Ohio Environmental Protection Agency (OEPA)

And

Ravenna Army Ammunition Plant (RVAAP)

1989 Correspondences

OhioEPA
State of Ohio Environmental Protection Agency
P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Chandler #1
Mound
File (Potable Water)

Toward A Cleaner Environment
15 Year Anniversary
1972 - 1987

Richard F. Celeste
Governor

January 26, 1989

Re: Portage County
Ravenna Army Ammunition Plant
Community Water Supply
PWS ID: 6704512

General Manager
Revenna Arsenal, Inc.
FWD FOR
☐ Information
☐ Compliance as applicable
☐ Reply NLT

Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, OH 44266-9297

Dear Sir:

Analytical results of pesticide analyses on water samples collected on December 15, 1988, from the Ravenna Army Ammunition Plant water supply have been received by this office. A copy of the results is attached for your review.

Results of the pesticide analyses meet state and federal drinking water requirements.

Respectfully,

James W. Evans
Water Quality Section
Division of Public Drinking Water

TO 1-27-89
✓ CR-COR
CONT ADM
PROP ADM
QASAS
SECURITY
RAI 1-27-89
RETURN FOR FILE

JWE/clk
9

Attachments: Sample no(s): 19975 and 76

cc: Tom Baclawski, NEDO

RECEIVED
FEB 01 1989
ENGINEERING

1-27-89
✓ w/att

DIVISION OF PUBLIC WATER SUPPLY

Return Completed Report To:

Ohio EPA, Division of Public Water Supply
1800 Watermark Drive
P.O. Box 1049
Columbus, Ohio 43266-0149

RADS, THM and SOC Sample Submission Report

Laboratory Name: AQUA TECH ENVIRONMENTAL CSLT.,INC.

Certification Number: (47) 5 0 5 3 (51)

Sample Number: (52) 1 9 9 7 5 (61)

Analyst: Robert S. Howacky

Date Received: 12/16/88 Date Reported: (27) Month 0 1 Day 1 8 Year 8 9 (32)

Sample Identification

PWS ID: (1) 6 7 0 4 5 1 2 (7)

Water Supply Name: RAVENNA ARSENAL, INC.

Address: 8451 STATE ROUTE 5

City & Zip: RAVENNA OH 44266-9297

County: Portage Phone: 297-3111

Sample Date: Month 1 2 Day 1 5 Year 8 8 (36) (41)

Time (Use Military Time): Hour 0 9 Minute 5 0 (43) (46)

Sample Collected By: L.W. JOHNSON

Sample/Well Location: WWII

Additional Information—Analyst Remarks—Non Routine Analytical Requests

Field Treatment: ☐ Iced ☐ NaOH ☐ HNO_3
☐ $Na_2O_3S_2$ ☐ $CuSO_4 + H_3PO_4$ ☐ H_2SO_4 ☐ Other (Explain)

☐ Sample Type (Raw-R, Plant-P, Dist-D)	R	☐ Amiben	2452,
☐ Sample Type (Check-C, Special-S)		☐ Atrazine	2050,
☐ Well Identification		☐ Carbaryl	2434,
RADIO ISOTOPES (RADS) pc/l		☐ Carbofuran	2046,
☐ Alpha, Total	4000,	☐ Chlordane	2959,
☐ Alpha, Diss	4040,	☐ Cyanazine	2054,
☐ Alpha, Suspd	4041,	☐ Daconil	2454,
☐ Beta, Total	4100,	☐ Dalapon	2031,
☐ Beta, Diss	4042,	☐ 1,2-Dibromoethane (EDB)	2946,
☐ Beta, Suspd	4043,	☐ Dibromomethane	2408,
☐ Barium 140	4278,	☐ 1,2 Dibromo-3-Chloropropane (DBCP)	2931,
☐ Cesium-134	4270,	☐ Dicamba	2440,
☐ Cesium-137	4276,	☐ 1,2-Dichloropropane	2983,
☐ Iodine-131	4264,	☐ Dinoseb	2041,
☐ Potassium-40	4044,	☐ Diquat	2032,
☐ Radium-226	4020,	☐ Endothall	2033,
☐ Radium-228	4030,	☒ Endrin	2005, < 0.05
☐ Radon-222	4004,	☐ Epichlorohydrin	2257,
☐ Strontium-90	4174,	☐ Glyphosate	2034,
☐ Strontium-89	4172,	☐ Heptachlor	2065,
☐ Tritium	4102,	☐ Heptachlor Epoxide	2067,
☐ Combined Uranium	4006,	☐ Hexachlorocyclopentadiene	2042,
☐ Uranium-234	4007,	☒ Lindane	2010, < 0.02
☐ Uranium-235	4008,	☐ Linuron	2444,
☐ Uranium-238	4009,	☐ Maneb	2456,
TRIHALMETHANES (THM) ug/l		☒ Methoxychlor	2015, < 0.03
☐ Chloroform	2941,	☒ Metolachlor	2045, < 0.20
☐ Bromoform	2942,	☐ Pentachlorophenol	2326,
☐ Bromodichloromethane	2943,	☐ Pentachloronitrobenzene	2448,
☐ Dibromochloromethane	2944,	☐ Phthalates	2039,
SYNTHETIC ORGANIC CHEMICALS (SOC) ug/l		☐ Pichloram	2040,
☐ PAH's	2038,	☐ Simazine	2037,
☐ PCB	2383,	☐ Thiram	2458,
☐ Acrolein	2238,	☐ Toluene	2991,
☐ Acrylonitrile	2240,	☒ Toxaphene	2020, < 0.10
☐ Acrylamide	2265,	☐ 1,1,2-Trichloroethane	2985,
☐ Adipates	2035,	☐ Trifluralin	2055,
☒ Alachlor	2051, <0.20	☐ Vydate	2036,
☐ Aldicarb	2047,	☒ 2,4-D	2105, < 0.20
☐ Aldicarb Sulfoxide	2043,	☐ 2,3,7,8-TCDD (Dioxin)	2063,
☐ Aldicarb Sulfone	2044,	☒ 2,4,5-TP (Silvex)	2110, < 0.02
☐		☐	
☐		☐	
☐		☐	
☐		☐	
☐		☐	

Distribution: (1-3) Ohio EPA, Division of Public Water Supply (4) Owner or Purveyor of Water Supply (5) Laboratory File

