and 155 mm shells) were decontaminated in 1974 and Area LAP line 1200 (ammonium nitrate and R105-37 cartridge cases) was decontaminated about 1957. All five of these areas are currently inactive (reference 8).

(3) Sanitary Landfill Sites.

(a) Three prior landfill sites have been closed. The original site located west of the 1900 explosive and ammunition igloo storage area (not shown on the Figure) was in operation up to 1950. This site contains rubble, trash, and inert material. A second site (not shown on the Figure) located west of Area 200 was operated from 1950 to 1975. This site contains inert material and residue from refuse burned in some of the pits. This particular landfill site slopes to the east and is covered with a good growth of grass. The third site, operated from 1975 to 1982, is located north of the 1800 finished ammunition igloo storage area (Old Landfill on Figure) and contains office waste, refuse, used tires, wooden packing centers, and some rubble (reference 2). This site is also covered with a good growth of grass and slopes to the north.

(b) The current sanitary landfill (Figure) which began operations in 1982, receives construction/demolition wastes, maintenance operations waste, the occasional sludge from the anaerobic digesters at the sanitary sewage plant, and wastes normally generated by the offices and lunchrooms. There are no cafeterias at KAAP and most of the personnel bring their own lunch, buy food from the lunchroom machines, or order food which is delivered to the Administration Bldg. Solid waste is being deposited in trenches about 20 feet (6 meters) wide, 300 feet (90 meters) long, and 10 to 15 feet (3 to 4.5 meters) deep. Rainfall accumulation in the open trenches being filled with solid waste is periodically pumped out and flows downhill from the landfill area. Operation of the landfill is satisfactory.

(4) Current Burning Grounds and Demolition Area. These two facilities, located at the east-central side of the installation, are adjacent to each other and are treated as one site in this report. The demolition area has been used since World War II to dispose of various types and amounts of ammunition. Unexploded ordnance is suspected in this area. Open detonation operations were conducted in any combination of 20 bermed pits within the demolition area. Approximately 11 of the bermed pits were normally used to detonate up to 50 pounds of explosives which were covered within the pit. The burning ground has also been used since World War II to dispose of contaminated explosive waste. This area consisted of two active pads, three burning cages, and three inactive pads in November 1981 (references 2 and 9). Forty-eight soil and residue samples were collected in 1981 and analyzed by this Agency for explosives and EP toxicity heavy metal content. The explosives found in some significance in a few of the soil and residue samples were HMX, RDX, and 2,4,6-TNT. The EP toxicity analyses for heavy metals showed three of the samples contained lead which exceeded the Resource Conservation and Recovery Act criteria for hazardous waste characteristic (reference 9).

(5) Old Burning Ground. An old burning ground located north of the current landfill (Figure) is no longer used and documentation as to its use was not available (reference 2).

(6) Underground Storage Tanks. Eighteen underground storage tanks, containing gasoline and fuel oil, are located near various buildings

on the installation. These tanks range in size from 1,500 gallons (5,700 liters) to 20,000 gallons (76,000 liters). These tanks are measured with a dip stick to determine the amount of fuel in storage and refilled when necessary. Records are kept on the amount of fuel in each storage tank. The installation is waiting for the new underground storage tank regulations that will be published by the Environmental Protection Agency before taking any action to monitor these storage tanks for possible leaks. None are known to be leaking at the present time.

(7) Spill Sites. No accidental sites were reported; however, at one time a small amount of chromic acid, sulfuric acid, and oakite (chemicals used in the shell casing rework process) were reportedly dumped on the ground near the 900 Area (reference 2).

e. Proposed Locations for Ground-Water Monitoring Wells.

(1) Two proposed well sites for background ground-water quality data, that should be unaffected by installation activities, are located near the northern installation boundary. One proposed site is located northeast of the Administration Area 100 and the other site is located south of Gate 3 (Figure). The flow of ground water should be towards the southwest and southeast, respectively.

(2) A proposed well site is located downgradient from the laundry oxidation pond (Figure) located south of the Administration 100 Area, which is used to treat effluent from the plant laundry [paragraph 5d(1), this report].

(3) Two proposed well sites are located downgradient and upgradient from an old oxidation pond used to treat wastewater from the 300 Area (Figure) [paragraphs 5c(1), 5c(3), and 5d(2)(a), this report]. The flow of ground water should be towards the northeast.

(4) Two proposed well sites are located at the 700 Area. One of these sites is located outside the center of the south fence and north of Road 2 near a drainage ditch, and the other proposed well site is located near the southwest corner of Roads 2 and D. Each of these proposed well sites is located near separate natural drainageways (Figure) [paragraphs 5c(1), 5c(3), and 5d(2)(b), this report]. The flow of ground water should be towards the south and southwest, respectively.

(5) Two proposed well sites are at the current sanitary landfill [paragraph 5d(3)(b), this report]. One site is near the southwest corner and the other near the southeast corner. Four existing monitoring wells are located to the north and northwest of this landfill (Figure). The flow of ground water at this landfill should be towards the south and southwest.

(6) Three proposed well sites are located at the current burning ground and demolition area (Figure). One proposed well location is east of the demolition area near a natural drainage area, and one is to the southeast of the demolition area also near a natural drainage area. The third proposed well location is northeast of the burning ground. An

outcrop of limestone believed to be the Fort Scott occurs in the stream bed near this latter well location [paragraph 5a(2), this report] and may present a possible problem to installing monitoring wells (by auger drilling) in this area. The flow of ground water should generally follow the natural surface drainageways.

f. Monitoring Well Installation.

(1) In accordance with reference 10, the State of Kansas requires that only a well driller registered in the State of Kansas can install the proposed ground-water monitoring wells.

(2) The well drillers at this Agency are not registered in the State of Maryland, so reciprocity with the State of Kansas does not exist. To be registered in Kansas, a well driller would have to pass a written test, and the registration and licensing fees would have to be paid; therefore, the 12 proposed monitoring wells would have to be installed by a contractor utilizing a registered well driller in the State of Kansas.

g. Proposed Chemical Parameters to be Analyzed.

(1) Due to the mission of the installation and the previous waste disposal practices, the following chemical parameters should be analyzed in the samples collected from the 12 proposed wells and the 7 existing wells:

Arsenic	HMX
Barium	RDX
Cadmium	Tetryl
Chromium	TNT
Lead	2,4-DNT
Mercury	2,6-DNT
Selenium	
Silver	

(2) Iron and Manganese have been detected at numerous times in the samples collected from all seven existing monitoring wells at levels which exceed the NSDWR criteria; therefore, these two metals are believed to be naturally occurring. Cyanide was found to exceed the generally accepted drinking water criterion of 0.2 mg/L in all seven samples in 1978, but was not detected in any well during the July 1981 sampling period (references 4 and 5). Cyanide was again found to exceed the generally accepted drinking water criterion only in the samples collected from well 3 during the resampling in 1981, but never exceeded this criterion in any of the seven wells during the 12 monthly sampling periods of 1982 (references 6 and 7). For the above reasons, iron, manganese, and cyanide are not included in the proposed sampling plan.

6. CONCLUSIONS.

a. The quantities of potential ground-water contamination, if any, from sources identified in paragraphs 5d(1) through (7) of this report are not known.

b. The following areas/facilities were identified as the greatest potential sources for ground-water contamination: the active 300 and 700 areas, the laundry oxidation pond, the current landfill, and the current burning ground/demolition area.

c. The installation of monitoring wells at the proposed high risk sites (by a private contractor who is registered in the State of Kansas) and subsequent sampling and chemical analyses of the ground-water would supply the necessary ground-water quality information to identify any impact of these facilities and/or operations on the local native ground water.

7. RECOMMENDATION. Install 12 additional ground-water monitoring wells and collect ground-water samples from these wells and the seven already existing wells to determine whether the identified facilities have had or are having a significant adverse impact on the local native ground-water quality. (This recommendation is based on good environmental engineering practice.)

8. TECHNICAL ASSISTANCE. Informal technical advice or consultation may be obtained telephonically from Chief, Waste Disposal Engineering Division, this Agency, AUTOVON 584-2024. Any additional requests for services should be directed through appropriate command channels of the requesting activity to the Commander, US Army Environmental Hygiene Agency, ATTN: HSHB-ES-G, Aberdeen Proving Ground, MD 21010-5422, with an information copy furnished the Commander, US Army Health Services Command, ATTN: HSCL-P, Fort Sam Houston, TX 78234-6000.

DAVID C. BAYHA
Hydrologist
Waste Disposal Engineering Division

APPROVED:

FREDERICK W. BOECHER
LTC, MS
Chief, Waste Disposal Engineering Division

APPENDIX A

REFERENCES

1. "Geology and Ground Water in Labette County, Kansas," US Geological Survey, Hydrologic Investigations Atlas HA-279, 1968.

2. Records Evaluation Report No. 126, USATHAMA, August 1978, subject: Installation Assessment of Kansas Army Ammunition Plant.

3. Letter, USAEHA, HSE-MW, 9 December 1978, subject: Landfill Leachate Study No. 81-66-8002-79, Kansas Army Ammunition Plant, Parsons, Kansas, 5-13 October 1978.

4. Letter, USAEHA, HSE-ES/WP, 19 August 1981, subject: Army Pollution Abatement Program Study No. D-1651-S, Hazardous Waste Special Study, Kansas Army Ammunition Plant, Parsons, Kansas, 1-5 December 1980 (USAEHA Control No. 81-26-8239-81).

5. Letter, USAEHA, HSE-ES-S, 1 September 1981, subject: Ground-water Quality at Kansas AAP.

6. Letter, USAEHA, HSE-ES-S, 5 October 1981, subject: Ground-water Quality at Kansas AAP.

7. Contractor Report, "Leachate Monitoring Study of Two Sanitary Landfills at the Kansas Army Ammunition Plant," V. S,. O'Brien and C. S. Smalley, Industrial Base Planning Department, Day and Zimmerman, Inc., Kansas Division, Kansas Army Ammunition Plant, Parsons, Kansas 67357, June 1983.

8. Contractor Report, "Study of Water Impoundments for Contaminants and Pollutants," Day and Zimmerman, Inc., Kansas Division, Project Facilities Engineering, Kansas Army Ammunition Plant, Parsons, Kansas 67357-9106, December 1984.

9. Letter, USAEHA, HSHB-ES-E/WP, 30 September 1983, subject: Phase 2, Hazardous Waste Management Special Study No. 39-26-0147-83, DARCOM Open-Burning/Open-Detonation Grounds Evaluation, Kansas Army Ammunition Plant, Parsons, Kansas, 12-13 November 1981.

10. Kansas Statutes Annotated 82a-1201 through 82a-1215 and amendments thereto, "Kansas Groundwater Exploration Act," [L.1973, ch. 417, sec. 1; July 1].

APPENDIX B

PERSONNEL CONTACTED

1. LTC Charles Wallschlaeger, Commander, KAAP.

2. Mr. Larry Grillot, Industrial Specialist and Environmental Coordinator, KAAP.

3. Mr. Glen Parish, Industrial Specialist, KAAP.

4. Ms. Carolyn J. Smalley, Senior Environmental Engineer, Day and Zimmerman, Inc., Kansas Division.

5. Ms. Victoria O'Brien, Junior Environmental Engineer, Day and Zimmerman, Inc., Kansas Division.

6. Mr. Joseph Ryan, Land Manager, Day and Zimmerman, Inc., Kansas Division.

7. Mr. Perry Thomas, P.E., Mechanical Engineer, Day and Zimmerman, Inc., Kansas Division.

8. Mr. R. E. Walden, P.E., Manager Industrial Base Planning, Day and Zimmerman, Inc., Kansas Division.

9. Mr. Carl Aller, Civilian Executive Assistant, Day and Zimmerman, Inc., Kansas Division.

7/13 C DM

STATE OF KANSAS

JH Goetz Waste Mgt
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Mike Hayden, *Governor*

Stanley C. Grant, Ph.D., *Secretary*
Gary K. Hulett, Ph.D., *Under Secretary*

RECEIVED
BUREAU OF
JUL 13 1987
WASTE
MANAGEMENT

Mr. Sudhir K. Chopra
Assistant Plant Manager
Day & Zimmermann, Inc.
Kansas Division
Parsons, Kansas 67357-9106

Ref. Permit#19000010
July 9, 1987

Dear Mr. Chopra:

On June 12, 1987 the Department received a request from your firm for an exemption from the requirements of K.A.R. 28-19-45. Open Burning Prohibited. The information submitted in the request for an exemption has been reviewed, and the Department has determined that additional requirements of the Kansas Air Pollution Control regulations need to be fulfilled before further processsing of the request to dispose of Titan missile rocket fuel by open burning can continue.

While K.A.R. 28-19-47 Exemptions - Open Burning provides an opportunity for a facility to obtain an exemption from the requirements of K.A.R. 29-19-45, the exemption does not provide relief from additional requirements under other air quality regulations. K.A.R. 28-19-8 Reporting Required states that installations which will emit more than one pound per hour of particulate emissions must report the operation to the Department on forms supplied by the Department and obtain approval for the operation before construction or installation of the operation commences. A copy of the required reporting form is enclosed. When the form has been completed and returned to the Department, your request for approval of the operation can be considered.

K.A.R. 28-19-14. Permits Required states that a person who proposes to construct, alter, use, or operate any air contaminant emission source that is required to be reported under K.A.R. 28-19-8 and that has a potential contaminant emission rate in excess of 10 tons per year or more of particulate must obtain a permit before beginning the activity. The proper form and the information on calculating the required construction permit fee has been enclosed. When the proper forms have been completed and returned to the Department with the required permit fee, the Department can consider your request for approval of the Titan missile fuel disposal project.

K.A.R. 28-19-17 New Source Permit Requirements for Designated Attainment and Unclassified Areas is applicable to construction or modifications of major stationary sources of air pollution located within any area that has been identified as attainment or unclassified in meeting the National Ambient Air Quality Standards (NAAQS). K.A.R. 28-19-17b.(a) Permit Required provides that a major stationary source shall not begin construction or modification in an attainment or unclassified area unless the owner or operator of the source has been issued a permit approving such activity. K.A.R. 28-19-17b.(b) requires the application for the permit be submitted on forms provided by the Secretary, or designated representative, and shall

include such information as is necessary in order to determine compliance with K.A.R. 28-19-17d. through 28-19-17i. A copy of the permit application form and the applicable regulations has been enclosed for your future use.

K.A.R. 28-19-17h. Additional Impact Analysis, which adopts a portion of the Federal Prevention of Significant Deterioration of Air Quality requires that the owner or operator provide an analysis of the impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The information that has been submitted to the Department in the request for an exemption from K.A.R. 28-19-45 and the information contained in the Environmental Impact Statement (EIS) for the test firing of the Titan rocket boosters, and the information provided by United Technologies (UT) has been reviewed. Several areas where additional information is needed to adequately assess the environmental impact of the project have been identified. These concerns are categorized into the areas of air, water, and waste management and are summarized below:

Concerns received from the Bureau of Waste Management:

The information provided to the Department by United Technologies (UT) at the May 12, 1987 meeting on burning Titan missile rocket fuel at the Kansas Army Ammunition Plant (KAAP) near Parsons, Kansas has been discussed.

K.A.R. 28-31-8, incorporating by reference 40 CFR 265.382, requires the owners or operators of interim status hazardous waste facilities, choosing to open burn or detonate waste explosives, to do so in a manner that does not threaten human health or the environment.

As you are aware, the data presented in the EIS was covered during a controlled burn of the Titan rocket fuel. Combustion air emissions, hydrochloric acid, carbon monoxide were all directly or indirectly strictly controlled. Open burning, however is the method of treatment proposed for use at KAAP.

Open burning is not a controlled burning process. Combustion temperature, oxygen, etc. may not be uniform and homogeneous, for example. The combustion air emissions may or may not be the same, or at the same concentration as those produced during a controlled burn. Therefore, we must conclude that the data presented in the EIS does not necessarily provide an accurate assessment of open burning large quantities of rocket fuel on human health or the environment.

Data collected from an actual open burn of the rocket fuel must be submitted to our office for review and approval before KAAP may accept Titan missile rocket fuel for treatment at their facility in Parsons, Kansas under the provisions of K.A.R. 28-31-8, incorporating by reference 40 CFR 265.382.

Concerns expressed in the Bureau of Air Quality:

If the disposal method utilized for the Titan rocket fuel will be classified as open burning, an exemption from K.A.R. 28-19-45. Open Burning Prohibited will be required.

The information required by the Department to grant an open burning exemption is contained in K.A.R. 29-19-47. Exemptions - Open Burning. It should be noted that an open burning exemption provides relief from the requirements of K.A.R. 28-19-45. only, and all other requirements contained in air quality regulations must be met.

The Kansas Army Ammunition Plant (KAAP) near Parsons is classified as a major facility with respect to the application of air quality regulations. A source with this classification is required to obtain a Prevention of Significant Deterioration Permit if the source modifies its operations in a manner which would increase particulate emissions by more than 25 tons per year. Using the emission factors developed from the test burns discussed in the EIS, the proposed open burning of the Titan rocket fuel would generate an additional 75.4 - 452.5 tons per year of particulate emissions, depending on the quantity of fuel that is burned. The PSD permitting program is a federal regulatory program that has been delegated to the Department. If the Department did not require KAAP to obtain a PSD permit for the rocket fuel disposal, EPA Region VII would be required to make the source obtain a PSD permit or EPA could take appropriate enforcement action.

Some of the requirements of a PSD permit include the opportunity for public hearing and public comment during the review process, application of best available control technology for the control of air emissions, and a modelling analysis to demonstrate that applicable ambient air standards or PSD increments are not exceeded. A PSD permit normally takes a minimum of six months between the date of application and the granting of the permit.

The Bureau of Air Quality has conducted some dispersion modelling to estimate the ambient impact of the contaminants released from open burning of the rocket fuel. A preliminary assessment of emissions indicates that there may be health related concerns with the ambient levels of hydrogen chloride downwind of the burn site. Additional information in the following areas needs to be provided by KAAP in order to conduct a more accurate assessment of the ambient impacts of the open burning:

1. The size and shape of the pile of propellent before ignition has not been provided. This can have a significant effect on the initial dimensions of the plume of air contaminants.

2. The amount of fuel contained in the proposed burns was specified, but information relating to the length of time required for the burning was not provided. Information regarding combustion rate versus time for the open burning scenario would greatly enhance the modelling efforts.

3. No information regarding the exhaust gas temperature and flow rate have been provided for the open burning scenario. Information from test burns can be consulted, but temperatures and flow rates for open burning will be much less than those observed while the fuel was combusted inside the rocket casing.

4. A plot plan for KAAP has been provided, but further information regarding the distances from the proposed burn site and the property line and nearby residences must be submitted.

5. More definitive information regarding the total amount of fuel that will be disposed, and the scheduling of the burning is needed.

6. More definitive information regarding the composition of the solid rocket fuel would be helpful.

7. The facility would also have to demonstrate that their proposal utilizes the Best Available Control Technology for control of particulate emissions from disposal of the rocket fuel. Addition information regarding feasibility and costs associated with alternative disposal techniques should be provided. Also, the possibility of reducing the ambient concentrations by burning smaller batches of fuel should be investigated.

8. Compliance with all PSD requirements should be addressed.

Concerns received from the Bureau of Water Protection:

1. Would like to see more information on products of combustion (gases and ashes), water solubility, and effects on plants and animals.

2. Labette County (location of Kansas Army Ammunition Plant) has 8 threatened and 6 endangered species and a critical habitat on the Neosho River. The drainage pattern in the area leads directly to the Neosho River and any change in air or water quality could have an effect on these species and habitat. The Kansas Fish and Game Commission should be involved in the permitting of a project to insure protection of species and habitat.

3. We assume there will be ashes remaining on the burn pads after the burns which maybe subject to rainfall and subsequent washing into area streams. In addition particulate escaping during the burn maybe deposited and subject to the same fate. These ashes and particles could cause a change in area surface water quality. We need to ensure that Kansas Surface Water Quality standards are met.

4. There was an indication at the meeting that the gases produced during combustion form acids when mixed with water. The fate of these acids and concentrations as they relate to area water supplies is unknown and should be addressed.

These issues and other concerns raised during the review process need to be satisfactorily addressed before a permit under K.A.R. 28-19-17 is granted. Should you have any questions regarding this information, please contact us.

Sincerely yours,

James A. Power, Jr.
Director, Division of
Environment

cc: John Paul Goetz
Larry G. Hess
EPA Region VII
David Romano

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

July 9, 1987

Chief Engineer
(200-1a)

SUBJECT: RCRA Part B Permit Application Revision
Kansas AAP

RECEIVED
BUREAU OF
JUL 10 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620-0110

Dear Mr. Ramsey:

Request subject application be revised as reflected in the enclosed replacement pages for text, figures, and appendices. Summaries of all revisions along with an explanation for each change is included. Two copies are provided for your use.

The requested revision has also been provided to the U.S. Environmental Protection Agency, Region VII.

The point of contact is Don Dailey, telephone: 316-421-7450.

Sincerely,

Teddy R. Hardin
Captain, U.S. Army
Acting Commander

Enclosure

Copy Furnished (w/encl):

EPA, Region VII/Karen Flournoy (4 cys)

MIKE HAYDEN
Governor
JACK D. WALKER, M.D.
Secretary

STATE OF KANSAS

Forbes Field
Topeka, KS 66620-0001
(913) 862-9360

DEPARTMENT OF HEALTH AND ENVIRONMENT

June 15, 1987

Ltc. David L. Iverson
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Attn: Don Dailey/Carolyn Smalley

Re: Revised Part A Hazardous Waste Permit Application
KS0218320467

Dear Commander Iverson:

This letter is in regard to the above permit applications sent to our office on April 13, 1987, May 29, 1987 and June 1, 1987. We have had on-going discussions with Don Dailey and Carolyn Smalley on these applications.

The application submitted on April 13, 1987 reflects nearly a three fold storage capacity increase from the January 7, 1985 Part A application. Please note that 40 CFR 270.72 allows interim status facilities to add new wastes, increase process design capacities and change processes. However, a revised Part A application must be submitted, the changes justified and all changes approved prior to their implementation. Any changes or alterations to a facility must meet the requirements of CRF 270.72(e). Please review these regulations (copy attached) to insure your facility has not violated these hazardous waste laws.

The revised application sent on June 1, 1987 is dated October 22, 1986 and was inadvertently not submitted to our office prior to implementation. Please note only Form 1 was sent. Form 3, which lists waste codes, process design specifications, etc. was omitted. A copy of Form 3 for this revision must be submitted to our office for review and approval. As noted above, these facility alterations should have been submitted to our office for review and approval prior to their implementation.

As discussed with Carolyn Smalley, a revised Part B permit application should be submitted to reflect all current changes proposed in the Part A applications. All sections of the Part B applications affected by the Part A revisions must be up-dated. These will include the contingency plan, training plan, inspection plans, closure plans and others. Please submit the revised Part B application to our office by July 15, 1987.

Lastly, the Part A revision sent to our office on May 29, 1987 lists the Titan rocket motor fuel as a reactive hazardous waste to be managed at your facility. Management of this waste at your facility was discussed at a meeting held here in Topeka on May 12, 1987. Representatives from your office, United Technologies, Inc. and our Bureaus of Waste Management and Air Quality and Radiation Control attended the meeting.

Please note, we do understand that a timely decision on the Titan Fuel Project is important to your contract negotiations. However, our Bureau of Air Quality and Radiation Control has expressed major concern about the human health and environmental impacts which may result from management of this waste at your facility. In addition, we are concerned that storage of the waste rocket fuel may be required for you to meet the disposal time frames discussed at our May 12, 1987 meeting. These concerns must be addressed and resolved before any action may be taken on the Part A application sent to our office on May 29, 1987.

You should contact Harish Agarwal at (913) 862-9360, extension 274, for any questions you may have about Air Quality requirements. Please contact me at extension 293, if you have questions about this letter.

Your continued cooperation with the Hazardous Waste Management Program in Kansas in appreciated.

Sincerely,

John S. Ramsey
Hazardous Waste Section
Bureau of Waste Management

JSR:sc

cc: Bill Towery
Harrish Agarwal
Karen Flournoy
John Smith
Enclosure

PARSONS
TELEX
43-6408
TELEPHONE
316-421-7400

DIRECTOR OF
ENVIRONMENT
JUN 12 1987

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

June 11, 1987

FILE NO. EM-8502/PIB/REW

Kansas Department of Health & Environment
Bureau of Air Quality & Radiation Control
Forbes Field
Topeka, Kansas 66620

Attention: Mr. James Power

Dear Sir:

Subject: Titan Recovery Project

During the June 11, 1987, telephone conversation between you and Mr. Ralph Walden, you asked why the facilities which normally fire rockets cannot perform the propellant removal and burning operation. I believe the answer is facilities which normally launch satellites do not have the expertise, equipment, or procedures for dealing with loading or unloading of explosives from rockets or ammunition.

It is our understanding that open burning of explosives such as the Titan propellant is regulated under 40 CFR 265.382, Open Burning; Waste Explosives. This section states, "Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment." The Titan propellant cannot be safely disposed of through other modes of treatment. The intent of K.A.R. 28-19-47(D) appears to be to make the requirements of K.A.R. 28-19-45 not applicable in the open burning of material such as the Titan propellant.

If an open burning exemption is required, it is requested that Kansas Army Ammunition Plant (KAAP) be granted an exemption to open burn the waste propellant generated from the performance of the subject project. The following information is provided in accordance with K.A.R. 28-19-47, Exemptions - Open Burning.

Bureau of Air Quality & Radiation Control
Forbes Field

June 11, 1987

Subject: Titan Recovery Project

1. Facility Owner: Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357
LTC David L. Iverson

2. Facility Operator: Day & Zimmermann, Inc.
Kansas Division
Parsons, Kansas 67357
Carl L. Wilson

3. The waste propellant will be open burned at KAAP's Burning Ground's facilities. The propellant is Solid Rocket Propellant UTP-3001 for which a Material Safety Data Sheet is enclosed as Attachment 1.

4. The propellant must be removed from rocket segments to allow the segments to be reloaded. The reloaded segments will be used to launch satellites. Recommended waste disposal method is open burning in accordance with local explosive disposal regulations. Minimal handling and storage is essential due to the potential of the rocket propellant shavings igniting.

5. The propellant will be placed on KAAP's burning pads in cardboard boxes or steel pans. The amount of propellant in each container will be 200 to 400 pounds. The numbers of containers placed on the burning pads will be that required to contain approximately 8,152 pounds of propellant which will be remotely ignited. It is anticipated that 8,152 pounds of propellant will be open burned three times a day, three days a week totaling 73,360 pounds of propellant per week. Open burning of the propellant will not commence before August 1, 1987 and will continue through December 1, 1987, at a minimum. At this time, eleven rocket segments have been identified that must have the propellant removed and burned. Approximately one week is required to process each segment. The number of weeks required to open burn the propellant will depend upon the number of rocket segments designated for processing, upon weather conditions, upon equipment performance, and upon construction delays. The burning pads measure approximately 75 by 300 feet. One or two burning pads will be used.

Bureau of Air Quality & Radiation Control
Forbes Field

June 11, 1987

Subject: Titan Recovery Project

6. A drawing annotated to show the location of the burning pads in relation to KAAP's boundary line is enclosed as Attachment 2.

7. A minimum of 100 feet surrounding each pad used will be thoroughly disked to ensure adequate fire control. In addition, KAAP's Fire Department will be on standby status during open burning operations.

Very truly yours,

DAY & ZIMMERMANN, INC.

Original Signed By

SUDHIR K. CHOPRA
Assistant Plant Manager

SKC/SWK/cb

Enclosures:
a/s

cc: Harish Agarwal
John Paul Goetz

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44R1087

MSDS PROVIDED

MATERIAL SAFETY DATA SHEET

IUE 1201

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

IUE REP.

SECTION I

DATE

MANUFACTURER'S NAME: United Technologies - Chemical System Division	EMERGENCY TELEPHONE NO.: (408) 739-4880
ADDRESS (Number, Street, City, State, and ZIP Code): 600 Metcalf Rd. San Jose, California 95138	
CHEMICAL NAME AND SYNONYMS: Castable Composite Solid Rocket Propellant	TRADE NAME AND SYNONYMS: Solid Rocket Propellant UTP-3001
CHEMICAL FAMILY	FORMULA: Composite Material

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)
Ammonium Perchlorate - Corrosive - Oxidizer	67	N/A

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)	N/A	SPECIFIC GRAVITY (H_2O=1)	N/A
VAPOR PRESSURE (mm Hg.)	N/A	PERCENT, VOLATILE BY VOLUME (%)	N/A
VAPOR DENSITY (AIR=1)	N/A	EVAPORATION RATE (_____ =1)	N/A
SOLUBILITY IN WATER	<0.1%	Autoignition Temp 475°F at one hour	
APPEARANCE AND ODOR	Dark red solid with appearance of rubber		

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used): N/A	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA: None			
SPECIAL FIRE FIGHTING PROCEDURES: If inadvertant ignition occurs, isolate, control fire spread from safe distance. SCBA for firefighters			
UNUSUAL FIRE AND EXPLOSION HAZARDS: DOD Class 1.3 Solid Rocket Propellant DOT Class Propellant, Explosive (Solid) Class B.			

(Continued on reverse side)

Attachment No. 1

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: N/A

EFFECTS OF OVEREXPOSURE: May cause skin irritation on prolonged skin contact.

EMERGENCY AND FIRST AID PROCEDURES: Wash exposed area with copius amounts of water and treat for chemical burns if necessary.

SECTION VI - REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE	X	Shock, Flame or Spark, Temp above 147°F in storage
	STABLE		

INCOMPATABILITY *(Materials to avoid)*: Uninhibited Chlorinated Solvents, Liquid Hydrocarbons

HAZARDOUS DECOMPOSITION PRODUCTS: NO_x, CO_2, Hcl, CO

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

WASTE DISPOSAL METHOD: Controlled burning in accordance with local explosive disposal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*: None Required

VENTILATION				
	LOCAL EXHAUST	N/A	SPECIAL	
	MECHANICAL *(General)*	N/A	OTHER	

PROTECTIVE GLOVES	EYE PROTECTION
Milled Neoprene	None Required

OTHER PROTECTIVE EQUIPMENT: Self contained breathing appartus for fire fighters.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Comply with requirements for DOD, Class 1, Division 3 explosive material.

OTHER PRECAUTIONS

GPO 934-110

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

June 8, 1987

REPLY TO
ATTENTION OF

Chief Engineer
(200-1a)

SUBJECT: Remedial Actions for Decontamination of the Demolition Grounds

RECEIVED
BUREAU OF
JUN 11 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620-0110

Dear Mr. Ramsey:

Reference letter, KAAP, Chief Engineer, May 27, 1987, subject as above.

Enclosed for your information is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/VSO, dated June 4, 1987, regarding subject.

Water sample results show no RDX or TNT concentrations. Monitoring of water from demolition ground will be discontinued.

Soil samples show another decrease in RDX concentrations. Future analyses of soil will be forwarded.

The point of contact is Frank Candelaria, telephone: 316-421-1588.

Sincerely,

David E. Iverson
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

43-6408
TELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

June 4, 1987

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

RE: SMCKA-CE (200-1a) ltr dtd March 26, 1987;
subj: Approval of Decontamination Procedures

It is requested that the following laboratory results from samples collected June 1, 1987, at the Demolition Grounds be forwarded to the Kansas Department of Health and Environment:

Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Water from old NPDES monitoring site
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Soil sample outside demolition hole
RDX 0.6 mg/l
TNT LT 0.1 mg/l

The monitoring of the water from the Demolition Grounds will be discontinued. No explosives were detected in the water at any time during this exercise. The soil at the Demolition Grounds will continue to be sampled until explosive contamination is reduced below detection limits. The results of future analyses will be forwarded as they become available.

Very truly yours,

DAY & ZIMMERMANN, INC.

Carl L. Wilson

CARL L. WILSON
Plant Manager

SWK
CLW/SWK/cb

Kansas Army

PARSONS
TELEX
43-6408
TELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

June 2, 1987

FILE NO. EM-8502/PIB/CJS

RECEIVED
BUREAU OF
JUN 3 1987
WASTE
MANAGEMENT

Kansas Department of Health and Environment
Bureau of Air Quality & Radiation Control
Forbes Field
Topeka, Kansas 66620

Attention: Harish Agarwal

Dear Sir:

Subject: Feasibility of Open Burning Alternatives for Titan Rocket Propellant

Enclosed is a copy of the information relative to the open burning of Titan Rocket Propellant mentioned in the June 1, 1987, telecon with Carolyn J. Smalley.

The Feasibility of Open Burning Alternatives was provided to Day & Zimmermann, Inc., by United Technologies Chemical Systems.

If you have questions concerning this matter, please feel free to contact Ms. Smalley, (316) 421-7434.

Very truly yours,

DAY & ZIMMERMANN, INC.

ORIGINAL SIGNED BY

SUDHIR K. CHOPRA
Assistant Plant Manager

SKC/SWK/cb

Enclosure
a/s

cc: John Paul Goetz

Enclosure (1)
to 85HT1678

Feasibility of Open Burning Alternatives

I. Technology: Air Curtain Destructor

Two facilities who are testing this technology for the Army and EPA were contacted regarding its benefits and limitations. Their comments are summarized below.

A. Longhorn Army Ammunition Plant, Marshall, Texas

Application

- Used for municipal wastes only (wood, paper, etc.).
- Not for waste propellants, they have TACB written permission to open burn.
- Permit reportedly allows smoke for 15 minute start up period, requires 20% opacity after that.
- Burn temperature approximately 2000°F.

Drawbacks

- Refractory surface would disintegrate at propellant temperatures, approximately 5000°F.
- Smoke from propellant burning lasts only about 15 minutes, same as destructor warm up period (the destructor reportedly smokes very heavily during the first 5-6 minutes).
- Introduced air tends to blow light particles into atmosphere unless they can be confined, which for safety reasons we cannot do.

B. Radford Army Ammunition Plant, Radford, Virginia

Application

- Used for propellant contaminated trash only.
- Not for waste propellants which are incinerated if grindable, or open burned.

Drawbacks

- Could only be used for approximately 7% of our wastes, hence large cost for marginal improvement.

- o Expensive to repair if detonation occurs (Hercules has had two such incidents in 1985).
- o Inconsistent in degree of smoke abated.

C. Other Personnel Contacted

1. Air Curtain Destructor Corporation (Clyde Hood)

- o Never has used this type unit for this application.
- o Doubts ammonium nitrate propellants will burn cleaner unless enclosed in incinerator due to carbon black content.
- o Propellants contain built in oxidizer, doubtful blowing air into them would aid combustion efficiency.

2. Ordnance Environmental Support Office (I. L. Tominack)

- o Has not seen any air curtain destructors used for scrap propellants.
- o Aware of some technologies for incinerating small munitions but knows of nothing that is applicable to rocket motors.
- o Currently working with Department of Defense to test alternatives to open burning, but nothing is available at this time.

II. Technology: Incinerator

A. The Radford Army Ammunition Plant is currently testing an incinerator for disposal of certain types of propellants. Their comments are summarized as follows:

Application

- o Reportedly works well for those propellants which can be safely ground in water to form a slurry (about 70% water).
- o Slurry blown into rotary kiln and fuel oil mixed in (about 1.6 pound fuel oil per pound propellant).
- o Other non grindable propellants are open burned.

Drawbacks

- o Works well but cost prohibitive, see Section V.
- o Requires a grinder and technology to reduce our waste to less than 3/16 inch size; the feasibility of this is unproven with our propellants.

III. Technology: Boiler

A. Some work has been done to evaluate the use of energetic materials as supplementary boiler fuels. In a report presented at the American Defense Preparedness Association's 14th Environmental Symposium, members of the U. S. Army Toxic and Hazardous Materials Agency presented the following findings:

Application

- o Can be used in some instances where propellant can be reduced to 25-125 micron size.
- o Mix particles in fuel oil to burn in boiler.

Drawbacks

- o Unproven feasibility in actual operation.
- o Small particle size requires mixing with acetone, addition of fuel oil, then recovery of acetone; a complicated procedure.
- o Cost prohibitive, see Section V.

IV. Other Technologies

The following technologies have met with limited success in the destruction of small munitions:

deactivation furnaces

rotary kilns

fluidized bed incinerators

wet air oxidation

According to the U. S. Army Environmental Hygiene Agency, Toole Army Depot, and the Ordnance Environmental Support Office (OESO), none of these methods have yet proven successful in the treatment of rocket motor propellants.

V. Cost Analysis

1. Capital Costs - The cost of equipment and installation at the facilities contacted, converted into 1985 dollars. The conversion was accomplished using the plant cost index published in "Chemical Engineering" magazine. These costs do not include proposal work, design, or engineering (see note 2).

2. Engineering Costs - Proposal preparation (to obtain Navy funding), engineering design, field engineering and supervision.

3. Total Investment Costs - Both capital and engineering expenditures, the sum of items 1 and 2.

4. Depreciation - Calculated as are other similar expenses over nine years, using sum of the years digits method to year five and double declining balance method thereafter. The second year's values are used for this analysis. Note that a nine year depreciation is probably optimistic, as most of this equipment is subject to burnout and may require replacement in only a few years.

5. Operating Costs - Routine maintenance, fuel oil, and other operating expenses. Some of this data was unavailable, see item 10.

6. Annual Costs - Both depreciation of investment and operating costs, the sum of items 4 and 5.

7. Sales Impact - The percentage by which annual sales would be reduced, based on 1984 figures.

8. Profit Impact - The percentage by which annual profits would be reduced, based on 1984 figures.

9. The actual operating costs were unavailable. This number represents only one change of the refractory surface every five years. This was the life as experienced at the Longhorn Army Ammunition installation. We consider it conservative due to the increased chances of detonation with our types of wastes. This figure does not include other maintenance, utilities, labor or other operating costs.

COST ESTIMATES AND OPERATING IMPACT

TECHNOLOGY	CAPITAL COSTS[1]	ENGINEERING COSTS[2]	INVESTMENT COSTS[3]	ANNUAL DEPRECIATED VALUE[4]	OPERATING COSTS[5]	TOTAL ANNUAL COSTS[6]	SALES IMPACT[7]	IMPACT[8]
Air current destructor	1,140,000	126,000	1,266,000	277,000	7,000+[9]	284,000	-1%	-14%
Waste propellant incinerator	7,390,000	813,000	8,203,000	1,795,000	735,000	2,530,000	-7%	-126%
Supplemental boiler fuel	4,320,000	475,000	4,795,000	1,049,000	735,000	1,784,000	-5%	-89%

0346R/6

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

May 29, 1987

Chief Engineer (200-1a)

SUBJECT: RCRA Part "A" Permit Revision

RECEIVED
BUREAU OF
JUN 3 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, KS 66620-0110

Dear Mr. Ramsey:

Request Kansas AAP's Part "A" Permit be revised as indicated on enclosed EPA form 3. The form reflects a planned increase in open burning.

For further information, please contact Don Dailey, telephone: 316-421-7450.

Sincerely,

David L. Iverson
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Copy Furnished (w/encl):

D&Z

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

May 27, 1987

Chief Engineer (200-1a)

SUBJECT: Remedial Actions for Decontamination of the Demolition Grounds

RECEIVED
BUREAU OF
JUN 1 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620-0110

Dear Mr. Ramsey:

Reference letter, SMCKA-CE, April 9, 1987, subject as above.

Enclosed for your information is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated May 21, 1987, regarding subject.

The enclosed letter provides soil sample results showing a decrease of RDX and TNT concentrations in the demolition area. Water sample results indicate no detectable movement of contamination out of the Demolition Grounds.

Future soil and water samples results will be provided as they become available.

The point of contact is Frank Candelaria, telephone: 316-421-7588.

Sincerely,

David L. Iverson
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

HOME OFFICE
DAY & ZIMMERMANN, INC
1818 MARKET STREET
PHILADELPHIA, PA. 1910
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

May 21, 1987

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

RE: SMCKA-CE (200-1a) ltr dtd March 26, 1987;
subj: Approval of Decontamination Procedures

It is requested that the following laboratory results from samples collected at the Demolition Grounds be forwarded to the Kansas Department of Health and Environment:

1. April 15, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Water from old NPDES monitoring site - RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

2. May 6, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Water from old NPDES monitoring site - RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

3. May 13, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Water from old NPDES monitoring site - RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Contracting Officer's Representative
Kansas Army Ammunition Plant

May 21, 1987

Subject: Approval of Decontamination Procedures

4. May 14, 1987 - Soil sample outside demolition hole - RDX 1.4 mg/l
TNT LT 0.1 mg/l

The monitoring will continue until no contamination is detected. The results of future analyses will be forwarded as they become available.

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/HLL/cb

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

April 9, 1987

SMCKA-CE (200-1a)

SUBJECT: Remedial Actions for Decontamination of the Demolition Grounds

RECEIVED
BUREAU OF
APR 14 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620-0110

Dear Mr. Ramsey:

Reference:

a. Letter, KAAP, SMCKA-CE, March 9, 1987, subject as above.

b. Letter, KAAP, SMCKA-CE, March 17, 1987, subject as above.

Enclosed for your information is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated April 7, 1987, regarding subject.

The enclosed letter provides soil sample results showing RDX and TNT concentrations in the demolition area. Water sample results indicate no detectable movement of contamination out of the Demolition Grounds.

Future soil and water samples results will be provided as they become available.

For further information, please contact Don Dailey, telephone: 316-421-7450.