EPA 5022 (Rev. 10/87)

DIVISION OF PUBLIC WATER SUPPLY

RADS, THM and SOC Sample Submission Report

Return Completed Report To:

Ohio EPA, Division of Public Water Supply
1800 Watermark Drive
P.O. Box 1049
Columbus, Ohio 43266-0149

Laboratory Name: NOVA TECH ENVIRONMENTAL CSLT.,INC.
Certification Number: (47) [| 00 5 3 |] (51)
Sample Number: (52) [1 9 9 7 6 | | | | |] (61)
Analyst: Robert S. Howacky
Date Received: 12/16/88 Date Reported: (27) [0 1 1 1 8 9] (32)
(Month Day Year)

Sample Identification

PWS ID: (1) [6 7 0 4 5 1 2] (7)
Water Supply Name: RAVENNA ARSENAL, INC.
Address: 8451 STATE ROUTE 5
City & Zip: RAVENNA OH 44266-9297
County: _____ Phone: 297-3111

Sample Date (Month Day Year): [1 2 1 5 8 8] (36) (41)
Time (Use Military Time) (Hour Minute): [0 9 5 0] (43) (46)
Sample Collected By: L.W. JOHNSON
Sample/Well Location: WWIII

Additional Information—Analyst Remarks—Non Routine Analytical Requests

Field Treatment: ☐ Iced ☐ NaOH ☐ HNO_3
☐ $Na_2O_3S_2$ ☐ $CuSO_4 + H_3PO_4$ ☐ H_2SO_4 ☐ Other (Explain)

☐ Sample Type (Raw-R, Plant-P, Dist-D)	R		☐ Amiben	2452.	
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☐ Acrylonitrile	2240.		☒ Toxaphene	2020.	< 0.10
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☐ Adipates	2035.		☐ Trifluralin	2055.	
☒ Alachlor	2051.	<0.20	☐ Vydate	2036.	
☐ Aldicarb	2047.		☒ 2,4-D	2105.	< 0.20
☐ Aldicarb Sulfoxide	2043.		☐ 2,3,7,8-TCDD (Dioxin)	2063.	
☐ Aldicarb Sulfone	2044.		☒ 2,4,5-TP (Silvex)	2110.	<0.02
☐			☐		
☐			☐		
☐			☐		
☐			☐		
☐			☐		

Distribution: (1-3) Ohio EPA, Division of Public Water Supply (4) Owner or Purveyor of Water Supply (5) Laboratory File
EPA 5022 (Rev. 10/87)

RAVENNA ARMY AMMUNITION PLANT
8451 State Route 5
Ravenna, Ohio 44266-9297

June 9, 1989

NOTICE OF INTENT TO CLOSE

Facility to be Closed: Closure of the Ravenna Army Ammunition Plant Sanitary Landfill - OHEPA Permit No. 67-00-06

Narrative: Pursuant to Ohio EPA Regulation 3745-27-10, Paragraph (A)(1) and (B)(1) this notice shall serve as formal notice of intent to close this facility's solid waste landfill. Closure of the site shall commence following the close of business on September 22, 1989.

Pertinent to Regulation 3745-27-10, Paragraph (B)(2), the mentioned solid waste disposal facility has only received wastes generated at the Ravenna Army Ammunition Plant which is the same premises where the solid waste facility is located.

The submission of a closure plan describing the physical closure and post-closure maintenance will be filed with Ohio EPA Solid Waste Division, Twinsburg, Ohio.

The point of contact for this installation will be either Wayne Carkido, Project Engineer, (216) 297-3237, or Thomas M. Chanda, Environmental Engineer, (216) 297-3221.

Robert J. Kasper, Commander's Representative

cf: AMCCOM
AMSMC-ISE
Rock Island, IL

Ohio EPA
Attn: Mr. David Budd
Solid Waste Div.
2110 East Aurora Rd.
Twinsburg, Ohio 44087

wc89004

RAVENNA ARSENAL INC.
8451 STATE ROUTE 5
RAVENNA, OHIO 44266-9297
Telephone (216) 358-7111
Autovon 346-3210

T. Chanda
W. Carkido
McGee/Mound
R. Holford
File

June 12, 1989

Contracting Officer's Representative
Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, Ohio 44266-9297

Subject: Closure of Sanitary Landfill

Dear Sir:

Attached for your approval and signature is a formal Notice of Intent to Close the Ramsdell Landfill. Said letter is to be sent to Ohio EPA before 24 July 1989 in compliance with Ohio EPA mandates. We are providing the Notice now to assure that Ravenna AAP is governed by the less strict closure rules which apply now.

A closure Plan and the project funding request documentation are being developed now. The Closure Plan will have to be submitted to Ohio EPA for approval prior to implementation. The actual closure must be completed 60 days after the date the landfill stops receiving waste. (60 days after Sept. 22 would be November 21, 1989)

Sincerely,

RAVENNA ARSENAL, INC.

H. R. Cooper
Plant Engineer

HRC/WC/wp/lwc89004

Attachment

Date

ROUTING AND TRANSMITTAL SLIP

JUNE 12, 1989

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
1. OHIO ENVIRONMENTAL PROTECTION AGENCY		
MR. RICHARD L. SHANK, DIRECTOR		
2. P.O. BOX 1049		
1800 WATERMARK DRIVE		
3. COLUMBUS, OHIO 43266-0149		
4.		
5.		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

REMARKS

Notice of Intent to Close - Ravenna Army Ammunition Plant Sanitary Landfill - OHEPA Permit No. 67-00-06 is attached for your information and records.

cf: AMCCOM
AMSMC-ISE
Rock Island, IL

Ohio EPA
ATTN: Mr. David Budd
Solid Waste Division
2110 East Aurora Rd.
Twinsburg, Ohio 44087

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Robert J. Kasper, CR, RVAAP	Phone No. 297-3124

File: Solid Waste
Portage Co.
Ravenna Arsenal
L.F.

environmental design group

1533 Commerce Drive Stow (Akron), OH 44224-1711
(216) 686-1898 Fax (216) 686-9866

August 29, 1989

Mr. Richard L. Shank, Director
Ohio Environmental Protection Agency
1800 Watermark Drive
Columbus, Ohio 43266

RE: Request for Waiver
Ravenna Arsenal Landfill Closure

Dear Mr. Shank:

Pursuant to O.A.C. 3745-27-11 (B), Environmental Design Group, Inc., on behalf of the Ravenna Arsenal, Inc. hereby applies for a waiver from O.A.C. 3745-27-10 (C) (3) for its landfill closure.