Sincerely,

David L. Iverson
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

...ONE
...8-421-7400

DAY & ZIMMERMANN, INC.
KANSAS DIVISION
PARSONS, KANSAS 67357-9106

April 7, 1987

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

RE: SMCKA-CE (200-1a) ltr dtd March 26, 1987;
subj: Approval of Decontamination Procedures

It is requested that the following laboratory results from samples collected at the Demolition Grounds be forwarded to the Kansas Department of Health and Environment:

1. March 11, 1987 - Soil sample outside demolition hole - RDX 15 mg/l
TNT 2 mg/l

2. March 17, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Water from old NPDES monitoring site - RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

3. March 26, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

4. April 1, 1987 - Soil sample outside demolition hole - RDX 4.0 mg/l
TNT LT 0.1 mg/l

MIKE HAYDEN
Governor
JACK D WALKER, M.D.
Secretary

STATE OF KANSAS

Forbes Field
Topeka, KS 66620-0001
(913) 862-9360

DEPARTMENT OF HEALTH AND ENVIRONMENT

March 24, 1987

Lieutenant Colonel David L. Iverson
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Re: EPA I.D. Number KS0213820467

Attn: Don Daily

Dear Commander Iverson:

This letter is in regard to your March 9, 1987 request for approval of decontamination procedures submitted by Day and Zimmerman for the demolition grounds.

The above procedures are approved. Please notify our office when the decontamination is complete and submit copies of all soil and water analyses performed.

Shoud you have any questions or require additional information, please contact me at (913) 862-9360, extension 293.

Sincerely,

John S. Ramsey
Hazardous Waste Section
Bureau of Waste Management

dl/A21
C Bill Towery
Karen Flournoy

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

March 17, 1987

SMCKA-CE (200-1a)

SUBJECT: Remedial Actions for Decontamination of the Demolition Grounds

RECEIVED
BUREAU OF
MAR 19 1987
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, KS 66620-0110

Dear Mr. Ramsey:

Reference letter, KAAP, SMCKA-CE, March 9, 1987, subject as above.

Enclosed for your information is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated March 9, 1987, regarding subject.

The enclosed letter provides initial soil sample results (items 2 and 3) showing RDX and TNT contamination in the demolition hole and in an area adjacent to the hole. Water sample results (item 3) indicate no detectable movement of contamination out of the Demolition Grounds.

Future soil and water samples results will be provided as they become available.

For further information, please contact Don Dailey, telephone: 316-421-7450.

Sincerely,

George M. Dechant
Captain, U.S. Army
Acting Commander

Enclosure

6408
ELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

March 9, 1987

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

RE: D&Z ltr EM-8502/PIB/CJS dtd March 5, 1987;
subj: Remedial Actions for Decontamination of
the Demolition Grounds

It is requested that the following laboratory results from samples collected at the Demolition Grounds be forwarded to the Kansas Department of Health and Environment:

1. February 26, 1987 - Soil sample from demolition hole - RDX 3 mg/l
TNT 2 mg/l

2. February 26, 1987 - Soil sample outside demolition hole - RDX 52 mg/l
TNT 121 mg/l

3. March 6, 1987 - Water from effluent side of Demolition Grounds berm
RDX LT 0.1 mg/l
TNT LT 0.1 mg/l

Efforts to decontaminate the soil by detonation began March 6, 1987. The soil was sampled after the first round of detonations. Results of analysis performed on these samples will be forwarded as they become available.

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/HLL/cb

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

RECEIVED
BUREAU OF
MAR 12 1987
WASTE
MANAGEMENT

March 9, 1987

REPLY TO
ATTENTION OF

SMCKA-CE (200-1a)

SUBJECT: Remedial Actions for Decontamination of the Demolition Grounds

Mr. John Ramsey
Hazardous Waste
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620-0110

Dear Mr. Ramsey:

Reference FONECON among Messrs. John Ramsey and John Paul Goetz, KDHE; Ms. Carolyn Smalley, Day & Zimmermann, Inc.; and Mr. Don Dailey, SMCKA-CE, March 3, 1987, regarding subject.

Enclosed as requested by referenced FONECON is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated March 5, 1987, subject as above, providing a written description of planned remedial actions.

Paragraph B.2 indicates that berms had been constructed around 16 of the 20 demolition holes. As of today, all holes have been bermed.

Paragraph B.5 gives initial sample results from the effluent side of the east berm. This site was resampled because contamination of the sample container was suspected. The resample results were below the detection limits for RDX and TNT.

For further information, please contact Don Dailey, telephone: 316-421-7450.

Sincerely,

David L. Iverson
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
· 215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

March 5, 1987

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

Subject: Remedial Actions for Decontamination of the Demolition Grounds

It is requested that the following information concerning explosive contamination of the Open Demolition (OD) Grounds be forwarded to the Kansas Department of Health and Environment (KDHE) as discussed in the March 2, 1987, conference telecon:

A. Cause of Explosive Contamination:

1. Wet explosive sumpage was incompletely detonated at the OD Grounds. The sumpage was to be detonated on the surface of the OD Grounds. Incomplete detonation was believed to be caused by contamination of the explosives with foreign material (mud).

2. Each detonation site (20) consisted of a hole approximately two feet wide and two feet deep; and a hole from detonations other than wet sumpage, approximately three feet wide and three feet deep. Each hole contained red water.

B. Initiated Actions:

1. Holes were dug beside each demolition hole to prevent run-off from the area. It was cloudy and threatening to rain.

Contracting Officer's Representative
Kansas Army Ammunition Plant

March 5, 1987

Subject: Remedial Actions for Decontamination of the Demolition Grounds

2. Berms of approximately one foot in height and 30 feet in diameter are being constructed around each demolition hole (20). A total of 16 have been constructed to date.

3. Berms were dug at the east end of the OD Grounds to prevent run-off from the area.

4. Water samples were gathered from three of the reddest of the 20 holes. The analyses were as follows:

Hole 1 = 14 mg/l RDX
12 mg/l TNT

Hole 2 = 14 mg/l RDX
6 mg/l TNT

Hole 3 = 21 mg/l RDX
39 mg/l TNT

Sample 4 = 8 mg/l RDX
3 mg/l TNT

(Sample 4 taken from road inside the OD Grounds.)

5. A water sample on the effluent side of the east berm was taken. The analysis was 1.4 ppm RDX and .1 ppm TNT.

6. The soil beneath the red water in a hole was sampled and analyzed. The results have not been received from the KAAP Chemistry Laboratory to date.

7. Water was sampled and analyzed from the old NPDES monitoring site which is a collection point for all waters draining from the Demolition and Open Burning Grounds. The analysis results were less than 0.1 ppm RDX and less than 0.1 ppm TNT (0.1 is the detection limit for each explosive).

C. Proposed Action:

1. Detonate reject grenades in the detonation hole to expose the undetonated explosives to heat treatment.

Contracting Officer's Representative
Kansas Army Ammunition Plant

March 5, 1987

Subject: Remedial Actions for Decontamination of the Demolition Grounds

2. Sample and analyze soil for explosives after detonation to compare explosive content with the soil sampled previously (Step No. 6 above).

3. Continue detonation inside 30' berms.

4. Collect water sample on effluent side of berms where discharges from OD Grounds converge.

5. Collect water sample from old NPDES monitoring site for OB/OD Grounds.

6. Discontinue this method of detonation of the wet sumpage.

It is anticipated that these remedial actions will not only decontaminate the soil in the OD Grounds, but will adequately prove that no explosive contamination has migrated from KAAP.

Permission to implement these remedial actions is respectfully requested from your agency.

If you have further questions or suggestions, please contact Carolyn J. Smalley at (316) 421-7434.

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/HLL/cb

Green File

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

REPLY TO
ATTENTION OF

November 14, 1985

SMCKA-OR

SUBJECT: RCRA Part "B" Permit Application Comments

RECEIVED
BUREAU OF
NOV 20 1985
WASTE
MANAGEMENT

Mr. John Ramsey
Hazardous Waste Section
Bureau of Waste Management
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620

Dear Mr. Ramsey:

Reference:

a. Letter, Kansas Department of Health & Environment, September 19, 1985, regarding subject.

b. Letter, Kansas Department of Health & Environment, October 23, 1985, regarding subject.

c. Letter, U.S. Environmental Protection Agency, August 27, 1985, regarding EPA I.D. No. KS0213820487.

d. Letter, U.S. Environmental Protection Agency, September 27, 1985, regarding EPA I.D. No. KS0213820467.

The comments received as attachments to references a. and b. are addressed in enclosed letters, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated October 31, 1985 (encl 1) and November 11, 1985 (encl 2). The U.S. EPA's comments (reference c) provided by reference a. are also addressed in the enclosures.

We thank you and Mr. John Smith, EPA, for taking the time to visit our facility on October 15, 1985, and the assistance given in resolving the comments to our RCRA Part "B" permit application.

The deficiencies to the revisions of our Part "B" application, hopefully, were either corrected at the above meeting or will be satisfied by the information enclosed.

Mr. John Ramsey
SUBJECT: RCRA Part "B" Permit Application Comments

November 14, 1985

If more information or clarification is needed, please feel free to contact Larry Grillot, telephone: 316-421-7455, or Ms. Carolyn Smalley, telephone: 316-421-7434.

Sincerely,

Charles T. Wallschlaeger
Lieutenant Colonel, U.S. Army
Commanding

Enclosures

Copy Furnished (w/encls):

U.S. EPA, RCRA Branch,
Waste Management Div

NS
X
6408
EPHONE
421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357-9106

October 31, 1985

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

Dear Sir:

RE: 1) Kansas Department of Health and Environment (John S. Ramsey) ltr dtd September 19, 1985

2) Kansas Department of Health and Environment (John S. Ramsey) ltr dtd October 23, 1985

The revisions to the Kansas Army Ammunition Plant (KAAP) Part B Hazardous Waste Permit Application requested in the letter referenced above are listed as follows:

Reference 1) 2. The question of whether or not the EWI is to be permitted will have to be decided by the EPA and the Department of the Army. This was thoroughly discussed in the October 15, 1985 meeting held at KAAP.

3. This item was resolved during the October 15, 1985 meeting and requires no revision.

4. The page number has been corrected and revised copies are enclosed as Attachment #1.

5. This item was resolved during the October 15, 1985 meeting and requires no revision.

9. Table B.1 has been revised to include weights of HW transported. Copies are enclosed as Attachment #2.

13. This item was resolved during the October 15, 1985 meeting and requires no revision.

19. Page G-10 was revised to include notification of the KDHE of evacuation activities. Copies of the revised page are included as Attachment #3. Page 37 of Appendix G.11 - Oils, Hazardous Wastes, and Hazardous Substances Spill Control and Contingency Plan has been revised to explicitly give the emergency coordinator the authority to implement the resources necessary to carry-out the contingency plan. Copies of the revised page are included as Attachment #4.

Encl

Contracting Officer's Representative
Kansas Army Ammunition Plant

October 31, 1985

Subject: Revisions to the KAAP Part B HW Permit Application

Reference 1)

20. Appendix G.1, Page 43 provides the required statement and requires no revision.

22. This item was resolved during the October 15, 1985 meeting and requires no revision.

26. Page C-50 has been revised to explain that a petition will be submitted should equivalent testing or analytical methods be required. Copies of the revised pages are enclosed as Attachment #5.

27. Table C.5 has been revised to clarify all test parameters and rationales. Copies of the revised pages are enclosed as Attachment #6.

30. Tables C.6 and C.7 have been revised to include the proper references. Copies are enclosed as Attachments #7 and #8 respectively.

31. Table C.6 has been corrected as stated in item 30 above.

32. Table C.8 has been revised to include annual analysis of generic wastes. Copies of the revised table are enclosed as Attachment #9.

33. This item was resolved at the October 15, 1985 meeting and requires no revision.

34. Waste analysis documentation will be forwarded to the EPA and KDHE as accomplished.

35. Table C.5 has been revised as stated in item 30 above.

38. Page I-1 has been revised as recommended and copies are enclosed as Attachment #10.

53. This item will have to be decided by the EPA and the Department of the Army. This was thoroughly discussed in the October 15, 1985 meeting.

55. This item was resolved at the October 15, 1985 meeting and requires no revision.

58. This item was resolved at the October 15, 1985 meeting and requires no revision.

59. Appendix I - MAXIMUM INVENTORY OF HAZARDOUS WASTES has been revised to include the requested information. Copies are enclosed as Attachment #11.

Contracting Officer's Representative
Kansas Army Ammunition Plant

October 31, 1985

Subject: Revisions to the KAAP Part B HW Permit Application

Reference 2)

1. Volume 1, Page D-4 has been revised as recommended and copies are enclosed as Attachment #12.
2. Clear copies of Volume 1, Page G-5 are enclosed as Attachment #13.
3. Volume 3, Page 41 has been revised to reflect the 140°F flashpoint definition of ignitable hazardous waste. Copies are enclosed as Attachment #14.

Very truly yours,

DAY & ZIMMERMANN, INC.

Carl L. Wilson

CARL L. WILSON
Plant Manager

CLW/SKC/gat

Attachment(s)
a/s

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS

OCT 3 1985

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Mr. Carl J. Schafer, Jr.
Director
Environmental Policy
Acquisition and Logistics
Office of the Assistant Secretary of Defense
Washington, D.C. 20301

Dear Mr. Schafer:

In your letter of July 25, 1985, you requested EPA concurrence on the proposed DoD policy regarding the applicability of the RCRA hazardous waste regulations to the demilitarization of military munitions. These are munitions which have not yet been used and which now may be recycled or disposed. Your request raises two issues: 1.) are such military munitions subject to RCRA prior to demilitarization and 2.) can DoD directives be applied in lieu of RCRA requirements for treatment, storage, and disposal of hazardous waste?

Military Munitions Subject to RCRA

RCRA Section 6001 requires federal facilities to comply with all Federal, State, and local laws pertaining to the management of hazardous waste. RCRA hazardous waste regulations apply from the time and at the point that the material (e.g., military munitions) becomes a hazardous waste. The identification of munitions subject to RCRA must be based on the definition of solid and hazardous waste as presented in 40 CFR Part 261.

Under 40 CFR §261.33, unused commercial chemical products become hazardous wastes only when discarded or intended for discard. Recycling (i.e., use, reuse, or reclamation) is ordinarily not considered to be a form of discard. Similarly, unused munitions ordinarily would not be considered to be wastes unless and until there is an intent to dispose or destroy them, and they would not be wastes when recycled in lieu of disposal. We thus agree that the mere assignment of munitions to the Special Defense Property Disposal Account does not automatically subject munitions to RCRA. It is not until DoD decides to handle the material in a manner which classifies it as a hazardous waste that its storage and transportation must be in accordance with RCRA rules.

Encl 1

ENC.

You should be aware, however, that burning of these munitions in military deactivation furnaces is considered to be incineration because the main purpose of the activity is waste treatment. Likewise, storage of these wastes prior to incineration would also be considered management of a hazardous waste.

The DoD strategy for identifying those munitions subject to RCRA appears to be in accordance with the RCRA regulations with the exception of the exclusion of hazardous waste storage. Your letter states that military munitions are never waste until demilitarization occurs. We interpret "demilitarization," as used in the DoD policy, to encompass all activities regulated under the RCRA rules except storage. Once there is an intention to dispose or destroy munitions, their storage as well as transportation would be regulated since they are hazardous waste. Therefore, the storage and transportation of military munitions that are hazardous waste are subject to RCRA prior to demilitarization.

RCRA Applicability to DoD

Your letter suggests that because DoD directives provide adequate protection of human health and the environment and "conform" to RCRA requirements, that DoD facilities may comply with DoD directives in lieu of the RCRA requirements. Our initial review of your directives indicates that in many respects, the DoD directives adequately address the corresponding RCRA requirements. However, we have also identified several deficiencies. For example, RCRA Subpart I §264.175 requires a containment system for container storage, whereas your directives do not. Under RCRA Subpart G §264.113, a closure plan is required for all hazardous waste facilities whether or not the facility plans to close. Your directives inaccurately state that this requirement does not apply.

Enclosed is a checklist which identifies all of the RCRA regulations promulgated prior to the Hazardous and Solid Waste Amendments of 1984 (HSWA or the "Amendments"). This checklist is used by the States during the State authorization review process to determine the equivalency of State standards to RCRA requirements. We believe the checklist will be useful to you, as a first step, to identify major omissions in the DoD directives when compared to EPA's "base" (pre-HSWA) program. Unlike State programs, however, the DoD directives must do more than achieve an equivalent level of environmental protection to EPA's program. DoD facilities must meet EPA's standards promulgated under RCRA, and thus the DoD Directives would need to be revised accordingly. We would be glad to help you determine whether specific parts of RCRA apply to DoD (e.g., closure requirements).

We are currently revising the checklist to reflect the Amendments and we should be able to provide a copy of the draft revised checklist in approximately one month. The Amendments will primarily require additions to the checklist; however, a few of the current provisions of the checklist may also need to be revised slightly. Please contact Chaz Miller (382-2220) of the State Programs Branch, Office of Solid Waste, with regard to the use of the checklist and its revisions.

We are confident that the final DOD directives will facilitate the permitting of DOD facilities and should reduce the need for authorized States to impose requirements other than those prescribed in your current directives.

Sincerely yours,

Jack W. McGraw
Deputy Assistant Administrator

Enclosure

ENT BY:COMMAND OFFICE ;11-19-91 3:15PM ; 913 296 6297;# 1

Green F. b

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

RECEIVED
BUREAU OF
OCT 1 1985
WASTE
MANAGEMENT

CERTIFIED MAIL
Return Receipt Requested

SEP 27 1985

Lt. Col. Charles T. Wallschlaeger
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357

EPA I.D. No.: KS0213820467

Dear Commander Wallschlaeger:

NOTICE OF DEFICIENCY/LETTER OF WARNING

The purpose of this letter is to formally notify you of deficiencies in your revisions to the Resource Conservation and Recovery Act (RCRA) Part B Permit Application submitted on May 6, 1985, to the Kansas Department of Health and Environment (KDHE) and the Environmental Protection Agency (EPA).

The KDHE letter of September 19, 1985 outlines these deficiencies. The EPA concurs with the comments in this letter. If the Federal Regulations are not addressed and your response to this letter remains incomplete, the EPA may initiate enforcement action pursuant to section 3008 of RCRA and termination of interim status pursuant to 40 CFR 270.10(e)(5) and 40 CFR Part 124, Subpart E.

If you have any questions on this letter or the Part B application, please contact John J. Smith at (913) 236-2888.

Sincerely yours,

David A. Wagoner
Director, Waste Management Division

cc: John S. Ramsey

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

Barbara J. Sabol, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

September 19, 1985

Lieutenant Colonel Wallschlaeger
Commander
Kansas Army Ammunition Plant (KAAP)
Parsons, Kansas 67357

Dear Commander Wallschlaeger:

Our review of the May 6, 1985 revision of your Facility's Resource Conservation and Recovery Act (RCRA) Part B Permit Application is complete. Although many of the deficiencies noted in our March 26, 1985 comment letter have been adequately addressed, a number of major problem areas still exist. For your information, I have attached EPA's and our comments on the May 6, 1985 revision. The concerns raised in these attached comments must be resolved before we can proceed with processing KAAP's application.

In addition, we have not received any revisions to date on the Explosive Waste Incinerator (EWI) section of the permit application. In an effort to gain a better understanding of the EPA's and the Army's position on permitting RCRA Hazardous Waste Incinerators, I attended a meeting between EPA-Region VII and the Lake City Arsenal-Missouri. At this meeting, I learned of several factors that probably will affect the status and permitting requirements for your Facility's EWI (memorandum attached). This area of your facility's hazardous waste operations and permitting status/requirements must also be resolved before we can proceed with processing KAAP's permit application.

It is our desire to clarify and resolve the concerns and permitting requirements noted in this letter at KAAP in a timely manner. Therefore, we would like to arrange a meeting with you/your representatives to discuss the attached comments and EWI permit status/requirements as soon as can be conveniently arranged. I will contact you/your representatives to determine when such a meeting may be arranged.

A response to these comments is expected by November 15, 1985. We appreciate your continued cooperation with the Hazardous Waste Management Program in Kansas. Should you have any questions about this letter, please contact me at our Topeka office.

Sincerely,

John S. Ramsey
Hazardous Waste Section
Bureau of Waste Management

JSR:mc

cc: Bill Towery-KDHE
Karen Flournoy-EPA
John Smith-EPA

Kansas Army Ammunition Plant-Parsons
Comments on Part B Application

1. Response is acceptable.

2. See attached memo on Lake City Arsenal.

3. An inspection will be required to determine if the number and location of the warning signs is adequate. A more descriptive narrative may be required.

4. Response acceptable. Note that two pages are labeled F-16. Please correctly number the pages.

5. Map A.1 does not show the locations of the internal-external phones and other emergency equipment. This information is required (40 CFR 264.52(e).

6,7,8. Response is acceptable.

9. Response must include the information requested in 40 CFR 270.14 (b) (10).

10,11,
12. Response is acceptable.

13. You have only provided an inspection log for the container storage area and a "general" inspection log. The level of detail and specific information requirements cannot be satisfied, for example, for emergency equipment, the EWI, the burning grounds, etc. (all hazardous waste operations) with a "general" inspection log. Inspection logs for each specific hazardous waste operation must be provided. Again, refer to tables F.1, F.2 and F.3 in your inspection schedule as an example.

14,15,
16,17,
18. Response is acceptable.

19. The statement provided does not explicitly give the emergency coordinator(s) the authority to implement the resources necessary to carry out the contingency plan. This requirement (40 CFR 264.55) must be explicitly satisfied.

20. It must be stated in the permit application that KDHE and EPA will be notified and a written report submitted within 15 days of an incident requiring implementation of the contingency plan (40 CFR 264.56 (c).

21. Response is acceptable.

22. Nothing is stated in the decontamination SOP's about decontamination of equipment nor is there any statement made that in the event emergency equipment is used (fire extinguisher, tools, personal protective equipment, etc.), that the equipment is revitalized so that it is fit (or replaced) for its intended use. A statement to this effect (40 CFR 264.56 (h) (2)) must be included in the permit application contingency plan.

23,24, 25. Response is acceptable.

26. A similar comment was made about the word " generally" in the application from the Sunflower Army Ammunition Plant (SAAP). We suspect this is so because Hickok and Associates prepared both permit applications. The response from SAAP explained that the intention of the word "generally" was to indicate that because of the sensitive characteristics of the materials handled and produced, sampling, storing and testing of wastes might require added care and precautions, specialized sampling devices or testing methods; and that a petition in accordance with 40 CFR 260.21 would be submitted should equivalent testing or analytical methods be required. We suspect a similar situation might exist at KAAP. If this is so, please indicate this in the permit application.

27. No rationale is given for flash point parameter for spent stencil solvents. In addition spent stencil solvents, spent non-halogenated and halogenated solvents are identified with an (*) as being propellent, explosive, pyrotechnic (PEP) items. How can spent stencil solvents and the other spent solvents above be PEP contaminated? If they are PEP contaminated, why isn't reactivity listed as a test parameter?

EP toxicity for lead and PH are listed as test parmaters for the desensitized azide sludge. K046 is the only rationale given. If EP toxic lead and PH make this waste hazardous, rationales must be given for these parameters. If the material is explosive contaminated, why isn't reactivity listed as a test parameter?

EP toxicity for lead is given as a test parameter for the spent carbon, yet no rationale is given for it.

The EP toxic metals to be tested for must be specified (or specified as all EP toxic metals) for the thermal treatment system ash.

Please furnish a narrative section to be inserted in the waste analysis section that answers all of the questions raised in item 27 of this letter as well as incorporate the required information into table C.5.

28,29. Response is acceptable.

30. Could you please identify the title of EPA document 600/2-80-18 that is referenced in the Part B.

31. Please explain how the EP toxicity procedure will be used per table C.6 pg. C-52 for tetrachloroethylene (Perchloroethylene) when perchloroethylene is not an EP toxic constituent? Also, note that although atomic absorption may be the test method to actually measure the metals concentrations, you have specified that the parameters for the metals (Pb & Cr) are EP toxic. Do you plan to test the actual waste for total metals or do you intend to run the tests on an acid extract of the waste as is specified in Appendix II of 40 CFR Part 261?

32. The waste analysis frequency must include an annual analysis. Please refer to our March 26, 1985 comment letter item number 32.

33. Your response to this item is not satisfactory. Comment 33 in our March 26, 1985 letter asked two specific questions about the CWP. Neither of these questions is addressed or answered in your response. This matter must be resolved or KAAP may be required to obtain a RCRA treatment permit to operate the CWP.

34. Documentation will be required to ensure that the wastes have been analyzed in the permit application.

35. Are the open burning, open detonation and EWI residuals all classed together as thermal treatment system ash? If so, please include a statement to this effect in table C.5.

36,37. Response is acceptable.

38. All references to 40 CFR 265 must be changed to 40 CFR 264. See fourth line up from the bottom of Page I-1.

39 through
52. Response is acceptable.

53. A note should appear in the permit application that states, "when procedures have been written for treatment of munitions at the EWI, they will be included into the permit application."

54. Response is acceptable.

55. Only the title pages for the attachments to Appendix I have been included. Is TB700-4 the decontamination procedure to be used for all areas at the plant?

56,57. Response is acceptable.

58. Please state in the permit application that all closure activities, including certification that closure is complete (by owner/operator and an independent registered professional engineer), will be completed within 180 days of receiving the final volume of hazardous waste.

59. Please specify the maximum amount of hazardous waste to be treated at any one time in the EWI (types of waste and amounts). Refer to comment 59 in our March 26, 1985 letter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

RECEIVED
BUREAU OF
AUG 28 1985
WASTE
MANAGEMENT

AUG 27 1985

Mr. John P. Goetz
Chief, Hazardous Waste Section
Kansas Department of Health and Environment
Building 321, Forbes Field
Topeka, Kansas 66620

Green File

Dear Mr. Goetz:

RE: Kansas Army Ammunition Plant, Parsons, Kansas
EPA I.D. No. KS0213820487

We have reviewed the RCRA Part B permit application for the Kansas Army Ammunition Plant, at Parsons, Kansas. The review comments for inclusion in your letter are outlined in Attachment I.

If you have any questions on these comments, please contact John J. Smith of my staff at (913) 236-2888.

Sincerely yours,

Michael J. Sanderson
Chief, RCRA Branch
Waste Management Division

Attachment

ATTACHMENT I

Chemical and Physical Analyses and Waste Analysis Plan

1. The following items must be addressed:

   A. The permit application should include completed analyses from representative Kansas Army Ammunition Plant (KAAP) waste streams.

   B. What type and frequency of sampling is conducted for the PEP items and reject munitions?

   C. The solvents, sludges and ash should be analyzed annually or when the process/product changes.

   D. The permit application should include completed analyses from representative KAAP waste streams.

2. Inspection Requirements

   A. The frequency of inspection for a number of items on the inspection schedule is as used or yearly. A number of these items should be inspected more frequently than annually. The as used frequency should be deleted.

   B. Loading and unloading areas should be included in the inspection schedule and log.

3. Contingency Plan

   Page 30 discusses pesticide operations. Are there any wastes resulting from this operation that should be regulated under RCRA.

4. Process Information

   The explosive Wastes Incinerator (EWI) must be permitted, but not for the reasons stated in Appendix D.1. Incinerators that treat wastes considered hazardous because of reactivity alone, need not be permitted. However, the EWI at KAAP treats reactive wastes that contain hazardous constituents listed in Part 261, Appendix VIII. For this reason, the EWI must be permitted according to the requirements set down by RCRA.

   Obviously, the EWI at KAAP does not meet the requirements as stated in 40 CFR Part 264, Subpart O. The unit will require modification if waivers of Subpart O are not granted.

Green

DEPARTMENT OF THE ARMY Mr. Grillot/pg/316-421-7455
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

May 6, 1985

REPLY TO
ATTENTION OF:

SMCKA-OR

SUBJECT: RCRA Part "B" Permit Application Comments, EPA I.D. No. KS 0213820467

Mr. John Ramsey
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620

Dear Mr. Ramsey:

Your letter dated March 26, 1985, requesting additional information and commenting on subject application is being responded to as enclosure to your information copy of our response to the Environmental Protection Agency (letter, SMCKA-OR, dated May 6, 1985, subject as above).

We felt this unified approach would simplify revising our Part B application and keep all documents the same. We hope this meets with your approval.

We thank you for your courtesy and assistance in this matter; and any questions may be directed to Mr. Larry Grillot, 316-421-7455, or Ms. Carolyn Smalley, 316-421-7434.

Sincerely,

Charles T. Wallschlaeger
Lieutenant Colonel, U.S. Army
Commanding

Copies Furnished:

USEPA
D&Z

RECEIVED
BUREAU OF
MAY 7 1985
WASTE
MANAGEMENT

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

Mr. Grillot/pg/316-421-7455

May 6, 1985

REPLY TO
ATTENTION OF:

SMCKA-OR

SUBJECT: RCRA Part "B" Permit Application Comments, EPA I.D. No. KS0213820467

Ms. Karen Flournoy
US Environmental Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Ms. Flournoy:

Reference:

a. Letter, USEPA, March 27, 1985, regarding Notice of Deficiency/Letter of Warning.

b. Letter, State of Kansas, Department of Health and Environment, March 26, 1985.

c. Letter, SMCKA-CO, January 31, 1985, subject: RCRA Part B Permit Application.

Enclosed are four copies of the Resource Conservation and Recovery Act (RCRA) Part B permit application revision with instruction sheet for inserting changed pages into the permit document. The Environmental Protection Agency's (EPA) comments and Kansas Department of Health and Environment's (KDHE) comments (references a and b respectively) in many areas were the same, and their concerns in others were similar. All comments are addressed or clarified in this revision or additional information provided as requested.

Two copies of this revision have been provided KDHE per their request.

We appreciate the EPA granting permission to respond to their comments ar the same time we respond to the KDHE's comments.

Per our letter (reference c), we have marked the revised pages FOR OFFICIAL USE ONLY (FOUO) as necessary as we consider this information security sensitive.

FOR OFFICIAL USE ONLY

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REMOVED FROM THE MATERIAL
BEARING PROTECTIVE MARKING

SW(?)

Ms. Karen Flournoy May 6, 1985
SUBJECT: RCRA Part "B" Permit Application Comments, EPA I.D. No. KS0213820467

Questions or comments concerning this revision can be addressed to Mr. Larry Grillot, 316-421-7455, or Ms. Carolyn Smalley, 316-421-7434.

Sincerely,

ORIGINAL SIGNED BY

Charles T. Wallschlaeger
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

Copies Furnished:
AMSMC-ISE (wo/encl)
AMCEN-A (wo/encl)
D&Z (wo/encl)
HNDED-PM (wo/encl)
KDHE (w/encl) (dupe)

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DIVISION OF ENVIRONMENT

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BUREAU OF
MAY 8 1985
WASTE MANAGEMENT

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3/ to DM & HH cc: John Goevy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

RECEIVED
BUREAU OF
MAR 29 1985
WASTE
MANAGEMENT

CERTIFIED MAIL
Return Receipt Requested

MAR 27 1985

Captain David R. Rupp
Department of the Army
Kansas Army Ammunition Plant Green File
Parsons, Kansas 67357-9107

EPA I.D No. KS0213820467

Dear Captain Rupp:

NOTICE OF DEFICIENCY/LETTER OF WARNING

The purpose of this letter is to formally notify you of deficiencies in your Resource Conservation and Recovery Act (RCRA) Part B permit application submitted to the Kansas Department of Health and Environment (KDHE) and the Environmental Protection Agency (EPA) on January 25, 1985. If the Federal regulations are not addressed and your response to this letter remains incomplete, EPA may initiate enforcement action pursuant to Section 3008 of RCRA and termination of interim status pursuant to 40 CFR 270.10(e)(5) and 40 CFR Part 124, Subpart E.

General Description of Facility

1. The General Description discusses the Explosive Waste Incinerator (EWI). It is unclear from discussions in other sections of the application as to whether or not the EWI is to be permitted. This issue needs to be clarified. Also, the waste analysis section includes data from contaminated waste processor (CWP) ash at Iowa Army Ammunition Plant (IAAP) and notes that these values are considered to be representative for ash of the (KAAP) CWP. Is there a CWP at KAAP that will be permitted as a RCRA incinerator? If not, the analyses from IAAP CWP ash should be deleted from the permit application.

Topographic Map

2. The following items must be addressed in the permit application:

A. Surrounding land uses;
B. Barriers for drainage or flood control; and
C. Legal boundaries of the hazardous waste site is considered to be the actual site legal boundary, not the storage facility walls, as the permit application states. A drawing/map of the legal boundary must be included in the permit application.

Floodplain Standard

3. Figure B.6 indicates that the EWI is located in Zone A, a 100-year flood area. The application must address the floodplain requirements for the EWI area if the EWI is to be a RCRA permitted incinerator.

Chemical and Physical Analyses and Waste Analysis Plan

4. The following items must be addressed in a revised waste analysis plan:

   A. The January 4, 1985, Federal Register, contains a new definition of solid waste. You will need to evaluate the impact of these new requirements on your operations.

   B. The permit application should include completed analyses from representative KAAP waste streams.

   C. The SW-846 sampling methods shall be followed. The statement on page C-50 that SW-846 is generally followed is inadequate. The Table C.7 reference for sampling methods should be SW-846.

   D. Should the rationale for spent stencil solvent (Table C.5) include EP Toxicity for lead and chromium?

   E. Why is off-spec material not considered to be a RCRA waste?

   F. What type and frequency of sampling is conducted for the PEP items and reject munitions?

   G. The solvents, sludges and ash should be analyzed annually or when the process/product changes.

Security

5. Does the routine patrol include the hazardous waste facilities? Also, the locations of fences, gates and keep out signs at the hazardous waste facilities must be shown on a map or drawing.

Inspection Requirements

6. The following comments regarding inspection requirements must be addressed:

   A. The inspection schedule should include security devices, as appropriate warning signs and "No Smoking" signs.

B. The frequency of inspection for a number of items on the inspection schedule is as used or yearly. A number of these items should be inspected more frequently than annually. The as used frequency should be deleted.

C. In addition to "Per NFPA" the current NFPA inspection frequency should be listed.

D. Loading/unloading areas should be included in the inspection schedule and log.

E. The Section 264.15(c) requirement for remedying problems found during an inspection must be addressed.

Preparedness and Prevention Requirements

7. The following questions result from the review of the waiver requests:

A. Will there always be more than one operator at each hazardous waste facility? Will there always be a truck equipped with a two-way radio at each hazardous waste facility where operators are working?

B. The locations of fire phones and fire hydrants must be shown on a map/drawing.

Preventive Procedures

8. All personnel protective equipment should be included in the inspection schedule.

Contingency Plan

9. Please address the following comments resulting from our review of the Oils, Hazardous Wastes and Hazardous Materials Spill Control and Contingency Plan:

A. Page 30 discusses pesticide operations. Are there any wastes resulting from this operation that would be regulated under RCRA?

B. Page 33 says "A telephone or hand-held two-way radio capable of summoning emergency assistance will be available at the scene of operations", yet an earlier section of the application requests a waiver from this requirement.

C. Page 44 should refer to Part 264, not Part 265.

D. Page G-16 says there is an audible alarm to signal evacuation of production areas. What is the signal for evacuation of the storage igloos and EWI?

E. Does the On-Scene Coordinator have the authority to commit the resources needed to carry out the contingency plan (264.55)?

F. Page G-17 indicates that a written report will be prepared if EPA determines the need for a written report. The facility emergency coordinator or other personnel are responsible for determining the need for, preparing and submitting a written report applicable to the hazardous waste operations. Section 264.56(j) states "The owner/operator must note in the operating record the time, date, and details of any incident that required implementing the contingency plan. Within 15 days after the incident he must submit a written report on the incident to the Regional Administrator."

G. Please submit a waiver request explaining in detail why certain arrangements were not made with local authorities.

H. The emergency equipment list contained in Appendix G.1 does not include fire extinguishing, spill control, communications and alarm and decontamination equipment. This equipment must be included in a section of the contingency plans.

Personnel Training

10. The permit application must address the following comments:

A. Is introductory and continuing training the same?

B. Have all existing employees received training in the items listed on page H-11?

Closure

11. The closure plan sections of the permit application should be revised to address the following comments:

A. The closure plan should be based upon Part 264 requirements, not Part 265.

B. Page I-5, I.4B EWI ash would be a hazardous waste until delisted if any listed hazardous wastes are burned in the EWI.

C. The maximum inventory (Appendix I) does not include the incinerator ash.

Container Storage

12. Figure D.2 shows the container storage layout as rows two containers wide and 5 containers long. Other figures show variations of this layout. The container layout must be such that even when stacked two containers high, all containers can be adequately inspected.

13. Will containers of dry waste be stored on timbers?

14. The volume of any ramps should be deducted when calculating the containmen system capacity.

RCRA Reauthorization

15. As you are probably aware, on November 8, 1984 amendments to RCRA were signed. In the next three weeks you will be receiving from EPA an information packet on these new provisions.

Confidentiality

16. You will receive a separate letter regarding the claim of confidentiality for certain Part B information submitted.

Please provide a response to this letter by May 1, 1985. If you have any questions on this letter please contact Karen A. Flournoy at (816) 374-6531.

Sincerely yours,

David A. Wagoner
Director, Waste Management Division

cc: John Goetz, KDHE

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

Barbara J. Sabol, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

March 26, 1985

Lieutenant Colonel Wallschlaeger
Commander
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Commander Wallschlaeger:

Our review of the Resource Conservation and Recovery Act Part B Hazardous Waste Storage and Treatment Permit Application is now complete for your facility. However, before we can continue the processing of your application, we will require more detailed explanations and additional information as described in the comments listed below.

Part A Application

endix A 1. We still have not received Form 1 of the Part A Application. A copy of this form was sent to KAAP on February 28, 1985.

General Facility Description

2. The General Description discusses the Explosive Waste Incinerator (EWI). It is unclear from discussions in other sections of the application as to whether or not the EWI is to be permitted. This issue needs to be clarified.

Prepardness and Prevention

z 3. Documentation that English is the language used on the warning signs is required. Also, a description of the warning sign locations and the number of signs is required (40 CFR 264.14(e). One of the maps should wing A.1 indicate their locations.

4. Concerning the waiver request from the internal communications and alarm 11 & F-15 requirements for the 1700, 1900 and 2700 area storage buildings, a description must be included in the waiver request of how at least two people will be present for all loading, unloading, or moving of hazardous waste into or out of these areas.

wing A.1 5. We require that a map show the locations of the internal-external phones and other emergency equipment.

6. Since KAAP has its own fire and police departments and does not wish to endix G.3 notify the local fire and police authorities, we must require that you submit a waiver request from this requirement.

2 & F-13

G-8

D-3 & F-5

7. It must be documented that adequate aisle space will be maintained in the storage areas (40 CFR 264.35).

F-11

8. Is water available at adequate pressure and volume to fight fires at the different facilities? This must be documented (40 CFR 264.32(d).

Traffic Documentation

B-7

9. In table B.1 the hazardous waste transport traffic volumes must include traffic and hazardous waste volumes for ordinary/non-mobilization operations, too. This information should also include the quantity of waste(s) moved per vehicle (270.14(b)(10)).

Security

F-1

10. Does the routine patrol include the hazardous waste facilities?

11. The waiver request for the topographic map requirements has been approved. However, the following items must be addressed in the permit application:

B-4 A. surrounding land uses;
B-5 B. barriers for drainage or flood control; and
B-3 & Drawing A-1 C. legal boundaries of the hazardous waste site is considered to be the actual site legal boundary, not the storage facility walls, as the permit application states. A drawing/map of the legal boundary must be included in the permit application.

Floodplain Standard

B-5

12. Figure B.6 indicates that the EWI is located in zone A a 100 year flood area. The application must address the floodplain requirements for the EWI area if the EWI is to be a RCRA permitted incinerator.

Inspection Schedule

Drawing F.1

13. Inspection logs are not adequate. I have enclosed a copy of an example inspection log for a container storage area that illustrates the type of information and format for an inspection log that we will require. Please note that you have provided the kind of information similar to that found on the example inspection log in Tables F.1, F.2 and F.3, but we must require that this type of information be included on the inspection logs as well as in the inspection schedule.

Second F-2

14. We must also require that you state in the application where at the facility the inspection logs will be kept.

F-3 (monthly)

15. In the frequency of inspection section of Table F.1 please define what are the inspection requirements of the National Fire Prevention Association.

Training Plan

H-1

16. Identify what training is introductory and what training is conducted on a continuing basis.

17. Have all existing employees received training in the items listed on page H-11? PG. H-10 - No. Only Applicable employees.

18. Update names and titles in Figure H.1 (i.e.; Captain Rupp). The job titles section state "... Main Responsibility and coordination through plant environmental coordinator." yet the environmental coordinator is not listed as a position or title on Figure H.1. Please correct this discrepancy.

Figure H.1

Congingency Plan

F-12
G-5

19. Please state explicitly that the on-scene coordinator is, in fact, the emergency coordinator. Also, we cannot accept a job description as the documentation that the emergency coordinator has been given the authority to implement the contingency plan, the authority must be specifically delegated to the emergency coordinator.

G-7

20. If the contingency plan is implemented you must notify KDHE and EPA within 15 days after the incident.

Appendix G.1 pages 32, 33, and 33a

21. A more detailed list of emergency equipment is required. For example, the safety equipment listed in the inspection schedules should be included in the emergency equipment list.

Appendix G.4

22. Include a description of the emergency equipment cleaning and refitting procedures (264.56).

Waste Analysis Plan

C-49

23. On page C-49 it is stated that off-spec materials are not managed under RCRA. This must be changed to state that when an off-spec hazardous item is declared a waste it is handled under RCRA.

24. The first sentence, 2nd paragraph must be reworked to state how the hazardous components of a waste are known.

C-49

25. A statement should be included along with the first sentence to explicitly state that the purpose of the waste analysis plan is to ensure that sufficient information is obtained to properly treat and store hazardous waste generated at the facility in such a manner so as to protect human health and the environment.