The regulation requires that the land surface of final cover shall not exceed 25% (4:1). Due to the proximity of a wetland, a 25% slope cannot be obtained over the entire surface of the fill without extending the base of the fill into the wetland itself and subjecting fill base to slippage by virtue of being saturated.

We request that a 33% (3:1) slope be allowed on the portion of the fill as shown on Sheet No. 4 of the drawings. The cover material is such that a 3:1 slope can be properly vegitated so that erosion will not occur. Also, with a 3:1 slope on the said portion, a buffer will be available between the fill and the wetland, so that in the event of a leachate breakout in the future, it will be possible to construct leachate system to prevent leachate from entering the wetland.

Sincerely,

ENVIRONMENTAL DESIGN GROUP, INC.

Leonard R. Rychlik, P.E.
Project Manager

LRR/las
0093D/57

cc: David Budd, OEPA, NEDO
John Watkins, OEPA, C.O.
Harold Cooper, Ravenna Arsenal, Inc.

RECEIVED
SEP 05 1989
OHIO EPA-N.E.D.O.

environmental design group

1533 Commerce Drive · Stow (Akron), OH 44224-1711
(216) 686-1898 Fax (216) 686-9866

November 13, 1989

Mr. David Budd, R.S.
Ohio EPA
Northeast District Office
2110 East Aurora Rd.
Twinsburg, OH 44087

REFERENCE: Ravenna Arsenal, Inc.
Landfill Closure
EDG Project No. 284001

Dear Mr. Budd:

Reference is made to your October 18, 1989 letter regarding the Ravenna Arsenal Landfill Closure plans.

Your comments to Items 2-8 are addressed in the revised attachment enclosed. A revised plan sheet #4 is also enclosed.

If you have further questions, please call me.

Yours truly,

ENVIRONMENTAL DESIGN GROUP, INC.

Leonard R. Rychlik, P.E.
Associate

LRR/bee

Encl.

cc: Wayne Carkido - Ravenna Arsenal
Tom Chanda - Ravenna Arsenal

0338B/85

File: Solid Waste
Portage Co.
Ravenna Arsenal L.F.

RAVENNA ARMY AMMUNITION PLANT
8451 State Route 5
Ravenna, Ohio 44266-9297

November 20, 1989

REQUEST FOR EXTENSION OF TIME FOR COMPLETION OF LANDFILL CLOSURE

Requested Of: Ohio Environmental Protection Agency
Division of Solid & Hazardous Waste
ATTN: Mr. David O. Budd, R.S., Environmental Scientist
Twinsburg, Ohio 44087

Facility Being Closed: Ravenna Army Ammunition Plant Sanitary Landfill
OHEPA Permit No. 67-00-06

Date Landfill Ceased Operation: September 22, 1989

Original Date Landfill Closure Was to be Completed: November 24, 1989

Requested Revised Date for Completion of Landfill Closure: June 22, 1990

Narrative: As was earlier conveyed to you in a Nov. 14, 1989 telephone conversation with this facility's T. M. Chanda, RVAAP has just recently received (Nov. 13, 1989) U.S. Army funding for the physical landfill closure.

Our original Nov. 24, 1989 target date for closure is unattainable due to the lateness in receiving these government funds. RVAAP is requesting an extension till June 22, 1990 to fully complete the closure. The request for this extension of time is the result of:

- Scheduling/coordinating the construction contractor and contracted site engineer for being available to commence closure. The construction contractor and contracted site engineer have already been designated.

- Unfavorable soil/surface conditions attributable to winter weather which normally creates delays throughout the project in material handling and compaction.

- Non-favorable conditions for reseeding/revegetation efforts till probably May 1, 1990.

RVAAP will proceed with closure processes while awaiting your response on this extension request. This will include deferral of any action upon the slope on the landfill's Northwest portion which is currently under a variance request; RVAAP will wait on this portion until specific OHEPA response to the variance request is received.

The point of contact for this installation will be Thomas M. Chanda, Environmental Engineer, at phone 216-297-3221.

cf: Commander
AMCCOM
AMSMC-ISE

Robert J. Kasper, Commander's Representative

RECEIVED
NOV 22 1989
OHIO EPA-N.E.D.O

cc: D. Wertz NEDO DSHWM
D Harris CO. DSHWM
J. Watkins CO. DSHWM

Issuance Date December 28, 1989

Effective Date December 28, 1989

BEFORE THE OHIO

ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:

Ravenna Arsenal, Inc., Landfill : Directors Final
8451 State Route 5 : Findings and Orders
Ravenna, Ohio 44266 :

Pursuant to Section 3734.13 of the Ohio Revised Code (ORC) and Rule 3745-27-11 of the Ohio Administrative Code (OAC), the Director of the Ohio Environmental Protection Agency hereby makes the following Findings and issues the following Orders.

FINDINGS

1. The Ravenna Arsenal, Inc. hereinafter "the operator" is the operator and license holder of the Ravenna Arsenal Ramsdell Landfill, hereinafter, "the facility", located at 8451 State Route 5, Ravenna, Ohio.

2. OAC Rule 3745-27-10(C)(3) states, that "all land surfaces shall be graded to slopes of no less than 1 percent and no greater than 25 percent.

3. Environmental Design Group, a consultant acting as a representative for the facility, submitted a request dated August 29, 1989 to Ohio EPA for a waiver of OAC Rule 3745-27-10(C)(3) which would allow the construction of a final grade for a portion of the facility at greater than a 25 percent slope.

4. On September 1, 1989, the operator submitted to Ohio EPA a closure plan indicating a slope design for a 33 percent grade in the northwest portion of the facility.

5. Pursuant to OAC Rule 3745-27-11, the Director of the Ohio Environmental Protection Agency may grant a waiver of any provision of OAC Rule 3745-27-10, if the app

demonstrates to the Director's satisfaction, that construction and/or operation of the solid waste disposal facility in the manner allowed by the waiver and any terms or conditions imposed as part of said waiver will not cause water pollution, will not create a nuisance or a health hazard, and will not result in a violation of any regulation adopted by the Director pursuant to ORC Chapter 3704.