C-50

26. An explicit explanation must be provided for the word, "generally" in the sentence "Procedures outlined in Test Methods of Evaluating Solid Waste, SW-846 are generally followed at KAAP."

C-51

27. Table C-5 pg. C-51 "Waste Analysis Plant Test Parameters" does not contain sufficient information to satisfy 40 CFR 264.13(b)(1), parameter rationales. This regulation requires that, "... The rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);" In particular, just listing the hazardous waste code, or stating that a given waste is a listed waste does not satisfy the intent of the regulations. In addition, stating

that, "No reason to believe this waste will contain any other hazardous constituents in significant concentrations.", addresses why additional parameters are not analyzed for, but it does not address the rationale for choosing the parameters that are specified.

28. The table heading, "Test Methods", in Table C.7 is incorrect. This heading should be, "Sampling Method", or some other appropriate heading to indicate that items under it are the methods used to collect representative samples of the waste.

C-53

29. A footnote similar to the one used for Table C.7 should also be used for Table C.5 to indicate which wastes are actually analyzed and which wastes are not.

C-51a

30. A more detailed description/explanation should be provided in Table C.7 to document how representative samples of the wastes are collected.

C-53

31. Tetrachloroethylene is listed in Table C.5 as a generic waste, yet no test method is provided in Table C.6 for this waste. A test method must be provided for all hazardous wastes to be analyzed at your facility.

C-52

32. As we discussed with Ms. Carolyn Smalley and Ms. Vicki O'Brien during our March 12, 1985 visit to your facility, the frequency of analysis should include the words, "or product". However, having discussed the phrase, "or as necessary" with representatives of the U.S. EPA, we still must require that an explicit frequency (i.e. one year) be specified in your waste analysis plan. Neither KDHE or EPA has ever granted a waiver or exemption from this requirement to any facility before. Thus, it would be inconsistent for us to grant one for your facility.

C-54

33. The Contaminated Waste Processor (CWP) is exempt from RCRA regulation, yet CWP ash is listed in Table C.1 (Pg. C-10) as a hazardous waste contaminated with chromium. Please provide an explanation for this discrepancy including a description of the chromium contaminated wastes disposed of in the CWP.

C-11

34. Also, from our discussions on March 12, 1985, it is our understanding that a number of your wastes have not been analyzed since the plant began operation (K044, K045 and K046). As well, some of your hazardous wastes have never been analyzed (solvents, freon, sludges, spent acetone, spent lacquer, etc.). We must require that you conduct an initial analysis and reanalyze these waste according to the revised frequency of analysis section of your waste analysis plan. KAAP is currently participating in a program to have the reactive wastes tested. The remaining wastes will also be tested.

~~Table C.8~~

35. The waste analysis plan should also include sampling procedures, analytic parameters, rationales for parameters and test methods for determining whether or not open burning, open detonation and explosive waste incinerator residuals are RCRA hazardous wastes.

Table C.5

36. The requirements of 40 CFR 264.13(b)(6) must be addressed for management of ignitable, reactive and incompatable wastes.

D-1

F-18 - F-23a

Closure Plan

I-1 37. The word "General" should be removed or defined in the first sentence, paragraph I.1, page I-1.

I-1 38. In paragraph I.1a the code of federal regulations citation, 40 CFR 265 Subpart G is incorrect. 265 is for interim status facilities. KAAP will be a permitted facility when the application is approved and the regulation citations should reflect a permitted facility status (i.e. 40 CFR Parts 264 and 270).

I-1 39. You should state that amendments to the closure plan will be made whenever: 1) the operating plans, 2) the facility design, or 3) the expected year of closure changes.

I-1 40. Please add that KDHE, along with the U.S. EPA Regional Administrator, will be notified 180 days prior to the date closure activities are scheduled to begin.

I-1 41. Please reword the statement that an independent professional engineer will "sign a certificate ..." to state "that the owner/operator and an independent professional engineer will certify that closure was completed as required in the approved closure plan." Also correct the 40 CFR 265.115 regulation citation and state that KDHE will also receive this certification, along with the U.S. EPA Regional Administrator.

I-2 42. It is not clear if KAAP may or may not intend to partially close the hazardous waste facility at KAAP from paragraph I.1b. If partial closure is anticipated, you should set closure dates for each area or major operation or request a waiver from this requirement.

I-2 43. In item 1 of Paragraph I.1d state how and what criteria will be used to determine which wastes will be shipped off site, or thermally treated at the EWI or OB/OD grounds.

I-2 44. In item 2 of paragraph I.1d define what "plant operating procedures" will be employed to decontaminate the storage igloos.

I-3 45. Under closure activities for the EWI, Item 1, include a statement that "steady state condition" will be as determined in the trial burn and as specified in the RCRA hazardous waste permit. Under Item 2, or in the waste analysis plan state how and what tests will be run to determine if the EWI ash is a reactive characteristic hazardous waste. Under Item 3, state what criteria will be used to determine whether the EWI ash residue will be disposed of on or off-site. Under Item 4 state where in the permit application the "standard army decontamination and layaway procedures" are located and what "solvents" will be used to clean the EWI and how the spent solvents will be disposed of.

I-3 46. Under decontamiantion of equipment I.1e, state where in the permit application the "closure plan attachments" may be found.

I-3 47. Under schedule of closure I.1f, change "...six-month..." to "180 day". Also there is an inconsistency in the expected date of closure. In this

section it is stated a closure date cannot be determined, yet on the following page (I-4), 2100 A.D. is given as the expected year of closure for all HWM facilities at KAAP. Correct the inconsistency.

48. Provide a more specific regulation citation for the post closure exemption (Section 264.110) on Page I-5.

I-6

Appendix I Closure Comments

Appendix I pg. 1

49. Under purposes of the closure plan, Item 2, remove the word "disposal" because KAAP is not making an application for a disposal permit.

Appendix I pg. 1

50. Change all references to the "State of Kansas" to Kansas Department of Health and Environment.

App. I pg. 1

51. In the section describing the closure certification, change the phrase "...signed by the owner and a registered professional engineer..." to explicitly state the owner/operator will certify and a registered independent professional engineer will certify that all closure activities have been completed according to the procedures specified in the approved closure plan.

App. I

52. Identify which decontamination "Standard Operating Procedures (SOP)" will be employed at each hazardous waste management area and identify the Attachments 1 through 5 and number the pages in the Attachments. In other words, provide a cover page at the front of each attachment labeling that attachment or type or print the attachment number on the first page of the attachment. Until this item is corrected the decontamination section cannot be properly reviewed.

pg. 3

53. For the section entitled "Closure of Hazardous Waste Storage Facilities" describe what treatment or disposal method, on or off site, will be employed for what waste and what criteria will be used to determine it. Under Item 1, indicate which solvents will be reclaimed and which will be treated at the burning grounds. Under Item 2, indicate what criteria will be used to determine whether a waste will be treated at the EWI or treated at the explosive waste burning grounds.

pg. 5

54. Under "Closure of Thermal Treatment Facilities" state EWI steady state or operating conditions will be determined in the trial burn or as specified in permit. Include in testing of ash residue that a reactive test (specify test) and an EP Toxicity test, 40 CFR 261 Appendix II, will be conducted and explicitly state how the waste will be disposed of depending on the outcome of the test results.

pg. 5

55. Specify which "Standard Decontamination and Layaway Procedures" will be employed to close the EWI facility. State what solvents will be used for decontamination and what will be done with spent solvents.

Deleted

56. Closure of the Demolition Range and Open Burning Area Is the demolition range the open detonation area? If so change the title so that it is consistent with all other references to this area. Since the U.S. EPA has not yet promulgated regulations for these types of treatment process, please remove these areas from the closure plan. When regulations are promulgated the permit can be modified to include these areas.

Attachments 5 & 6 to App. I

57. Include ARRCOM regulation 385-5 and appropriate sections of Army Technical Bulletin (TB) 700-4. Cite specific references to these and other regulations, bulletins and SOPs when they are referenced in the permit application.

pg. 4 & 7

58. Indicate if any of the closure activities are done concurrently. Note that all closure activities must be completed within 180 days after receiving the final volume of hazardous waste and all waste must be treated, removed from the site or disposed of on-site within 90 days of receiving the final volume of hazardous waste.

59. Maximum Inventory

pg. 1

1. Identify maximum amounts of each individual wastes.

2. Identify maximum amount expected to be treated at EWI. What about ash and residuals?

When preparing the response to the comments listed in this letter, please keep in mind two factors, First, even though we have a fairly thorough understanding of your facility and we believe that nearly all of the hazardous waste management practices are more than adequate, the Part B Hazardous Waste Permit Application is to be a legal document and must, in itself, describe and explain in detail all hazardous waste management activities at your facility. Second, please foward a copy of this letter to the person(s) who will be directly responsible for revising the Part B application, it is our understanding that this may not have been the case with our November 1, 1984 comment letter. We feel a more complete and timely response will result.

Please submit the revisions, as outlined in this letter, to our office, post marked no later than May 6, 1985. Failure to submit the additional information requested in this letter may result in denial of KAAP's hazardous waste treatment and storage permit.

Your continued cooperation with the hazardous waste management program in Kansas is appreciated. We look forward to resolving the questions and information requirements noted in this correspondence. Should any questions arise about this letter, please feel free to contact me at our Topeka Office (913) 862-9360, Ext. 577.

Sincerely,

John S. Ramsey

John S. Ramsey
Hazardous Waste Section
Bureau of Waste Management

JSR:ah
cc: Bill Towery, KDHE
Karen Flournoy, EPA
Carolyn Smalley, KAAP

REPORT OF JOINT RCRA COMPLIANCE INSPECTION

AT

KANSAS ARMY AMMUNITION PLANT

PARSONS, KANSAS

EPA I.D. NUMBER: KS0213820467

MARCH 12, 1985

BY

U.S. ENVIRONMENTAL PROTECTION AGENCY
Region VII
Environmental Services Division

INTRODUCTION

At the request of the Waste Management Division, a joint RCRA compliance inspection (JCI) was performed at the Kansas Army Ammunition Plant in Parsons, Kansas, on March 12, 1985. This inspection was performed with the Kansas Department of Health and Environment (KDHE) as a means of evaluating the effectiveness, reliability and completeness of the State's inspection procedures in the administration and enforcement of their hazardous waste program established pursuant to Section 3006 of the Resource Conservation and Recovery Act (RCRA), as amended. This narrative report presents the results of the inspection.

PARTICIPANTS

Kansas Army Ammunition Plant (KAAP):
- Lt. Col. Charles T. Wallschlaeger, U.S. Army, Commander
- Capt. George Dechant, U.S. Army, Executive Officer
- Larry Grillot, Department of the Army, Operations Review Officer
- Ralph E. Walden, Day and Zimmermann, Manager - Industrial Base Planning
- Harvey Lakin, Day and Zimmermann, Manager - Facilities Engineering
- Carolyn J. Smalley, Day and Zimmermann, Environmental Engineer
- Victoria S. O'Brien, Day and Zimmermann, Junior Environmental Engineer

Kansas Department of Health and Environment (KDHE):
- William T. Towery, Investigation and Enforcement Section, Southeast District
- John S. Ramsey, Hazardous Waste Section

U.S. Environmental Protection Agency (EPA):
- John W. Bosky, Environmental Engineer

FACILITY DESCRIPTION

The Kansas Army Ammunition Plant (KAAP) in Parsons, Kansas, is a government-owned, contractor-operated installation under the jurisdiction of the U.S. Army (Armament, Munitions and Chemical Command). The facility is currently operated by Day and Zimmermann, Inc., Kansas Division. Operations conducted at KAAP include loading, packing, and assembling munition items. The plant does not currently manufacture propellant, explosive or pyrotechnic items. As a result of operations conducted at KAAP, various wastestreams are generated, some of which are classified as hazardous. The following is a summary of these wastestreams and the methods utilized for their management:

Spent Freon - KAAP generates spent Freon from a cleaning operation conducted at their 700 area. This wastestream is accumulated in drums and stored on site. KAAP officials estimated that the current generation rate of spent Freon was around 500 pounds per year. The spent Freon has been classified as an F001 listed hazardous waste.

Spent Duplicating Solution - KAAP generates an estimated 50 gallons per year of a spent electrostatic solution from operation of a duplicating machine. This solution contains tetrachloroethylene and has been classified as an F002 listed hazardous waste. This wastestream is currently being accumulated and stored on site.

Spent Acetone - An estimated 400 gallons per year of spent acetone is generated at KAAP. Spent acetone is generated at the 300 area from cleaning stencils that have been used to mark bombs. The spent acetone is accumulated in drums and stored on site. This waste has been classified as an F003 listed hazardous waste.

Spent Toluene - KAAP generates an estimated 15 gallons per year of a spent toluene waste. This waste is generated from cleaning laboratory equipment used to test fuel oil. Facility officials indicated that this waste is accumulated in a 5-gallon can and burned in the 300 area boiler for recovery of the heat value. Facility officials further stated that this wastestream consists primarily of fuel oil, and that the normal feed to this boiler system was fuel oil. It was unclear if any residues are generated from the operation of the boiler. This wastestream has been classified as an F005 listed hazardous waste.

Paint Wastes - KAAP generates a paint sludge from the operation of a water curtain on a paint booth located at the 200 (maintenance) area. This sludge has been classified as hazardous due to chromium and lead EP Toxicity. KAAP officials estimated the generation rate of this wastestream to be around 200 pounds per year. In addition, facility representatives indicated that a spent thinner wastestream was generated from cleaning painting equipment. This wastestream has been classified as an ignitable hazardous waste and is generated at the 200, 300 and 700 areas of KAAP. Both paint wastestreams are accumulated in drums and stored on site. KAAP

representatives stated that a type of petroleum naptha was used as a paint thinner and cleaner, but a spent thinner generation rate was not specified. It appeared that this generation rate was included with the paint sludge generation rate, and that the two wastestreams are mixed into common drums.

Waste Alcohol - KAAP generates an estimated 600 gallons per year of an alcohol waste from their 700 area. It was explained that explosives used in the 700 area come packed in plastic bags surrounded by sawdust soaked in methanol. KAAP officials consider this alcohol-soaked sawdust to be potentially contaminated with explosive material, and dispose of it at the open-burning area. This wastestream has been classified as an ignitable hazardous waste.

Waste Explosives - The KAAP facility generates an estimated 20,000 pounds per year of material designated as waste explosives. These materials have been classified as reactive hazardous wastes. Items that are included in this category include off-spec explosives, washdown material from the 300 area (any large chunks captured on a screen prior to the treatment tanks), and munition items that have failed quality assurance checks. Whenever possible, reject munitions are reused in one of several manners. Waste explosives are currently being disposed of at either the open-burning area or the open-detonation area.

Spent Carbon - Wastewater generated at the 300 area is treated in a carbon column absorption system prior to discharge under their NPDES permit. The 300 area is used to produce 155 mm artillery shells. An estimated 4,000 pounds per year of spent carbon is generated from this wastewater treatment system. The spent carbon has been classified as a K045 listed hazardous waste and is accumulated on site in metal cans. This waste is disposed of on site by open burning.

Wastewater Treatment Sludges - Wastewaters generated from the 700 area operations are treated in a system of concrete tanks prior to discharge under an NPDES permit. The 700 area is used to produce M55 detonators, lead cups used in M42 and M46 grenades, and expulsion charges for M483 projectiles. Wastewaters are treated by using caustic addition and live steam injection. The wastewaters are primarily generated from the washdown of the various building work areas. Periodically, facility personnel clean out any residual sludges that have accumulated in the treatment tanks. This was last done in 1981. Facility representatives stated that a total of 39 drums (3,300 pounds) of sludge was generated during the 1981 cleaning. Facility representatives further stated that due to the types of operations conducted at the 700 area, these sludges would be classified as combination K044/K046 listed hazardous wastes. This sludge is currently being stored on site. It was also stated that future plans include the installation of a lead-precipitation system for wastewater discharged from the treatment tank system. The lead-precipitation system will supposedly discharge to KAAP's sanitary wastewater treatment plant.

Sanitary Wastes - All sanitary wastes generated at KAAP are treated in a trickling filter system with primary and secondary clarification. When the 700 area lead-precipitation system is constructed, it will supposedly discharge to the trickling filter operation. If this is actually done, it appears that any sludge generated from the trickling filter operation would be properly classified as a K044/K046 listed hazardous waste.

Flyash - Flyash from a coal-fired boiler at KAAP is disposed of at an on-site landfill. Facility representatives indicated that this was a State authorized disposal method.

Waste Oil - Waste oil generated at KAAP is collected and burned in a boiler for heat value recovery. The generation rate was estimated to be around 30 gallons per month.

Plant Trash - Trash generated at KAAP (e.g. boxes and office wastes) is disposed of at an on-site landfill. In addition, construction debris and non-hazardous process wastes are disposed of in this landfill.

Storage Areas - KAAP has submitted a Part B Permit Application that lists 13 locations that are (or would be) used to store hazardous wastes. These storage areas are a type of dirt-covered concrete bunker, also described as igloos. Five of these are located in the 1700 area, four in the 1900 area and four in the 2700 area. The KAAP Part B indicates that the 1700 area igloos are to be used to store all of the types of hazardous wastes generated at the facility. The Part B further indicates that the 1900 area igloos will be used to store any overflow from the 1700 area igloos, and that the 2700 area igloos will be used to store waste explosives prior to open-burning, open-detonation or incineration. At the time of this inspection, two of the 1700 area igloos (#1717 and #1705) were being used to store hazardous waste. In addition, igloos at the 2700 area were being utilized, but this area was not entered during the inspection since the detonation area was in use.

Open-Burning Area - KAAP disposes of reactive hazardous wastes such as off-spec or scrap explosives at an open burning area. The burn area consists of three metal pans and a metal wire cage that have been raised off of the ground. Facility representatives stated that burn residue is collected and analyzed for hazardous characteristics. It was further stated that this residue has always been found to be non-hazardous and has been disposed of at an on-site landfill.

Open-Detonation Area - Reactive hazardous wastes such as munitions are disposed of at KAAP by open-detonation. Items to be detonated are placed into a pit dug for that purpose and exploded with a separate charge. It should be noted that this operation is not conducted at the same location as the open-burning of waste explosives.

Burning Cages - Trash or process waste generated at KAAP that has been (or has potentially been) contaminated with any type of explosive is burned on site in one of several large wire cages. These materials have all been classified as non-hazardous by KAAP. The burn residues have also been tested and have been classified as non-hazardous.

Contaminated Waste Incinerator - KAAP has an on-site incinerator system that is used for the disposal of materials that are (or potentially are) contaminated with explosives. Facility officials stated that all wastes disposed of in this system have been classified as non-hazardous. At the time of this inspection, the contaminated waste incinerator was not in operation (although the system has been utilized in the past). Facility representatives indicated that the system was going to be used again in June. It was stated that the residues from this sytem were tested and found to be non-hazardous.

Explosive Waste Incinerator - This refers to an incinerator at KAAP that was installed for the disposal of waste explosives and unusable munitions and components. Facility representatives indicated that this incinerator system was installed prior to the effective date of RCRA, but that it was only used for a very brief period in the past. The incinerator was not in operation at the time of this inspection. Facility representatives further indicated that this incinerator system will not be used for the disposal of any wastes classified as hazardous. It was not explained why this incinerator operation was included on the KAAP Part B Permit Application if it is not their intention to use it for the disposal of hazardous wastes.

Land Farm Operation - During a discussion of facility operations, facility representatives indicated a landfarming operation is used at KAAP for the treatment of oil-contaminated material from spill cleanups. It was further stated that this operation is now being used to treat oil residues from some old storage tanks at KAAP that are being removed. This area was not looked at during the visual inspection of KAAP.

INSPECTION FINDINGS AND CONCLUSIONS

1. The Kansas Army Ammunition Plant (KAAP) in Parsons, Kansas, submitted a Notification of Hazardous Waste Activity on August 18, 1980. This notification listed them as both a generator and as a treat/store/dispose facility. A Part A Permit Application was submitted for this facility on November 17, 1980. On July 25, 1984, the KAAP facility was requested to submit a Part B Permit Application. The Part B for KAAP was submitted on January 25, 1985, and is currently under review by EPA and KDHE permit personnel.

2. Based on this inspection, the State inspector determined that KAAP was not meeting some of the requirements for a generator and TSD facility pursuant to rules under the Kansas Hazardous Waste Management Law. The following items were noted by Mr. Towery as needing correction and/or improvement:

a. KAAP was not maintaining adequate aisle spacing in some portions of the #1717 storage building.

b. The contingency plan maintained at the facility did not contain an evacuation map.

c. The waste tracking records maintained by KAAP did not summarize items in storage by wastestream. This made it difficult to verify that all stored items were being accounted for.

d. The waste analysis plan did not list a specific frequency of testing.

e. Some containers of hazardous waste (in accumulation areas) did not have full identification markings. Mr. Towery indicated that all drums being filled should be labeled to minimize any possible confusion.

f. The hazardous waste collection location at the 300 area was somewhat sloppy. Empty paint containers were scattered around the area where waste was being accumulated.

g. Mr. Towery indicated to facility representatives that he was unsure if the practice of burning the toluene/oil wastestream for heat value recovery was acceptable. Mr. Towery further stated that he intended to further discuss this issue with other KDHE officials.