6. It has been demonstrated to the satisfaction of the Director that closure of a portion of the facility as specified in Order No. 1 below will not cause water pollution, will not create a nuisance or a health hazard, and will not result in a violation of any regulation adopted by the Director pursuant to ORC Chapter 3704.

7. Nothing in these Findings and Orders shall be construed to authorize any waiver from the requirements of any other applicable state solid waste laws or regulations. This waiver shall not be interpreted to release the owner of this facility from responsibility under Chapters 3704, 3734, or 6111 of the Ohio Revised Code or under the Federal Clean Water or Comprehensive Environmental Response, Compensation, and Liability Acts for remedying conditions resulting from any release of contaminants to the environment.

ORDERS

1. Pursuant to OAC Rule 3745-27-11, a waiver of OAC Rule 3745-27-10(C)(3) is hereby granted to the operator to establish a final closure slope of not more than 33 percent grade according to the plans dated September 1, 1989. The maximum 33 percent grade will occur only in the northwest portion of the landfill and shall be approximately 250 feet in length. The remainder of the final slopes for the facility will be established at no less than 1 percent and no greater than 25 percent grade.

Richard L. Shank, Ph.D.
Director

December 28, 1989
Date

JRW/laj
Sp.laj.jrw.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Carr Date 12-28-89

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL

DEC 28 1989

RAVENNA ARMY AMMUNITION PLANT

RECORD OF ENVIRONMENTAL CONSIDERATION (REC)

Ravenna Arsenal, Inc. June 23, 1989

I. PROJECT TITLE/PROPOSED PROJECT

RCRA Closure Plan/Phase I for RVAAP Deactivation Furnace

II. PROJECT DESCRIPTION

This project is to prepare a formal RCRA Closure Plan for RVAAP's deactivation furnace currently under interim status. As of Nov. 8, 1989, regulatory mandate precludes any further RCRA thermal treatment activities of the deactivation furnace; unless the unit were to undergo a physical upgrade that would equate to RCRA Hazardous Waste Incinerator Standards. Due to the economic impact pertinent to the incinerator upgrade of the unit, the only recourse is to perform a RCRA closure. The proposed action is the first phase of a two-phase project. Phase I of the project includes all engineering, surveying, preparation of closure plan, preparation of plans and specifications, and preparation of an environmental assessment for physical closure. The above work is necessary for EPA approval and eventual implementation of the work. Phase II of the project will implement the physical closure of the unit as prescribed by the above mentioned documents designated as Phase I.

III. ANTICIPATED DATE AND/OR DURATION OF PROPOSED ACTION

RVAAP is required by regulators to submit the closure plan no later than Sept. 24, 1989; 45 days prior to the facility's shutdown. Proposed project to commence no later than July 31, 1989: pending administrative process to funding request and scheduling of qualified contractor.

IV. REASON FOR USING RECORD OF ENVIRONMENTAL CONSIDERATION

The proposed action is categorically excluded under the provisions of Categorical Exclusion (CX) A-5 and A-18, AR200-2, Appendix A (and no extraordinary circumstances exist as defined in paragraph 4-3) because subject action is an administrative process to respond to the directives of substantive law and to identify the existing conditions affecting this interim status RCRA thermal treatment unit.

T. M. CHANDA
Environmental Engineer
Proponent of Action

26 June 1989
DATE

H. R. Cooper
HAROLD R. COOPER
Plant Engineer

June 26, 1989
DATE

Robert J. Kasper
ROBERT J. KASPER
Commander's Representative/Installation
Environmental Coordinator

26 Jun 89
DATE

RAVENNA ARMY AMMUNITION PLANT

RAVENNA ARSENAL, INC. - RCRA CLOSURE PLAN

FOR RVAAP DEACTIVATION FURNACE

Subcontract to Complete Phase I of Subject Action As Described Within 1383 Report Exhibit I	$27,786
RAI Engineering Subcontract Administration	1,060
Allocated Fee	1,154
Total	$30,000

cc: N. Wulf
[redacted]
B. Jenkins
D. Kanavy
File

RAVENNA ARSENAL INC.
8451 STATE ROUTE 5
RAVENNA, OHIO 44266-9297
Telephone (216) 358-7111
Autovon 346-3210

June 26, 1989

THRU: Contracting Officer's Representative
Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, Ohio 44266-9297

TO: Commander
U. S. Army Armament, Munitions and Chemical Command
ATTN: AMSMC-ISE-M (Ms. Ronnie DePorter)
Rock Island, IL 61299-6000

Subject: Closure Plan for Deactivation Furnace
Ref. a. AMSMC-ISE Dated 25 April 1989 Paragraph 2
b. Paxmail Message, Richards Dated 12 April 1989

Dear Sir:

Project documentation for RVAAP Closure Plan for Deactivation Furnace is included for further action as required by above reference "a" and "b". Form 319-R has been sent to AMCCOM, Attn: AMSMC-BPA-P.

Sincerely,

RAVENNA ARSENAL, INC.

H. R. Cooper
Plant Engineer

HRC/TMC/wt/tc89015

Attachments
1383 Report
1383 Exhibit #1
Record of Environmental Consideration
Cost Estimate

Exhibit 1
1383 REPORT EXHIBIT 1
AMCCOM SUPPLEMENTAL INFORMATION SHEET

Installation Name: Ravenna Army Ammunition Plant
Project Name: RCRA Closure Plan for Deactivation Furnace

1. FUNDED: NO
2. PRON:
3. AMS CODE/PROGRAM ELEMENT (PE):
4. EXECUTING AGENCY:
5. PRIORITY: HIGH
6. 319R #:
7. HAZMIN: NO
8. SOURCE STATUS: PARTIALLY ACTIVE
9. TECH/ADMIN APPROVAL: YES (REF.319R)
10. PERCENT CMPL: -0-
11. a. SUPPORTS PRODUCTION: NO
    b. IF YES, SPECIFY:
12. TYPE EFFORT: ENGINEERING
13. CORRECT NOV: NO
14. ON COMPLIANCE SCHEDULE/AGREEMENT: YES
15. NEPA DOCUMENTATION:
    a. PREPARED: YES
    b. APPROVED: YES
16. IMPACT IF NOT FUNDED: If closure plan is not submitted to regulators in 45 days prior to November 9, 1989 the facility will be in violation of 40 CFR PART 265 Subpart G Section 265.112 (d)(1).

1383 REPORT EXHIBIT I

SUPPLEMENTAL INFORMATION

1. PROJECT NARRATIVE/DESCRIPTION:

This project is to prepare a Formal RCRA Closure Plan for RVAAP's Deactivation Furnace currently under interim status. As of Nov. 8, 1989, regulatory mandate precludes any further RCRA thermal treatment activities of the Deactivation Furnace; unless the unit were to undergo a physical upgrade that would equate to RCRA Hazardous Waste Incinerator standards. Due to the economic impact pertinent to the incinerator upgrade of the unit, the only recourse is to perform a RCRA closure. The proposed action is the first phase of a two-phase project. Phase I of the project includes all engineering, surveying, preparation of closure plan, preparation of plans and specification and preparation of an environmental assessment for physical closure. The above work is necessary for EPA approval and eventual implementation of the work. Phase II of the project will implement the physical closure of the unit as prescribed by the abovementioned documents designated as Phase I.

Funding Type: Installation: Semi-active

Required for Mobilization: No

2. SPECIFIC TYPE OF POLLUTION/CONTAMINATION:

Soil contamination affected by heavy metals, PEP Material, and PEP ash residues.

3. AMOUNT OF POLLUTION/CONTAMINATION:

The Facility has been intermittently active since mid-1960's. Current extent of contamination unknown. The proposed action will be to address these aspects in the formulation of the closure plan. Impacted surface area is estimated at a 100 Ft. radius around the deactivation furnace facility.

4. POLLUTION SOURCE AND DISCHARGE, EMISSION OR DEPOSIT POINT (FACILITY DESCRIPTION):

The deactivation facility has been used to demilitarize fuse and booster assemblies, primers, detonators, and small arms ammunition. The furnace, unprotected from climatic elements, is a fuel oil fired rotary retort that measures 20 ft. in length with a 4 foot diameter; and which maintains a 1,000 degree F - 1,200 degree F operating temperature. The military, components are fed onto an inclined conveyor which drops the components into the starting end of the retort. The components travel into the high temperature flame, detonate, and pass on through the retort onto another conveyor that transfers the metal parts/shrapnel into a collection bin. The smoke, gases and particulate generated from the combination of the fuel oil fired flame and detonation of military components goes uncontrolled out through a 20 ft. high exhaust stack located at the retort's receiving end. The emission sources result from the particulate exiting the exhaust stack and ash residue and metal parts exiting the retort's completed process end.

5. EXISTING TREATMENT AND OTHER CONTROL MEASURES. (EXISTING CONDITIONS):

Existing treatment is to demilitarize/detonate the military component containing explosive. Designed controls only affect collecting the majority of metal parts/shrapnel and some ash residues.

6. EFFECTIVENESS OF EXISTING TREATMENT AND CONTROL:

The process of component detonation and end process collection of metal parts is significantly successful. The containment and collection of ash residues is marginally effective.

7. REMEDIAL MEASURES PROPOSED AND ESTIMATED EFFECT IN CORRECTING PROBLEMS:

This project is Phase I in the closure of this RCRA treatment Facility. This phase will assess, determine, and prepare a Closure Plan for submittal to the EPA. It will also develop plans, specifications and estimated costs for the actual physical closure. An environmental assessment will also be prepared during this phase. Phase II, which implements the prescribed physical work, will be performed following the completion of Phase I's data gathering process and ultimate regulatory approval of the Closure Plan.

8. APPLICABLE STANDARD:

- 40 CFR Part 264 Subpart G & X
- 40 CFR Part 265 Subpart G & P
- Ohio Administrative Code (OAC) 3745-66-11
- OAC 3745-66-12

9. OTHER RELEVANT INFORMATION:

Phase I and Phase II proposed action will implement a completed RCRA closure process without the excessing of the Deactivation Furnace. The Deactivation Furnace will continue to operate following approved closure. Since Class A & B explosives and related munition items are the only type categories meeting RCRA hazardous waste definition; Class C type materials, defined as non-hazardous, can continue to be processed through the deactivation furnace. Class C type items would primarily equate to small arms ammunition and minute quantity explosive containing components.

CURRENT OR BACKLOG OF DEFICIENCY IDENTIFICATION AND INDUSTRIAL PREPAREDNESS MEASURE (IPM)
(AMCCOM Suppl 1 to AR 700-90)

1. INSTALLATION NAME/PIN: RAVENNA ARMY AMMUNITION PLANT: PIN 995282

2. DATE OF SUBMISSION: ORIGINAL 6/89; REVISED

4. LINE/AREA	5. LINE/AREA STATUS CODE	6. IPM NUMBER	7. REASON CODE	8. PROG FUNDING CODE	12. TIME T COMP DESIGN
GEORGE ROAD BURNING GROUNDS	A		C-1	D	3
	9. IMPACT CODE: E	10. IMPLEMENTATION CODE: G	11. TIME IPM REQ AFTER M-DAY		

15. ITEM/COMPONENT MANUFACTURED	16. ISN	17. PROD CAP (MAX) WITHOUT IPM	17. PROD CAP (MAX) WITH IPM	18. PROD LEVEL OFF TIME WITHOUT IPM	18. PROD LEVEL OFF TIME WITH IPM	19. RELATED IPMS
a.						
b. N/A	N/A	N/A	N/A	N/A	N/A	
c.						
d.						
e.						
f.						
g.						
h.						
i.						
j.						
k.						
l.						
m.						
n.						
o.						
p.						

20. O
[XX] MIS
[ ] PRO
21. LO
22. PR
a. RE
(1) LA
(2) M
(3) SU
(4) G
(5) FE
(6) TO
26. DI
27. A N

23. DEFICIENCY PROJECT TITLE: RCRA CLOSURE PLAN FOR RVAAP DEACTIVATION FURNACE

DESCRIPTION: (Bldg no, equipment, sq ft, length, quantity, etc.)