3. Facility representatives indicated that KAAP was in the process of starting up the 1100 area and that it would be fully operational by August 1985. The area will be used to produce a type of combined effects munition (CEM). It was stated that the primary hazardous wastestreams generated from this area will be waste explosives (D003) and spent carbon (K045).

DISCUSSION OF INSPECTION

This inspection was performed on a pre-announced basis. The format of the inspection consisted of an initial introduction and presentation of credentials, an explanation of the purpose of the inspection, and the procedures which would be followed, a discussion of facility operations and the wastestreams that are generated (including waste management practices), a review of the facility's hazardous waste management plans, programs and records, and a visual inspection of the waste management areas. The inspection was concluded by an exit briefing during which Mr. Towery summarized his findings and recommendations. At this time, Mr. Towery also indicated that he would prepare a formal inspection report which would be sent to KAAP. A Notice of Violation was not issued to KAAP.

The following comments are provided based on my observations made during the course of the inspection and serve as a critique of the State inspector's procedures:

1. This inspection was conducted on a pre-announced basis. Mr. Towery had contacted facility representatives on the previous day to verify that authorized representatives would be present for our visit and to expedite our entry into the installation. This notification did not appear to adversely impact the inspection in any manner.

2. The State inspector appeared to be well prepared for this inspection. Mr. Towery had reviewed all facility information in the district files and had discussed KAAP's Part B Permit Application with the KDHE official responsible for its review. In addition, the State inspector entered the facility with all equipment and supplies necessary to complete the inspection (e.g, checklists, copies of regulations, camera and safety equipment). It should be noted that although Mr. Towery had accompanied another State inspector on a previous RCRA inspection at KAAP, he had not conducted (as the lead inspector) a RCRA compliance inspection at any fully regulated TSD facility prior to this.

3. The State inspector reviewed facility operations and the wastestreams currently handled at the installation (both hazardous and non-hazardous). This review appeared to be complete. In addition, a discussion was held to verify how the wastes are currently being managed.

4. Mr. Towery conducted a complete review of all required hazardous waste management plans, programs and records. No manifest records were reviewed because KAAP has not shipped any hazardous waste off site since the effective date of RCRA. The State inspector utilized an inspection checklist as a guide during this review, but did not appear to rely on it excessively. Photocopies of facility information were obtained as inspection documentation.

5. As part of this inspection, the State inspector conducted a visual inspection of the waste management areas. The open detonation area (including the storage igloos in the area) was not inspected since it was being used on the day of our visit. In addition, the two incineration systems were not inspected because they are not currently operational and have not been used for an extended period. Mr. Towery obtained a photograph to document sloppy storage conditions at the 300 area. Inadequate aisle spacing at the #1717 storage igloo was not photographically documented because explosives are stored at this location and a flash would have been necessary.

6. At the conclusion of this inspection, Mr. Towery summarized his findings and recommendations in an exit briefing. The exit briefing covered all problems and deficiencies observed during the inspection. Mr. Towery then indicated to facility representatives that he would prepare and send a formal inspection report. At this time, the State inspector also gave facility officials an opportunity to declare any information discussed or reviewed as confidential if appropriate.

7. This inspection was conducted in an effective and professional manner, and appeared to result in a satisfactory evaluation of the facility's compliance status. Mr. Towery displayed a good working knowledge of the applicable State and Federal regulations during this inspection. Although the State inspector asked "leading" type questions at various times during the inspection, this tendency did not appear to be persistent and did appear to result in any inadequate or inaccurate information being obtained from facility representatives.

John W. Bosky
Environmental Engineer
Date: 4-10-85
Activity Number: APF69

Robert B. Dona
Chief, Field Investigations Section
Date: 4-11-85

Attachments:
Overview Checklist (4 pages)
KDHE Inspection Report (23 pages)
KAAP Annual Report (6 pages)

JOIN. RCRA OVERVIEW INSPECTION CHECKL.ST

Date of Inspection: MARCH 12, 1985

Facility Name/Location KANSAS ARMY AMMUNITION PLANT
EAST MAIN
PARSON'S, KANSAS 67357-9106

Facility Phone Number: 316/421-7434 (7445)

Facility EPA/State ID Number(s): KS0213820467

Facility Cassification: ☒ Generator ☐ Transporter ☒ TSD acility
☐ Resource Recovery Facility

Participants:	Name	Title
Facility:	— SEE NARRATIVE FOR FULL LISTING —	
State: KDHE	BILL TOWERY	LEAD INSPECTOR
	JOHN S. RAMSEY	HAZARDOUS WASTE SPECIALIST
EPA:	JOHN W. GOSKY	ENVIRONMENTAL ENGINEER

INSPECTION EVALUATION (S = Satisfactory, U = Unsatisfactory)

		Remarks/suggestions for improvement
S	Preparation for Inspection	
S	Inspection Tools	
S	Entry Procedures	
S	Facility Information Verification	
S	Records Check	
S	Site Inspection	
S	Documentation	
S	Outbriefing	
S	Inspection Technique	

Comments:

SECTION A - Preparation for Inspection

	YES	NO	N/A
1. Reviewed following facility information/files			
a. Notification	✓		
b. Part A Applications and/or permit	✓		
c. Previous inspection reports	✓		
d. Letters, correspondence, misc.	✓		
2. Had coordinated with EPA/other state personnel	✓		
3. Was knowledgeable of regulations	✓		
4. Had performed previous RCRA inspections *	✓		
5. Was overall familiar with facility *	✓		
6. Had inspected this facility previously *	✓		
7. Had contacted facility to provide notification of inspection ON THE PREVIOUS DAY	✓		

Comments: *MR. TOWERY HAD CONDUCTED NO PREVIOUS TSD INSPECTIONS AS THE LEAD INSPECTOR. HE HAD ACCOMPANIED ANOTHER NDNR INSPECTOR ON A PREVIOUS RCRA CEI AT THE KMF FACILITY.

SECTION B - Inspection Tools

1. Adequate individual safety equipment	✓		
2. Brought camera and film	✓		
3. Brought copy of regulations	✓		
4. Brought copies of appropriate checklists	✓		
5. Brought files on facility	✓		
6. Brought adequate writing material	✓		
7. Field NOV (if applicable) *			✓

Comments: *THE NDNR HAS NO ESTABLISHED POLICY FOR ISSUING FIELD NOV'S

SECTION C - Entry Procedures

1. Did inspector attempt to contact designated official/representative?	✓		
2. If designated official/representative was not available, did inspector determine that spokes-person was authorized to speak for facility?			✓
3. Was facility provided prior notification of inspection by inspector? ON THE PREVIOUS DAY	✓		
4. If entry was denied, did inspector follow established state procedure?			✓
5. Did inspector present his credentials?	✓		
6. Did inspector explain authority for inspection?	✓		
7. Did inspector explain reason for inspection?	✓		
8. Did inspector explain facility's confidentiality rights?	✓		
9. Did inspector explain how the inspection would proceed?	✓		

Comments:

SECTION D - Facility Information Verification

	YES	NO	N/A
1. Obtained information on processes/ operations at facility.	✓		
2. Identified and quantified all wastes generated.	✓		
3. Wastes were properly classified.	✓		
4. Method of determining hazardous waste was established.	✓		
5. Methods of handling and disposal of wastes are determined.	✓		
6. Information contained in notification, Part A application and/or permit was verified	✓		

Comments: VERY THOROUGH REVIEW

SECTION E - Records Check

1. Did the inspector inspect and evaluate the following records in detail?			
a. Manifests NO OFF-SITE SHIPMENTS YET			✓
b. Inspection records	✓		
c. Operating records	✓		
d. Waste Analyses	✓		
e. Personnel Training records	✓		
f. Annual reports	✓		
2. Did inspector inspect and evaluate the following plans/programs to determine compliance with requirements?			
a. Preparedness and prevention	✓		
b. Contingency plan	✓		
c. Groundwater Monitoring			✓
d. Closure/~~post-closure~~	✓		
e. Financial assurance/liability FEDERAL FACILITY			✓
3. Did inspector utilize appropriate checklists?	✓		
4. Did inspector obtain photocopies?	✓		

Comments:

SECTION F - Site Inspection

1. Did inspector visually inspect and fully evaluate each area of the facility were hazardous wastes are generated or managed? *	✓		
2. Were photographs taken to document deficiencies or violations?	✓		
3. Did inspector obtain or make sketch of facility?		✓	

Comments:

* SOME AREAS WERE NOT ACCESSIBLE BECAUSE THEY WERE IN USE ON THE DAY OF THIS INSPECTION.

SECTION G - Documentation of Inspection

	YES	NO	N/A
1. Did inspector take adequate notes?	✓		
2. Did inspector obtain photocopies of specific records, reports, etc. to document deficiencies?	✓		
3. Did inspector complete applicable checklists to document results of inspection?	✓		
4. Did inspector take photographs to document observations?	✓		

Comments:

SECTION H - Outbriefing

1. Did inspector explain deficiencies/ violations to responsible official?	✓		
2. Was a Notice of Violation issued? *			✓
a. Were all deficient items noted?			✓
b. Were regulatory cites correct?			✓
3. Did inspector require facility to take any actions to correct deficiencies?	✓		
4. Did inspector adequately address any questions from facility?	✓		
5. Were receipts provided for materials received on-site? **			✓

Comments: * KDHE HAS NO POLICY FOR ISSUING FIELD NOV'S
** KDHE HAS ESTABLISHED NO PROCEDURES FOR PROVIDING DOCUMENT RECEIPTS

SECTION I - Inspection Technique

1. Did inspector avoid leading questions? *	✓		
2. Did inspector use probing questions to obtain information?	✓		
3. Was inspector thorough in his/her inspection?	✓		
4. Did inspector interpret regulations properly?	✓		
5. Were all regulatory requirements reviewed and evaluated?	✓		
6. Did inspector effectively determine facility's Compliance status?	✓		

Comments: * FOR THE MOST PART - SOME LEADING QUESTIONS WERE ASKED SEPARATELY

Green File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
324 EAST ELEVENTH STREET
KANSAS CITY, MISSOURI - 64106

Feb. 13, 1985

FEB 19 1985

Captain David R. Rupp
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357-9107

EPA I.D. NO.: KS0213820467

Dear Captain Rupp:

Thank you for your recent submittal of six (6) copies of the Resource Conservation and Recovery Act (RCRA) Part B permit application for the Kansas Army Ammunition Plant. The application was received in our office on January 25, 1985. Two copies of the permit application have been sent to the Kansas Department of Health and Environment (KDHE) for review.

The KDHE shall be contacting you within 60 days of the receipt date noted above regarding the completeness of your application. The EPA will be sending you a separate letter regarding the claim of confidentiality for certain Part B documents.

If you have any questions on the Part B application process, please contact Karen A. Flournoy at (816) 374-6531.

Sincerely yours,

Lyndell L. Harrington

Lyndell L. Harrington, P.E.
Chief, Permits Section
Waste Management Branch
Air and Waste Management Division

cc: John Goetz, KDHE

-9107

January 24, 1985

SMCKA-CO

SUBJECT: RCRA Part B Permit Application

Mr. David A. Wagoner
Director, Air & Waste Management Division
US Environmental Protection Agency
Region VII
324 East Eleventh Street
Kansas City, Missouri 64106

Dear Mr. Wagoner:

Enclosed are six copies of the Resource Conservation and Recovery Act Part B Permit Application for Kansas Army Ammunition Plant. The application was prepared by E. A. Hickok and Associates, Inc., of Wayzatta, Minnesota, under a Corps of Engineers, Huntsville Division contract.

Certain data contained in this document is considered sensitive in that if released outside government agencies, could pose a security threat to this plant. These items are stamped For Official Use Only (FOUO). Release of this information should be coordinated through the plant security officer or my office.

Questions or comments concerning this document can be addressed to any of the following people:

CPT David R. Rupp	Commercial:	316-421-7448
Mr. Larry Grillot		316-421-7445
Ms. Carolyn Smalley		316-421-7434
Mrs. Vicki O'Brien		316-421-7434

or myself LTC Charles T. Wallschlaeger, 316-421-7446.

Sincerely,

ORIGINAL SIGNED BY

Charles T. Wallschlaeger
Lieutenant Colonel, US Army
Commanding

Enclosures

FOLLOW UP:

Encl

ROUTIN	
CO	
XO	
CEA	
CE	
SS	
SF	
TM	
CA	
OR	
QA	
AO	

FOUO MARKING JUSTIFICATION

TABLE/FIGURE	PAGE NO.	JUSTIFICATION
VOLUME No. 1:		
Table A.1	A-3	Denotes the locations of bulk explosives
Table C.1	C-2 thru C-11	Denotes chemical components in process areas
	F-1 (Specifically para. F.1b(1) and F.1b(2) on Page F.1 only)	Denotes specific security procedures
Fig. A-1		Denotes specific locations with all road/entrance markings
Fig. B-1		Denotes specific hazardous waste storage facilities within 1700 area
Fig. B-2		Denotes specific hazardous waste storage facilities within 1900 area
Fig. B-4		Detailed layout of entire plant
Fig. B-7		Detailed layout of entire plant
Fig. D-8		Detailed drawing of hazardous waste management facility
Fig. D-10		Same as above
Fig. D-11		Same as above
Fig. D-15		Denotes details of locking mechanisms used on all plant magazines
Fig. G-1		Detailed layout of entire plant
VOLUME NO. II:		
Appendix F	6	Describes special security requirements
VOLUME NO. III:		
Pg. 1 of Appendix V of Appendix G.1		Classifies plant areas by use and denotes plant entrances.
Pg. 1-3 of Appendix IX of Appendix G.1		Denotes specific storage locations for hazardous waste and the items stored.

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

Barbara J. Sabol, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

November 1, 1984

Lieutenant Colonel Wallschlaeger
Commander
Kansas Army Ammunition Plant
Parson, Kansas 67357

Attention: Captain Rupp

Dear Captain Rupp:

In our July 25, 1984 letter we formally requested the Part B Application for your hazardous waste facility permit under the Resource Conservation and Recovery Act (RCRA). We also requested preliminary information (to include a waste analysis plan, contingency plan, training plan, closure plan and inspection plan) so that we might gain a better understanding of your operations and to enable us to answer questions during the development of your Part B Application.

I have reviewed the preliminary information. Yours is the best of those I have reviewed to date for a military installation. However, a number of items will need to be addressed and/or clarified when you submit the Part B Application. Following is a list of comments which should guide you in providing the specific information that will be required in the application.

General Comment

1. If all possible, please consolidate the material in the Part B Application and provide a table of contents with corresponding page numbers. Also, please number and date all the pages. This will aid us in reviewing the application as well as in tracking your response(s) to future comments. The consolidation request is made because much of the material submitted is not (originally) designed to meet RCRA requirements. For example, a disaster control plan, a spill prevention control and counter measures plan and an installation spill control plan; all are combined to meet the requirements of the RCRA contingency plan. Moreover, these plans all, to some degree, address training, inspections etc. yet separate training plans, inspections plans etc. are also included.

Please try to consolidate the items or index them as they apply to RCRA.

Waste Analysis Plan

1. The rationales for parameters should answer the question, "How will knowing a given parameter aid in safely storing, treating, or disposing of the waste." For example, you might say "the EP-Toxicity test is run

on paint sludges because they are known or suspected to contain toxic substances. Thus, knowledge gained from the EP-Toxicity test ensures safe handling and storage of this waste." This format was followed for the ethanol/explosive waste. However, the format should be used for the explosive wastes, acetone/explosives, toluene/explosives, K044, K046 and paint sludges and residues form burning grounds. And, when more than one parameter is listed, the rationale must address all parameters.

2. The Table 2 on page 2, the reference section for the EP-Toxicity test procedure has a typographical error in the citation. Please correct 40 CFT 261..... to 40 CFR 261.....

3. In Table 3 on page 3-A, the sentence describing the sampling of wastewater treatment sludges form the manufacturing and processing of explosives is incomplete. Please complete the sentence.

4. For those wastes that are sampled, they must be resampled and analyzed whenever a change occurs at the plant that might alter the characteristics of the waste, or at least often enough to ensure that the analysis is accurate and up to date. A statement of the above as well as a definition of "Up to Date" (annually, semi annualy, etc) must be included in the frequency of analysis section (40 CFR 264.13(b)(4)).

5. Table 1 implies that some of the wastes, ethanol/explosives and freon, for example, are sampled and tested. Table 3, however, indicates that these and others are not sampled or tested. Correct the inconsistency between the two tables.

6. Include procedures and methods of waste analysis for characterizing incompatable, ignitable and reactive wastes, as well as methods to show that such wastes have been rendered compatable, nonignitable or nonreactive (40 CFR 264.13(b)(6)).

Inspection Plan

1. The inspection plan submitted is very good in that it lists the type of information that should be included on the inspection schedules. However, a written inspection schedule or log, such as an inspector would use, should be prepared and submitted with the following information for each hazardous waste area:

   a. Date and time of inspection
   b. Name of inspector
   c. A list of the types of problems to be inspected for
   d. A place for notation of observations made
   e. A place for a brief description of the repairs or remedial actions taken.

2. A statement must be included that states that inspection schedules will be kept on file for a least three years from the date of the inspection and where at the facility the schedules will be kept (40 CFR 264.15(b)(2) & (d)).

   The inspection schedules or logs may be included as attachments to the inspection plan for the Part B Application. Example formats of inspection schedules are enclosed for your information.

Training Plan

1. Per October 15, 1984 letter to Ms. Carolyn Smalley, personnnel who are not responsible for actual management (pick-up, storage, treatment, disposal or inspection) of hazardous waste need not be included in the training plan. Hence, remove extensive personnel lists and job descriptions when submitting the Part B Application. Also, remove the word "generation" from the first sentence of Pg. 1 under purpose.

2. An outline of the material contained in the introductory and continuing personnel training programs should be included (40 CFR 264.16(a)(1)).

3. The brief job descriptions need to address how training ensures hazardous waste training is designed to meet actual job tasks and ensure that personnel will be able to effectively respond to emergencies (40 CFR 264.16(a)(3)).

Closure Plan

The closure plan submitted is quite thorough. A few items are required, however, to complete the closure plan.

1. Closure certification must be made by the owner and by an "independent" registered professional engineer (40 CFR 264.115).

2. The maximum unclosed portion of the facility used for open burning and detonation of hazardous waste must be identified (40 CFR 264.112(a)(1)).

3. The expected year of closure or a written waiver request for exemption of this requirement must be made.

4. An estimate of the total time to close the facility must be included. The present closure schedule itemizes the closure activities, but one cannot determine if the activities are done concurrently or not. Hence the total time to close cannot be determined.

5. Include an estimate of the maximum amount of waste in treatment at the EWI incinerator and demolition grounds (40 CFR 264.112(a)(2)).

6. Appendix I of 40 CFR Part 261 if referenced for sampling and testing of EWI. However, Appendix I covers only sampling. Please add that test procedures in Appendix II will be employed.

7. The person responsible for updating the closure plan (and copies) should be identified.

Contingency Plan

In many ways the SPCC and ISCP exceed the requirements of RCRA. There are, however, a few items that must be included. These include:

1. A primary emergency coordinator must be identified who has full authority to commit the resources to carry out the contingency plan. If more than one person has the authority, albeit the SPCC and ISCP identify a chain of command for implementing the contingency plan, a primary and alternate emergency coordinator must be identified.

2. Please move the page on evacuation routes to the contingency plan section. Also, include a map showing primary and alternate evacuation routes. If this is a plant SOP, the SOP should be included as an attachment to the contingency plan.

3. A copy of the contingency plan and all revisions must be maintained at the facility and submitted to local police and fire department, hospitals, and state and local emergency response teams (40 CFR 264.53).

4. Although we do not require that a review of the continency plan be certified by a registered professional engineer, we do require that the contingency be reviewed and updated whenever the facility permit is revised the plan fails in an emergency, the facility changes in design, construction, operation or maintenance, or the list of emergency coordinators changes. Hence include 40 CFR, Part 264 in item (1) one on page (4) four of the SPCC plan under "Requirements for preparation and implementation" for revision of the contingency plan or rewrite the section as it applies to RCRA. In addition the person(s) responsible for and who has the authority to make the changes to the contingency plan should be identified along with the locations, of the contingency plan on and off-site, of copies of the contingency plan.

6. The contingency plan must address response procedures for fires and explosion as well as the hazardous waste spills (40 CFR 264.56(b)).

Note that in organizing and providing the required permitting information you are making a valuable contribution to the safe and efficient operation of your facility. I hope the above comments on the preliminary information are helpful to you in preparing your Part B Hazardous Waste Permit Application.

Should you have any questions on this letter, or require additional information, please contact me at our Topeka office, (913) 862-9360 Ext. 577.