[X] a. REAL PROPERTY FAC CAT CODE NUMBER 21630

[ ] b. EQUIPMENT

PROJECT TO INCLUDE ALL ENGINEERING, SURVEYING, PREPARATION OF FORMAL CLOSURE PLAN PREPARATION OF PLANS AND SPECIFICATIONS, AND PREPARATION OF AN ENVIRONMENTAL ASSESSMENT FOR ULTIMATE PHYSICAL CLOSURE.

TECH/ADMIN. APPROVAL IS GRANTED AT INSTALLATION LEVEL BY:

24. JUSTIFICATION (Includes impact on mobilization planning, effort, economics, etc.)

IF RCRA CLOSURE PLAN IS NOT COMPLETED AND SUBMITTED TO USEPA AND OHIO EPA BY 24 SEPT. 1989 RVAAP WILL NOT BE IN COMPLIANCE WITH 40 CFR PART 265 SUBPART G SEC. 265.112 (d)(1) AND OHIO ADMINISTRATIVE CODE(OAC) 3745-66-12

28. VERIFIED [ ] YES
OFFICE
SIGNATURE

29. VALIDATED [ ] YES
OFFICE
SIGNATURE

CURRENT OR BACKLOG OF DEFICIENCY IDENTIFICATION AND INDUSTRIAL PREPAREDNESS MEASURE (IPM)
CODING INDEX

BLOCK 5. LINE/AREA STATUS CODE

A - ACTIVE
I - INACTIVE, NOT LAIDAWAY
L - LAIDAWAY (INCLUDE ORIGINAL LAYAWAY PROJECT NUMBER)
N - NON-EXISTENT

BLOCK 7. REASON CODE

A1 - INCREASED PRODUCTION RATE
B1 - DECREASED LEAD TIME
C1 - EPA NON-WAIVERABLE
D1 - EPA WAIVERABLE (MOB)
E1 - OSHA
F1 - SAFETY
G1 - SECURITY
H1 - RETAIN CAPABILITY FOR MOBILIZATION
J1 - EFFICIENCY (DECREASE PRODUCTION COST)
K1 - PRODUCT QUALITY ENHANCEMENT/IMPROVED SCRAP RATE
L1 - PROVIDE NEW CAPABILITY
M1 - RESTORE CAPABILITY
N1 - EQUIPMENT, MAINTENANCE AND REPAIR
P1 - EQUIPMENT, BACKLOG MAINTENANCE AND REPAIR
Q1 - REAL PROPERTY, MAINTENANCE ACTIVITIES (RPMA)
Q2 - REAL PROPERTY, MAINTENANCE
Q3 - REAL PROPERTY, REPAIR
Q4 - REAL PROPERTY, MINOR CONSTRUCTION
Q5 - REAL PROPERTY, OTHER ENGINEERING SUPPORT
R1 - REAL PROPERTY, BACKLOG MAINTENANCE AND REPAIR (BMAR)
S1 - FILL VOIDS
T1 - STOCKPILING
U1 - REACTIVATION
V1 - OTHER
NC - NEW CONSTRUCTION

BLOCK 8. PROGRAM FUNDING CODE

A - INDUSTRIAL PREPAREDNESS OPERATIONS (IPO) OMA 728011.1, .2, or .3
B - DEPOT OPERATIONS OMA 721111
C - REAL PROPERTY MAINTENANCE ACTIVITIES (RPMA) OMA 722894
D - ENVIRONMENTAL RESTORATION PROGRAM (ERP) OMA 780080
E - INITIAL PRODUCTION FACILITY (IPF) FOR NEW ITEM
F - MODERNIZATION (MOD)
G - FACILITY EXPANSION (EXP)
H - NOT USED
J - MANUFACTURING METHODS AND TECHNOLOGY (MMT)
K - NON-DEVELOPMENTAL ITEMS (NDI)
L - LAYAWAY (LIF)
M - RELAYAWAY (LIF)
N - PRODUCTION ORDER (HARDWARE)
P - CAPITAL INVESTMENT OPPORTUNITY PROGRAMS WHICH INCLUDE:
QUICK RETURN ON INVESTMENT PROGRAM (QRIP)
PRODUCTIVITY ENHANCING CAPITAL INVESTMENT PROGRAM (PECIP)
LABOR SAVINGS CAPITAL INVESTMENT PROGRAM (LSCIP)
PRODUCTIVITY INVESTMENT FUNDING (PIF)
Q - MILITARY CONSTRCTUION, ARMY (MCA)
R - ARMY INDUSTRIAL FUND (AIF)
S - OVERHEAD
T - OTHER

BLOCK 9. IMPACT CODE

A - NO IMPACT ON PRODUCTION
B - MINOR IMPACT - WILL CAUSE MINOR DIFFICULTIES, DELAYS, AND SLIGHT REDUCTION IN EFFICIENCY IF NOT IMPLEMENTED
C - MEDIUM IMPACT - WILL CAUSE SIGNIFICANT DIFFICULTIES IN OPERATING THE FACILITY AT MOB RATES IF NOT IMPLEMENTED
D - MAJOR IMPACT - WOULD DELAY START-UP SCHEDULE AND/OR PRODUCTION RATE CAPACITY (BUT MEET MOB RATES) IF NOT IMPLEMENTED
E - MAJOR IMPACT - FACILITY COULD NOT BE OPERATED WITHOUT VIOLATION OF EPA/OSHA REGULATIONS
F - CRITICAL IMPACT - LINE/AREA COULD NOT OPERATE (COULD NOT PRODUCE END ITEM ASSIGNED) WITHOUT THIS PROJECT

BLOCK 10

A - FYDP
B - SURG
C - MOB
D - MOB POST
E - MOB
F - FYDP
G - OTHE

BLOCK 28

A - CONS
B - DUPL
C - INTE
D - NOT
E - NOT
F - DEFE

BLOCK 29.

A - NOT
B - NOT
C - REQU

CURRENT OR BACKLOG OF DEFICIENCY IDENTIFICATION AND INDUSTRIAL PREPAREDNESS MEASURE (IPM)
CODING INDEX

BLOCK 5. LINE/AREA STATUS CODE

A - ACTIVE
I - INACTIVE, NOT LAIDAWAY
L - LAIDAWAY (INCLUDE ORIGINAL LAYAWAY PROJECT NUMBER)
N - NON-EXISTENT

BLOCK 7. REASON CODE

A1 - INCREASED PRODUCTION RATE
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D1 - EPA WAIVERABLE (MOB)
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F1 - SAFETY
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Q2 - REAL PROPERTY, MAINTENANCE
Q3 - REAL PROPERTY, REPAIR
Q4 - REAL PROPERTY, MINOR CONSTRUCTION
Q5 - REAL PROPERTY, OTHER ENGINEERING SUPPORT
R1 - REAL PROPERTY, BACKLOG MAINTENANCE AND REPAIR (BMAR)
S1 - FILL VOIDS
T1 - STOCKPILING
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NC - NEW CONSTRUCTION

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G - FACILITY EXPANSION (EXP)
H - NOT USED
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M - RELAYAWAY (LIF)
N - PRODUCTION ORDER (HARDWARE)
P - CAPITAL INVESTMENT OPPORTUNITY PROGRAMS WHICH INCLUDE:
QUICK RETURN ON INVESTMENT PROGRAM (QRIP)
PRODUCTIVITY ENHANCING CAPITAL INVESTMENT PROGRAM (PECIP)
LABOR SAVINGS CAPITAL INVESTMENT PROGRAM (LSCIP)
PRODUCTIVITY INVESTMENT FUNDING (PIF)
Q - MILITARY CONSTRCTUION, ARMY (MCA)
R - ARMY INDUSTRIAL FUND (AIF)
S - OVERHEAD
T - OTHER

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F - CRITICAL IMPACT - LINE/AREA COULD NOT OPERATE (COULD NOT PRODUCE END ITEM ASSIGNED) WITHOUT THIS PROJECT

BLOCK 10.

A - FYDP
B - SURGE
C - MOB
D - MOB POST
E - MOB
F - FYDP
G - OTHER

BLOCK 28.

A - CONSO
B - DUPLI
C - INTER
D - NOT
E - NOT
F - DEFER

BLOCK 29.

A - NOT R
B - NOT J
C - REQUI

SPECIFICATION PS-679

PREPARE A CLOSURE PLAN FOR THE DEACTIVATION FURNACE

FOR THE
RAVENNA ARMY AMMUNITION PLANT

Ravenna Arsenal, Inc. October 5, 1989

I. SCOPE OF WORK

A. GENERAL SCOPE OF WORK

This specification requests the consulting and technical services required to prepare a RCRA Closure Plan for the RVAAP Deactivation Furnace complete with all supporting data, suitable for submittal to the Ohio and U.S. EPA. The consultant must also prepare plans and specifications required to solicit proposals so that Ravenna Arsenal, Inc. can write a contract for the execution of the work required to close the furnace. The consultants work will include any modifications, meetings, investigations etc. which may be required to obtain final EPA approval. The revision of the plans and specifications, to reflect any changes after Ohio and U.S. EPA review, is also part of the consultants work. Ravenna Arsenal, Inc. will also have the option to retain the consultant to monitor and certify the closure process and to revise the closure plan if necessary due to unforeseen problems encountered during closure.

B. DETAILED SCOPE OF WORK

1. The RVAAP Deactivation Furnace is a RCRA treatment facility which must be closed because it cannot be upgraded to meet incinerator standards as required for Class A and B explosives. After closure as a RCRA facility the furnace will be operated only as a non-hazardous waste treatment facility for Class C explosive components. The furnace is located in the RVAAP Burning Grounds.

The deactivation furnace is a #2 fuel oil fired rotating steel drum (1 1/4" thick) which receives explosive filled components from a feed conveyor on one end. The drum contains flutes which move the components at a slow speed toward the burner end. The components reach an elevated temperature and the explosive burns or detonates. The metal parts are discharged into a takeaway conveyor to a collection site. The furnace is located out of doors and is surrounded by earth-filled timber walls to protect operating personnel.

2. The following explosive materials were or could have been treated in the furnace: fuze and booster assemblies, ammunition primers, small arms ammunition, and small packets (no greater than 400 grains) of explosives and/or propellants that resulted in ash residues that contained EP toxic metals, aluminum, tin, iron, magnesium, calcium silicates, and chlorides, potassium, copper, strontium, antimony, and variable thermally degraded organic compounds containing oxygen, nitrogen, sulphur, carbon, and hydrogen.

3. The consultant will provide all services necessary to prepare and submit a closure plan for the deactivation furnace in accordance with 40 CFR Part 264 Subpart G and Subpart X Section 264.603; Part 265 Subpart G Sections

265.110 thru 265.115, Subpart O Section 265.351, Subpart P Section 265.381, Subpart Q 265.404 and any other applicable to U.S. and Ohio EPA RCRA closure processes.

It is Ravenna Arsenal, Inc.'s intent to address all applicable regulations. If other regulations than these apply the consultant will include the cost of compliance and shall identify the additional regulation.

4. In preparing the plan the consultant shall take the necessary samples and analyze them for the appropriate parameters to confirm that soil contamination does not exist or, if it does, to establish the limits of the contamination.

5. In preparing the plan and specifications the capability to operate the furnace after closure for Class C explosives will be maintained.

6. The closure plan shall include, but not be limited to the following items. Ravenna Arsenal, Inc. depends on the consultant's expertise to include any additional items required for Ohio and U.S. EPA approval and compliance with all applicable environmental regulations. The consultant shall identify in his proposal any additional work efforts that he has included in his price.

a. Location of deactivation furnace.

b. Description of the furnace and associated equipment and the contamination present (based on laboratory analysis of samples collected by the consultant). The consultant shall identify in his proposal the base number of samples and types of analyses which he proposes to conduct in order to develop the specifications. The cost of the basic number of samples and types of analyses to establish the presence or absence of contamination in the soil shall be included in the consultants base price.

In addition the consultant shall submit unit prices for additional samples and analyses which may be required to establish the limits of contamination if contamination is determined to be present.

c. Detailed procedures for removal and treatment and/or disposal of any ash from the furnace decontamination of the furnace and associated equipment, collecting and disposal of any contaminated soil, and restoring the site to grade.

d. Requirements for documentation from the closure contractor to RAI to assure proper disposal of furnace ash, contaminated soil, and other materials disposed off site.

e. Attend meetings necessary to review the furnace closure plan with the Ohio EPA and make necessary changes.