Sincerely,

John S. Ramsey

John S. Ramsey
Hazardous Waste Section
Bureau of Waste Management

JSR:kaa/2U

D142

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357-9107

Mr. Grillot/pg/316-421-7455

August 15, 1984

REPLY TO
ATTENTION OF:
SMCKA-OR

SUBJECT: Partial Closure of Burning Grounds/Cages

Mr. John P. Goetz
Kansas Department of Health & Environment
Hazardous Waste Management Section
Forbes Field
Topeka, Kansas 66620

Dear Mr. Goetz:

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/VSO, dated July 10, 1984, regarding subject, per your letter request dated March 12, 1984.

The closure of three pads was completed June 21, 1984. The burning cage originally intended to be disposed of will remain. No disposal action will be necessary because we chose to retain it for possible future use.

If you have any questions regarding subject, please advise.

Sincerely,

Carl L. Allen
Civilian Executive Assistant

Enclosure

...NS
...LEX
...-6408
TELEPHONE
316-421-7400

HOME OFFIC
DAY & ZIMMERMANN
1818 MARKET STRE
PHILADELPHIA, PA. 19
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION

PARSONS, KANSAS 67357

July 10, 1984

FILE NO. EM-8502/PIB/VSO

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Sir:

RE: SMCKA-CO (CPT Rupp) ltr dtd March 19, 1984;
subj: Partial Closure of Burning Grounds/Cages

Day & Zimmermann, Inc., (D&Z), completed the closure of three burning pads on June 21, 1984. This effort was accomplished in accordance with the Plant's Closure Plan which was approved by the Kansas Department of Health and Environment, (KDHE), on March 12, 1984.

Original planning included the disposal of one of the burning cages. However, during an inspection conducted on May 1, 1984 by D&Z and Army personnel it was jointly decided that such action could be detrimental to future Plant operations. Therefore, disposal of the burning cage was cancelled.

It is requested that the above information be forwarded to the Hazardous Waste Section of the KDHE as soon as possible.

Very truly yours,

DAY & ZIMMERMANN, INC.

SK Chopra

CARL L. WILSON
Plant Manager

CLW/SKC/gat

Green.

DEPARTMENT OF THE ARMY CPT Rupp/pw/316-421-7448
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357 – 9107

July 30, 1984

REPLY TO
ATTENTION OF:

SMCKA-CO

SUBJECT: Revision of Resource Conservation and Recovery Act (RCRA) Permit Part A

RECEIVED
BUREAU OF
AUG 1 1984
WASTE
MANAGEMENT

Mr. John P. Goetz
Chief Hazardous Waste Management Section
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620

Dear Mr. Goetz:

Enclosed for your information and review is Day & Zimmermann, Inc. letter, File No. EM-8502/PIB/CJS dated July 16, 1984 with the revised Hazardous Waste Permit and Form Number 8700-12.

Sincerely,

David R. Rupp
Captain, US Army
Acting Commander

Enclosure

Copy Furnished:

EPA, Region VII w/encl

- WANT TO SUBMIT REVISED PART A

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357

July 16, 1984

FILE NO. EM-8502/PIB/CJS

Subject: Revision of Resource Conservation and Recovery Act (RCRA) Permit Part A

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Sir:

The revised Hazardous Waste Permit and Form Number 8700-12 are enclosed for review. The signed forms must be forwarded to: John P. Goetz, Chief Hazardous Waste Management Section, Kansas Department of Health and Environment, Forbes Field, Topeka, Kansas 66620.

Revisions to the permit are as follows:

1. Page 1 of 5, Line 2 of the old permit is eliminated - the carbon columns are regulated by the NPDES permit.
2. Page 1 of 5, Line 2 (Revision) - T04 (Open Burning).
3. Page 1 of 5, Line 3 (Revision) - Correction of capacity reflecting reduced number of igloos to be permitted.
4. Page 1 of 5, Line 4 (Revision) - T04 (Detonation).
5. Page 2 of 5, reflects removal of carbon columns from permit.
6. Page 3 of 5, Line 3 - T03 (Incinerator) and S01 (storage) are added to Process Codes.
7. Page 3 of 5, Line 4 - T03 (Incinerator) is added to Process Codes.
8. Page 3 of 5, Line 5 - T03 (Incinerator) is added to Process Codes.
9. Page 3 of 5, Line 6 - Old permit is deleted. TNT wastewater will be regulated by an NPDES permit.
10. Page 4 of 5, IX.A - Revision reflects change of Commanding Officer.

Contracting Officer's Representative
Kansas Army Ammunition Plant

July 16, 1984

Subj: Revision of Resource Conservation and Recovery Act (RCRA) Permit Part A

Please furnish a signed copy of the forms to the Industrial Base Planning Department for retention in their files.

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/SKC/gat

Enclosures
a/s

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

S												
F	K	S	0	2	1	3	8	2	0	4	6	7

OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)* 71

[ ] 2. NEW FACILITY *(Complete item below.)* 71

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	-4 '2	1 0	1 4
15	73 74	75 76	77 78

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY
73 74	75 76	77 78

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS 72

[ ] 2. FACILITY HAS A RCRA PERMIT 72

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided f entering codes. If more lines are needed, enter the code(s) in the space provided. If a process will be used that is not included in the list of codes below, th describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G
LITERS	L
CUBIC YARDS	Y
CUBIC METERS	C
GALLONS PER DAY	U
LITERS PER DAY	V
TONS PER HOUR	D
METRIC TONS PER HOUR	W
GALLONS PER HOUR	E
LITERS PER HOUR	H
ACRE-FEET	A
HECTARE-METER	F
ACRES	B
HECTARES	G

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and t other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S		T/A	C
C	DUP		1
1	2 - 13	14	15

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
	16 - 18	19 - 27	28	29 - 32		16 - 18	19 - 27	28	29 - 32
X-1	S 0 2	600 TANK	G	GALLONS	5				
X-2	T 0 3	20 INCINERATOR	E	GALLONS/HR	6				
1	T 0 3	0.2 INCINERATOR	D	TONS/HR	7				
-	T 0 4	420.2 OTHER	U	GALLONS/HR	8				
3	S 0 1	288,301.9 BARRELS/DRUMS	G	GALLONS	9				
4	T 0 4	567. OTHER			10				

...ed)
...ONAL PROCESS CODES ... OR DESCRIBING OTHER PROCESSES (code "T0... FOR EACH PROCESS ENTERED HERE
...N CAPACITY.

PROCESS CODE	DESCRIPTION	CAPACITY	UNIT OF MEASURE
T04	Open Burning	420.2	U
S01	Explosive Storage Magazines 3' Concrete Walls & Floors	288,301.9	G
T04	Detonation	566.	U

Mixed Explosives approximately 5.3 lb/gal.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If yo... handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteris... tics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annua... basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handle... which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriat... codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking int... account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item II... to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process code... contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that posse... that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in th... extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described b... more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annu... quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line ent... "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 poun... per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wast... are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimate... 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (If a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
324 EAST ELEVENTH STREET
KANSAS CITY, MISSOURI - 64106

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 25, 1984

Lieutenant Colonel James R. Allred
U.S. Army Commander
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357

RE: Kansas Army Ammunition Plant
Parsons, Kansas
KS0213820467

Dear Colonel Roberts:

The U.S. Environmental Protection Agency (EPA) and the Kansas Department of Health and Environment (KDHE) are now in a position to process a Part B permit application for your hazardous waste storage facility. In order to avoid duplication of efforts, this application will be jointly processed by EPA and KDHE and two permits issued to satisfy both State and Federal requirements until such time as the KDHE receives final authorization to operate the Federal program in lieu of EPA.

This letter constitutes a formal request for six (6) copies of Part B of your application for a hazardous waste facility permit under the Resource Conservation and Recovery Act. All copies of the application are to be submitted to the regional EPA office. This request is made under the authority of 40 Code of Federal Regulations (CFR), Section 270.10(e)(4). Copies of these regulations and Kansas statutes and regulations are enclosed.

Enclosed for your reference is a list of the items which constitute a Part B application as applicable to your facility type. These items must be submitted with a postmark dated no later than January 25, 1985. If any of this information is being submitted under a claim of confidentiality, please indicate this fact. Guidance concerning confidentiality requests is attached. For more information on confidentiality, see 40 CFR Part 2 (especially 40 CFR 2.305). You should also note that Kansas Statute K.S.A. 65-3439 requires that all plans, designs and relevant data to be submitted shall be prepared by a professional engineer licensed to practice in Kansas. We recommend that a consulting engineer be retained to assist in developing the permit application if you do not have an engineer available to complete technical portions of the permit application.

If your firm stores or treats hazardous waste in underground tanks, special consideration may apply. Regulations under Part 264 do not apply if the underground facilities cannot be entered for inspection. If your firm operates any underground storage or treatment tanks, the options for the facility operator are as follows:

1. The operator can voluntarily choose to install manholes for inspection, or discontinue the use of the tanks which cannot be inspected.

2. The operator can continue to utilize those tanks under the interim status standards until such time as Part 264 regulations are promulgated.

If option two is chosen, your firm will face a second permitting action after future regulations dealing with underground tanks are promulgated.

The application due date noted above is firm and will not be modified. Please note under Section 270.10(e)(5) that the failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, is grounds for termination of interim status.

We have also enclosed guidance documents which should be helpful during preparation of the permit application. These documents should provide you with information on the level of detail required in the permit application. Representatives from EPA and/or KDHE will be available to meet with you or to assist with answering questions during development of the Part B permit application. In order for us to better understand your facility operation and enable us to answer questions during development of the Part B permit application, we request that you submit the following interim status information on file for your facility, within 45 days of receipt of this letter:

- waste analysis plan
- contingency plan
- training plan
- closure plan
- inspection schedule

Your cooperation in improving hazardous waste management facility operations in Kansas is appreciated. If you would like to arrange for a meeting or discuss questions, please contact Karen Flournoy, EPA, at (816) 374-6531, or John Goetz, KDHE at (913) 862-9360, extension 297.

Sincerely yours,

John P. Goetz
Chief, Hazardous Waste Management Section
Bureau of Waste Management
Kansas Department of Health and Environment

David A. Wagoner
Director, Air and Waste Management Division
U.S. Environmental Protection Agency
Region VII

Enclosures:

Part 264 Standards
Part 270 (Specific Permit Application Requirements)
September 1, 1983 Federal Register
(Changes to Signatory and Certification Requirements)
Guidance Regarding Confidential Information
A Guide for Preparing RCRA Permit Application for
Existing Storage Facilities
Permit Applicants' Guidance Manual for the
General Facility Standards of 40 CFR 264
Kansas Statutes and Regulations

State of Kansas . . . John Carlin, Governor

DEPARTMENT OF HEALTH AND ENVIRONMENT

Barbara J. Sabol, Secretary

Forbes Field
Topeka, Kansas 66620
913-862-9360

March 12, 1984

James R. Allred, Lt. Colonel
U. S. Army Commander
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Lt. Colonel Allred:

The Environmental Protection Agency and our department have reviewed the proposed burning pad and cage closure plan. The original plan was submitted September 9, 1983, and more recently additional information was submitted dated January 17, 1984. The most recent information indicates that only one burning cage and three burning pads will be closed. Two pads and two cages, one each, for the burning of hazardous wastes and also one each for the burning of nonhazardous wastes, will remain open.

Our department approves the closure plan which is presented by Day and Zimmerman, Inc., in their March 1, 1983 letter to your office. It is our understanding that the closure process will be completed within 90 working days after notice of this letter. Following the completion of the closure process, you must notify our department that the pads and cages were closed in accordance with the listed specifications and the approved closure plan.

If you have any questions with regard to this subject, please advise.

Sincerely yours,

Division of Environment

Glenn M. Curtis

Glenn M. Curtis
Hazardous Waste Section
Bureau of Waste Management

jp
C Karen Flournoy
Bill Towery

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357

Mr. Grillot/pg/316-421-7455

January 17, 1984

SMCKA-OR

SUBJECT: Burning Cage and Pad Closure - Kansas AAP

RECEIVED
BUREAU OF
JAN 20 1984
WASTE
MANAGEMENT

Mr. John Paul Goetz
P.E., Chief
Hazardous Waste Management Section
Bureau of Waste Management
Kansas Department of Health & Environment
Forbes Field
Topeka, Kansas 66620

Dear Mr. Goetz:

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated January 4, 1984, providing additional information per your letter request dated November 28, 1983.

A revised Part A application (Atch 2 to Encl 1) is also submitted that should clear up any inconsistencies in prior revisions.

If more information or additonal clarification is needed, please feel free to contact us any time.

Sincerely,

James R. Allred
Lieutenant Colonel, U.S. Army
Commanding

Enclosure

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357

January 4, 1984

FILE NO. EM-8502/PIB/CJS

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Sir:

RE: 1) SMCKA-OR (Mr. Parish) ltr dtd December 14, 1983; subj: Closure of Two Burning Cages and Five Burning Pads

2) Kansas Department of Health and Environment (J. P. Goetz) ltr dtd November 28, 1983 to Capt. F. N. Jones

It is requested that the following information be forwarded to the Kansas Department of Health and Environment (KDHE):

1. None of the wastes burned on the pads or cages are expected to fail the EP Toxicity test for lead. Most of the wastes burned in the cages are cardboard and paper that may be contaminated with explosives.

2. None of the wastes burned are wastewater sludges from lead-based initiating compounds.

3. The areas to be closed are indicated in Attachment 1.

4. Because of a new Army regulation prohibiting the burning of hazardous wastes in an area where other wastes are burned, Kansas Army Ammunition Plant (KAAP) has changed the scope of work to closure of one burning cage and three burning pads. Therefore, the areas to be closed will not include any areas where the soil failed the Extraction Procedure (EP) Toxicity test for lead.

The areas that failed the EP Toxicity test for lead were resampled as a response to a request by the KDHE. The samples taken the second time did not fail the total lead values. These values were reported to the KDHE in a telecon in January 1983. At that time, no problem in closure of the areas was expected. It is requested that no further testing of the areas be

Contracting Officer's Representative
Kansas Army Ammunition Plant

January 4, 1984

Subject: Closure of Two Burning Cages and Five Burning Pads

required since the areas now designated for closure have not failed EP Toxicity testing for arsenic, lead, chromium, cadmium, barium, mercury, selenium, silver or explosives.

5. As stated above, parameters other than lead were analyzed in the soil samples.

6. The monitoring wells were sampled during CY1982. The results of this study showed no significant levels of contamination. The tributary monitoring site referenced in the closure plan was sampled for several years as a part of the KAAP National Pollutant Discharge Elimination System (NPDES) permit. No significant amounts of contamination were found to be present, therefore, the monitoring site was removed from the permit. No requirement for monitoring the wells or the tributary monitoring site is expected to be necessary before, after, or during closure of the burning cages and pads.

7. a. The requirement for managing the waste residues as a hazardous waste should not be required for these closures because it has been demonstrated that these residues are not a hazardous waste.

   b. Closure will be completed within 90 working days after permission for closure is granted.

   c. When the closure of the one burning cage and three burning pads is completed, KAAP will submit to the Regional Administrator certification by a registered professional engineer (PE) that the pads and cages were closed in accordance with the specifications in the approved closure plan. It is requested that certification by an independent registered PE be required only upon complete closure of the Burning Grounds facility.

8. A copy of the revised Part A application is attached.

The wastes listed are as follows:

1. F001 - Spent halogenated solvents used in degreasing.
2. D003 - Waste explosives
3. K044 - Wastewater treatment sludges from the manufacturing and processing of explosives.
4. K045 - Spent carbon from the treatment of wastewater containing explosives.

Contracting Officer's Representative
Kansas Army Ammunition Plant

January 4, 1984

Subject: Closure of Two Burning Cages and Five Burning Pads

5. K046 - Wastewater treatment sludges from the manufacturing, formulation, and loading of lead-based initiating compounds.

6. K047 - Pink/Red water from TNT operations.

7. D008 - Paint sludges from spray paint waterfall booth operations (lead contaminated).

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/SKC/gat

Attachment
a/s

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

Barbara J. Sabol, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

November 28, 1983

Franklin N. Jones
Captain, U.S. Army
Acting Commander
Department of the Army
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Captain Jones:

The U.S. Environmental Protection Agency and our Department have reviewed the September 9, 1983 letter regarding the closure of two burning cages and five burning pads at your facility. In order to complete our review we have the following comments and request that you supply additional information where requested:

1) Do any of the wastes burned fail the EP Toxicity test for lead?

2) Are any of the wastes burned listed as K046?

3) Maps of the areas to be closed should be included in the closure plan. The maps should identify the location and depth of soil samples.

4) The soil sampling data indicate that some samples failed the EP Toxicity test for lead. In order to close these areas without further post-closure care this soil must be removed and disposed at a permitted hazardous waste disposal facility. In order to assure that these closed hazardous waste facilities are not subject to any future cleanup under Federal "Superfund" activities we also require that total heavy metals be analyzed in addition to EP Toxicity. For lead we require that total lead values be less than 1,000 ppm in addition to being less than 5 ppm EP Toxic.

5) Should any other parameters in addition to metals, be analyzed for in the soil samples?

6) How long will the monitoring wells be sampled as part of this closure?

7) The closure plan should include the following:

   a) Performance standards found in 40CFR 265.381.

   b) A time schedule for closure.

   c) Provisions for certification of closure.

8) The U.S. Environmental Protection Agency will place the closure plan once approved on public notice.

At this point it would also be helpful to clarify inconsistencies in your Part A application. The original Part A application (Attachment 1) contains a number of waste codes and process codes. Page 3 of Form 3 was revised in November, 1981, to add process code T03 (Attachment 2). The September 15, 1982, Part A revision (Attachment 3) lists only process code T01 on Page 1 and process codes S01 and T04 on Page 3.

If you have any questions please contact me.

Sincerely,

DIVISION OF ENVIRONMENT

John Paul Goetz, P.E., Chief
Hazardous Waste Management Section
Bureau of Waste Management

JPG/djl/5a

cc: Karen Flournoy
Bill Towery

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VII
324 EAST ELEVENTH STREET
KANSAS CITY, MISSOURI - 64106

OCT 14 1983

Mr. John Goetz
Chief, Hazardous Waste Management Section
Kansas Department of Health and Environment
Forbes Field
Topeka, Kansas 66620

Dear Mr. Goetz:

As requested, we have reviewed the submittals received from your office regarding Sunflower Army Ammunition Plant (SAAP) and Kansas Army Ammunition Plant (KAAP). Our comments are outlined below.

KAAP Partial Closure Plan (dated September 9, 1983)

Before commenting on the partial closure plan, based upon information in our files there appears to be inconsistencies in the Part A applications. The original Part A application (Attachment 1) contains a number of waste codes and process codes. Page 3 of Form 3 was revised in November 1981, to add process code T03 (Attachment 2). The September 15, 1982, Part A revision (Attachment 3) lists only process code T01 on page 1 and process codes S01 and T04 on page 3. During review of the partial closure plan, it would be beneficial to determine what waste codes and process codes remain after closure of the burning pads and burning cages. It is our understanding that wastes currently burned at the burning pads and cages will be incinerated. Also, it is helpful to have current Part A information when determining which facilities will receive Part B application call letters.

During our review of the partial closure plan we noted the following deficiencies:

1. Location and depth of soil samples is missing.

2. Would any of the wastes burned be classified as K046 or fail the EP Toxicity test for lead?

3. The soil sampling data indicated that some samples failed the EP Toxicity test for lead. In order to close the areas without further post-closure care this contaminated soil must be removed. Also, we would recommend that the soil sampling results be reviewed to determine if any requirements must be met for cleanup/closure as an uncontrolled site (or CERCLA site). Generally, cleanup of contaminated soil is based upon total metals levels. Should any other parameters, in addition to metals, be analyzed for in the soil samples?

4. The partial closure plan states only that the area will be covered. Is it necessary to remove any contamination or prepare the area in any way prior to placement of the final cover?

5. The closure performance standard found in Section 265.381 would apply. Also, we would recommend that the partial closure be conducted in accordance with the closure regulations of Part 265, Subpart G. This would include such items as closure schedule and certification of closure.

6. How long will the leachate be monitored?

7. In summary, the information presented in the partial closure plan lacks sufficient detail needed for approval.

8. In accordance with the Closure/Post-Closure Plans Review Strategy, a public notice must be issued.

SAAP - K044 Issue

We have reviewed the information contained in the August 29, 1983, letter from SAAP to KDHE. As we have discussed with your office, the K044 listing is for the wastewater treatment sludge only. In the case of SAAP, at whatever point sludge settles out of the waterwater, i.e., sumps or ponds, the sludge would be a hazardous waste. The wastewater would be a hazardous waste only if it failed any of the characteristics. We received this interpretation from Mr. Myles Morse, Waste Characterization Branch, EPA Headquarters. (Note: This is consistent with the interpretation we have discussed with you on K051 API separator sludge.) The letter from SAAP contends that the wastewater treatment sludge is non-hazardous, i.e., does not fail the reactivity characteristic. If this is the case then, the wastewater treatment sludge must be delisted to be considered non-hazardous. If you have questions to EPA Headquarters on delisting the sludge, we would be happy to work with you and EPA Headquarters to obtain the needed information.

As you are aware, there are a number of issues at SAAP regarding which wastes and processes should be covered under RCRA. We are of the opinion that a number of these issues are going to be difficult to resolve since the facility is not operational. Both EPA and KDHE have been working with SAAP in an attempt to resolve numerous issues. We will need to continue this activity since SAAP is a high priority Part B call candidate.

If you have any questions on this letter, please contact Karen A. Flournoy of my staff at (816) 374-6531.

Sincerely yours,

Robert L. Morby
Chief, Waste Management Branch
Air and Waste Management Division

Attachments

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357

Parish/pg/316-421-7455

September 9, 1983

SMCKA-OR

SUBJECT: Closure of Two Burning Cages and Five Burning Pads

RECEIVED
BUREAU OF
SEP 14 1983
ENVIRONMENTAL
SANITATION

Mr. John P. Goetz
Kansas Department of Health & Environment (KDHE)
Hazardous Waste Management Section
Forbes Field
Topeka, Kansas 66620

Dear Mr. Goetz:

Enclosed is letter, Day & Zimmermann, Inc., file No. EM-8502/PIB/CJS, dated March 1, 1983, subject as above, with attachments, providing subject plan for your review and approval.

If additional information is required, please feel free to contact us.

Sincerely,

Franklin N. Jones
Captain, U.S. Army
Acting Commander

Enclosure

EPA-ARWM/PMTS
SEP 22 1983
Region VII K.C., MO

R00332392
RCRA RECORDS CENTER A001

PARSONS
TELEX
43-6408
TELEPHONE
316-421-7400

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY & ZIMMERMANN, INC.
KANSAS DIVISION
PARSONS, KANSAS 67357

March 1, 1983

FILE NO. EM-8502/PIB/CJS

SUBJECT: Closure of Two Burning Cages and Five Burning Pads

Contracting Officer's Representative
Kansas Army Ammunition Plant
Parsons, Kansas 67357

Dear Sir:

It is requested that a copy of the Open Burning Closure Plan (Attachment #1) be forwarded to:

Kansas Department of Health and Environment (KDHE)
Hazardous Waste Management Section
Forbes Field
Topeka, Kansas 66620
Attn: John P. Goetz

Although closure of a hazardous waste facility requires a 180 day notification period, Mr. Vivek Kamath, KDHE, stated that since this action is not complete closure of the facility, the waiting period should not be that long.

Attached are the results of monitoring at the unnamed tributary to the Neosho River that is approximately 1/8 mile east of the burning grounds (Attachment #2) and results of monitoring the leachate wells (Attachment #3).

Soil from the cages and pads was sampled and analyzed by the US Army Environmental Hygiene Agency (Attachment #4). Pad #6 failed the toxicity test for lead on these initial analyses. The soil of this pad was resampled and analyzed (Attachment #5) as requested by Mr. Richard Flannery, KDHE, and the results were acceptable.

Encl 1

Contracting Officer's Representative
Kansas Army Ammunition Plant

March 1, 1983

SUBJECT: Closure of Two Burning Cages and Five Burning Pads

The schedule for closing the affected areas is:

1. Remove metal wire cages.
2. Level earthen berms.
3. Cover with 6" of soil.
4. Final cover will be graded to prevent runoff erosion or pooling.
5. Seed area to fescue grass.

Burning Pad #5 and Burning Cage #3 will not be closed. These two areas also failed the toxicity test, but were not resampled because they are not going to be closed at this time.

Very truly yours,

DAY & ZIMMERMANN, INC.

Carl L. Wilson

CARL L. WILSON
Plant Manager

CLW/SKC/pcj

Attachments
a/s

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

Joseph F. Harkins, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

July 26, 1982

Mr. Frank Blakely
Kansas Army Ammunition Plant
East Main
Parsons, Kansas 67357

Dear Mr. Blakely:

This letter acknowledges receipt of your annual permit and monitoring fees for your hazardous waste treatment and storage facility which are required by K.S.A. 65-3439 and K.A.R. 28-31-10. We are hereby renewing through June 30, 1983 your interim status permit for operating this facility to the extent consistent with our other hazardous waste management statutes and regulations.

We are preparing to begin reviewing certain applications and issuing permits for treatment, storage and disposal facilities under a cooperative agreement with the U.S. Environmental Protection Agency (EPA). On account of the large number of facilities involved and the time needed to process the applications, it could take several months to issue these permits. In the meantime you are required to meet all the interim status requirements of 40 CFR Part 265. Non-compliance with these regulations could lead to termination of your present status.

If you have any questions, please feel free to call me.

Sincerely yours,

DIVISION OF ENVIRONMENT

Vivek Kamath

Vivek Kamath
Hazardous Waste Management Section
Bureau of Environmental Sanitation

VK:kaa
cc: District Office

PARSONS
TELEX
43-6408
TELEPHONE
316-421-4000

HOME OFFICE
DAY & ZIMMERMANN, INC.
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

DAY AND ZIMMERMANN, INC.
KANSAS DIVISION
PARSONS, KANSAS 67357

June 17, 1981

FILE NO. EM-8502/PIB/CJS

RECEIVED
JUN 18 1981
BUREAU OF ENVIRONMENTAL SANITATION

Hazardous Waste Management Section
Kansas Dept. of Health and Environment
Attn: John Paul Goetz
Forbes Field
Topeka, Kansas 66620

Dear Sir:

Attached is the Kansas Army Ammunition Plant Application for a Kansas Hazardous Waste Storage, Treatment, and Disposal Facility Permit.

The one hundred dollars ($100.00) permit fee will be sent under a separate letter as stated on page three (3) of the application under Additional Comments.

Very truly yours,

DAY & ZIMMERMANN, INC.

SK Chopra

CARL L. WILSON
Plant Manager

CLW/SKC/vso

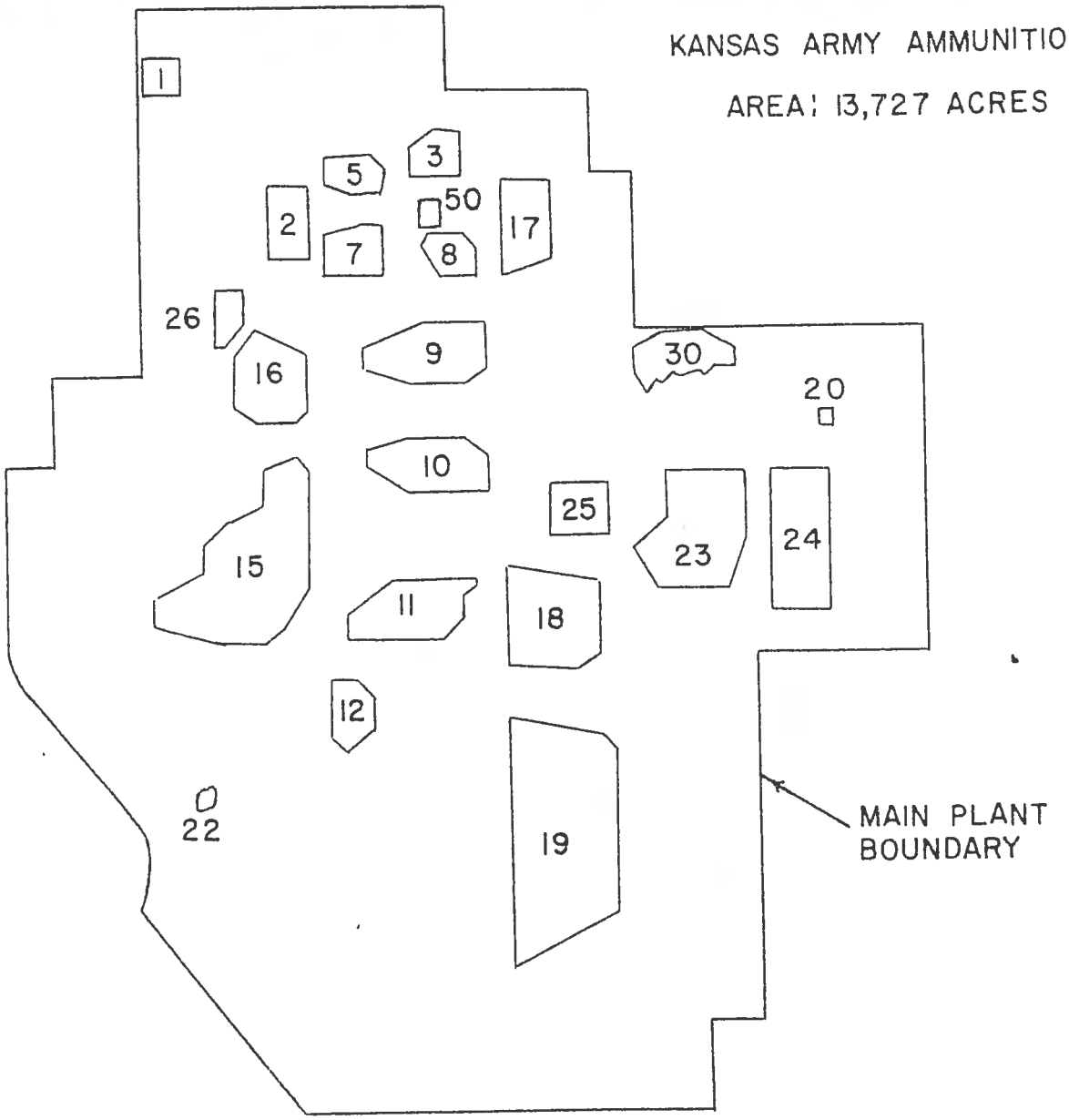
Attachment
a/s

Eighty Years of Service 1901-1981

Form Approved OMB No. 158-S80004

KANSAS ARMY AMMUNITION PLANT

AREA: 13,727 ACRES



LEGEND:

1 - Administration Area
2 - Maintenance/Operations
3 - Production Area - Carbon Columns, 3 Sumps
5 - Production Area - 3 Sumps
7 - Production Area - 16 Sumps
8 - Production Area - 2 Sumps
9 - Production Area - Carbon Columns, 3 Sumps
10 - Production Area - Carbon Columns, 3 sumps
11 - Production Area - 3 Sumps
12 - Production Area
15-19 - Igloo Storage Area - 7.69 Acres
20 - Test Area
22 - Sewage Plant
23 - Demolition Grounds - 525 Acres
24 - Burning Grounds - Open Burning, Explosive Waste Incinerator (March 81), Contaminated Waste Processor (March 82) - 6 Acres
25 - Landfill Area - 2,000 cubic yards
26 - Landfill Area - 20 Acres
30 - Production Area
50 - QC Labs

DEPARTMENT OF THE ARMY
KANSAS ARMY AMMUNITION PLANT
PARSONS, KANSAS 67357

Mr. Blakely/pw/AUTOVON
956-1448

8 JUN 1981

SARKA-CE

SUBJECT: Notification of Hazardous Waste Site

US Environmental Protection Agency
Air & Hazardous Materials Division
Region 7
P.O. Box 15606
Kansas City, MO 64106

Gentlemen:

Inclosed is the completed form to provide notification of past hazardous waste disposal sites.

Sincerely,

DAVID M. POJMANN
LTC, CmlC
Commanding

1 Incl
As stated

Copies Furnished:
DRSAR-ISE w/incl
D&Z w/incl
DRSAR-OP w/incl

EPA-ARHM/HAZM
JUN 09 198
Region VII K.C., M

OPEN BURNING CLOSURE PLAN

Wire cages (3 each) containing 2,250 square feet each have been in use since 1952. The open burning pads (6 each) are of earthen construction with a cinder surface. They range in size from 8,400 square feet to 31,000 square feet. Four (4) of the six (6) pads have been used on an intermittent basis since 1942, and the remaining two (2) were constructed in 1967.

The Operations Division, Operating Stores Department, is responsible for burning operations.

An average of 1,054 pounds of scrap explosive is burned monthly on the pads and an average of 47,883 pounds of contaminated waste is burned monthly in the cages. It is estimated that the monthly disposal, under full mobilization, would be 11 tons of explosives and 525 tons of contaminated waste.

The materials burned consist of cardboard, wood, paper, plastic, etc., which are contaminated with explosives. Also, explosive contaminated noncombustible materials such as metal, concrete, machinery, etc., are decontaminated by flashing. This flashing operation consists of placing wood and other combustible material around the noncombustible material and setting the combustible material ablaze. The materials are generated on the active production lines.

Under present operation, burning of waste occurs on an average of once a week, and burning of explosives occurs on an average of once every two (2) weeks.

It is planned to minimize open burning upon completion of construction of the Explosive Waste Incinerator in 1981 and the Contaminated Waste Processor Facility in 1982.

The type of contaminants are the explosives Comp B, Comp A-5, Lead Azide, Lead Styphnate, Tetryl, Black Powder, M-10 Propellant, Mercury Fulminate, PBX, Tetracene, RDX, TNT, Smokeless Powder, Ammonium Nitrate, and Cyclotol.

The quantity of these contaminants is unknown. The size of the area is approximately six (6) acres.

The area would be covered with a final cover of earth of not less than six (6) inches. The area will be seeded to fescue grass to prevent erosion and will be used for grazing. Leachate will be monitored by testing a sample from the three (3) monitoring wells in the area and at the monitoring site at the unnamed tributary to the Neosho River that is approximately 1/8 mile east of the burning grounds.

DEMOLITION RANGE CLOSURE PLAN

The Department of Army, Corps of Engineers, and/or the US Army Environmental Hygiene Agency will have methods and procedures that will identify the exact measures to be taken at closure of the Demolition Range. These methods are outlined in ARRCOM Regulation 385-5 and Department of Army TB 700-4.

In closing the Demolition Range, the area would be searched for any suspicious or explosive material. All such materials would be removed and the area would be covered with soil and seeded with fescue, the area would then be fenced and posted no trespassing.

The area would remain under Department of Army security surveillance.

EXPLOSIVE WASTE INCINERATOR CLOSURE PLAN

At closure, the incinerator must have no Hazardous Waste and no Hazardous Waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) present.

The Department of Army, Corps of Engineers, or the USA Environmental Hygiene Agency will have methods and procedures that will identify the exact measures to be taken at the time of Incinerator closure.

The area would remain under Department of Army security surveillance.

State of Kansas . . . John Carlin, Governor

DEPARTMENT OF HEALTH AND ENVIRONMENT

Joseph F. Harkins, Secretary

Forbes Field
Topeka, Kansas 66620
913-862-9360

file

December 10, 1980

Mr. Carl L. Wilson
Plant Manager
Day and Zimmermann, Inc.
Kansas Division
Parsons, Kansas 67357

Dear Mr. Wilson:

We have been referred to by our Air Engineering and Enforcement Section for consideration of your application for detonating rejected munition items.

Presently, we are in the process of receiving interim authorization from the United States Environmental Protection Agency for our hazardous waste program. Our regulations will be primarily based on the federal regulations which were effective November 19, 1980.

It would appear that your waste would be classified a hazardous waste according to the standards published in the May 19, 1980 Federal Register. As such, you should have notified the U.S.E.P.A. and submitted a Part A permit application in order to receive interim status for your disposal operation. Under interim status you would be able to open burn or detonate waste explosives. This method will be acceptable to the State of Kansas provided you comply with all hazardous waste disposal requirements. We anticipate contacting you after the first of the year to complete the permit application process.

For your information, we are enclosing a copy of the section on Open Burning; Waste Explosives (#265.382). Please note that owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the table in the section and in a manner that does not threaten human health or the environment.

Regarding your question of whether detonation of explosives is considered "open burning" and requires an exemption from Kansas Air Quality regulations, you will receive clarification from our Bureau of Air Quality and Occupational Health on this matter.

If you have any questions, please feel free to contact this office.

Sincerely yours,

DIVISION OF ENVIRONMENT

Vivek Kamath

Vivek Kamath
Environmental Engineer
Solid Waste Management Section
Bureau of Environmental Sanitation

VK:bss
cc: Ray Buergin
Southeast District

State of Kansas . . . John Carlin, *Governor*

DEPARTMENT OF HEALTH AND ENVIRONMENT

JOSEPH F. HARKINS, *Secretary*

Forbes Field
Topeka, Kansas 66620
913-862-9360

November 4, 1980

Mr. Carl L. Wilson
Plant Manager
Day and Zimmerman, Inc.
Kansas Division
Parsons, Kansas 67357

RECEIVED
NOV 5 1980
BUREAU OF ENVIRONMENTAL SANITATION

Attention: Mr. Frank W. Blakely

COPY

Dear Mr. Wilson:

Your letter of October 24, 1980, requested information pertaining to the continued disposal of rejected munition items by digging a small pit, placing the rejected items in the bottom of the pit, covering the items with dirt, and remotely detonating the items. By copy of this letter, we are also referring this matter to John Paul Goetz of the Solid Waste Management Section for consideration with respect to the application of solid waste regulation He will be contacting you concerning this disposal method.

We will cooperatively pursue the application with the intent of considering all Departmental regulatory requirements.

Sincerely,

Raymond G. Buergin, Chief
Air Engineering and
Enforcement Section
Bureau of Air Quality and
Occupational Health

RGB/md
cc: John P. Goetz

HOME OFFICE
DAY & ZIMMERMANN, INC
1818 MARKET STREET
PHILADELPHIA, PA. 19103
215-299-8000

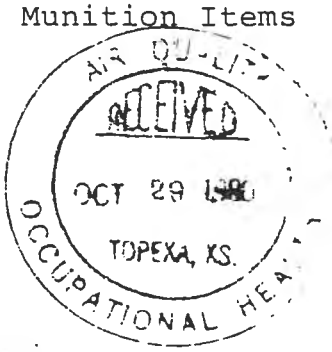
DAY AND ZIMMERMANN, INC.

KANSAS DIVISION
PARSONS, KANSAS 67357

October 24, 1980

FILE NO. EM-8502/PIB/GRF

SUBJECT: Detonation of Rejected Munition Items



Kansas Department of Health & Environment
Bureau of Air Quality & Occupational Health
Attn: Mr. Raymond A. Buergin, Chief
Air Engineering & Enforcement Section
Topeka, KS 66620

Dear Mr. Buergin,

Reference is made to Mr. Donald A. Schuyler's letter dated April 3, 1979, which grants Kansas Army Ammunition Plant an exemption from K.A.R. 28-19-45 Open Burning Prohibited under provisions of K.A.R. 28-19-47c Exemptions - Open Burning. This exemption expires on April 1, 1982. Kansas AAP is fully confident that the construction of the Contaminated Waste Processor will be completed and the operation of the Processor will have begun before the exemption expires.

The purpose of this letter is to request assistance from your office in obtaining clarification and guidance in regards to a similar matter. As you are aware, the mission of the Kansas Army Ammunition Plant is to Load/Assemble/Pack selected items of ammunition for use by the Armed Forces of our great nation. During the operations conducted at Kansas AAP some munitions are rejected on the basis of inspection procedures for quality control.

At present, as well as in the past, the accepted method of disposal for these loaded rejected munition items is to perform a pit detonation of the items. This method consists of digging a small pit, placing the rejected items in the bottom of the pit, covering the items with dirt, and remotely detonating the items. Upon detonation, a cloud of dust is formed. However, the dust cloud is very short lived and the dust particles settle back to the ground before the cloud can migrate a great distance. Very little smoke is associated with the detonation operation. However, on occasion a small fire does appear. The fire is also short lived and generally does not produce much smoke.

October 24, 1980

SUBJECT: Detonation of Rejected Munition Items

Due to the design purpose and nature of some of these rejected munition items, disposal in either the Explosive Waste Incinerator or the Contaminated Waste Processor is either impossible, in the case of the Processor, or very expensive and hazardous, in the case of the Incinerator.

In searching through the Kansas Air Regulations no information could be found in regards to detonation of these items. It is requested that guidance be provided as to whether or not pit detonation of these rejected items is considered to be open burning. Kansas AAP also requests a policy statement as to the method that will be acceptable to the State of Kansas for disposal of these items.

Kansas AAP would like to extend an invitation to you to visit the installation to witness the detonation operation so you can get a better understanding of the situation. If a visit is planned, it is requested that a few days notice be provided to Kansas AAP as the detonation operation is not conducted on a daily basis. The point of contact at the installation for this matter is either Mr. Gary R. Fischer, (316) 421-4000, extension 433, or Mr. Frank W. Blakely, (316) 421-4000, extension 450.

Your cooperation and assistance in clarifying the solution to the situation is greatly appreciated.

Very truly yours,

DAY & ZIMMERMANN, INC.

CARL L. WILSON
Plant Manager

CLW/SKC/vso

cc: Region VII Office of Environmental Protection Agency
Attn: Mr. Carl Walter
US Army Armament Materiel Readiness Command Environmental Office
Attn: Colonel Karl Dauble