7. In addition to the closure plan the following additional items must be developed which along with the items above will form the plans and specifications for the implementation of the work.

a) Identification of area where suitable borrow material replace any excavated soil will be obtained.

b) Final grading and drainage specifications for borrow area.

c) Planting and seeding requirements of borrow area.

d) Provide an estimate of the total costs involved in the implementation of the furnace closure project.

e) Develop plans and specifications required to obtain a contractor to perform the work. Ravenna Arsenal, Inc. prefers to award the closure contract on a fixed price basis; however, we will consider unit price alternatives where substantial savings may be expected.

f) The consultant must provide a registered professional engineer to escort contractors bidding on the closure contract and to coordinate and witness the actual closure process. He shall provide a certification of closure in accordance with applicable regulations and the approved closure plan. The cost of this should not be included in the cost for preparing the plan but as a separate time and material rate with an estimate of the total cost for the option.

g) The consultant will provide any services necessary to modify the closure plan as a result of conditions found during the closure process. The cost of this should not be included in the cost for preparing the plan but as a separate time and material rate.

h) The consultant shall develop and provide an Environmental Assessment (EA) as prescribed by 32 CFR Part 651 Subpart E Sections 651.20 thru 651.27; more commonly referred to as Army Regulation (AR) 200-2, Chapter 5.

C. COMPLETION OF WORK

1. The following schedule will be met. Times shown are times After Award of Contract (AAC).

a) Award of Contract

b) Preliminary Closure Procedures for RAI Review - (3 Weeks AAC)

c) Complete Closure Plan supporting documents - (5 Weeks AAC)

d) Preliminary Plans, Specifications, and Cost Estimate - (5 Weeks AAC)

e) Plan approval by Ohio EPA

f) Completion of Plans and Specifications - (7 Weeks AAC)

II. DRAWINGS

The following drawings are included to show the general location and construction of the furnace and associated equipment.

DWG. NO.	DESCRIPTION
A-109	General Area Map
A-2580	General Layout, Burning and Demolition Grounds
A-2558	Building T-3401 Deactivation Furnace, Small Arms

GENERAL

A. With his bid, the subcontractor will state, in writing, the number of men he intends to use on the job, and his starting and estimated completion dates.

B. DISPOSITION OF MATERIAL: Not Applicable

C. CLEAN-UP:

1. Debris Control: Debris shall be removed, disposed off the installation, and transported in a manner as to prevent spillage on installation streets or adjacent areas.

2. Burning: The use of burning at the project site for the disposal of refuse and debris will not be permitted.

D. Work will not be considered complete until accepted by Ravenna Arsenal, Inc., Engineering division.

E. The subcontractor will be responsible for:

1. Acquainting himself with the work areas.

2. His materials and equipment brought on site.

3. Keeping the work area neat and orderly at all times.

4. Complying with all safety and security regulations as stipulated in the Ravenna Arsenal, Inc.. Pamphlet "Safety and Security Rules" dated 1986.

5. Avoiding any interference with Arsenal activities.

F. Normal working hours shall be between 8:00 AM and 4:30 PM, Monday thru Friday, excluding designated plant holidays. Arrangements to work other than normal hours must be approved in advance.

Supervisory Engineer Concurrence H.R. Cooper

EPA Federal Agency Pollution Abatement Plan — Project Report

I Facility Information

1 State Alpha	2 Agency/Bureau	3 GSA Installation	4 EPA Region	5 Country	6 New Installation
OH	2138		05	USA	Yes [ ] No [X]

7 Name of the Installation: RAVENNA ARMY AMMUNITION PLANT

8 Street Address: 8451 STATE ROUTE 5

9 City Name: RAVENNA OHIO

10 ZIP Code (if known): -4266-9297

11 Ownership Type: GOCO

II Basic Project Information

1 Agency Project Number	2 Various Locations	3 Media	4 Pollutant Category	5 Funding Account	6 Year Funding Required
	Yes [ ] No [X]	SW	HAZD	02	FY 89

7 Project Name (Brief description): RCRA CLOSURE PLAN FOR DEACTIVATION FURNACE

8 Project Contact Name	9 Contact Telephone	10 Total Cost Estimate (in $1,000's)
CHANDA THOMAS M	216-297-3221	30.0

11 Project Assessment

- [X] High (H) Project critical to Agency program and/or cleanup of local environment
- [ ] Med (M) Project important to Agency program and/or cleanup of local environment
- [ ] Low (L) Project desirable to Agency program and/or cleanup of local environment

12 Compliance Status

- [ ] ESOP Does not meet established standard and compliance deadline has passed
- [ ] ESOF Does not meet established standard and compliance deadline is in the future
- [X] PSOF Does not meet pending standard and compliance deadline is in the future
- [ ] ESRO Meets established standard but needs replacement due to obsolescence
- [ ] ESRE Meets established standard but needs replacement due to need for expansion
- [ ] ESOL Meets established standards but needs to demonstrate leadership
- [ ] OTHR Other

13 Project Cost

Fiscal Year	Budgeted ($1,000)	Funded ($1,000)
89	30.0	

14 Project Milestones/Progress (All dates are month/year)

Design/Plan Completion	Construction/Work Start	Construction/Work Completion
0989	1189	0390

Final Compliance Required	Progress Code	Fiscal Year Completed
0390	1	FY90

For DOE Use Only

Program ID	Field Office

Project Narrative (including description of legal requirement and pollutants to be controlled)

DEVELOP RCRA CLOSURE PLAN FOR RVAAP'S DEACTIVATION FURNACE THAT WILL RESPOND TO 40 CFR PART 264, SUBPART GGX, 40 CFR PART 265 SUBPART GGR, OAC 3745-66-11 & OAC 3745-66-12 CLOSURE IS REQUIRED DUE TO UNIT NOT BEING UP-GRADED TO RCRA INCINERATOR STATUS PRIOR NOV CY89 FOR CLASS A&B EXPLOSIVES. PLAN WILL ONLY ADDRESS APPLICABLE SITE IMPACT & REMEDIATION. FURNACE WILL REMAIN INTACT TO PROCESS CLASS C EXPLOSIVES FOLLOWING APPROVED RCRA CLOSURE

EPA Form 3500-7 (Rev. 8-85) Previous edition is obsolete.

RA-61

RAVENNA ARSENAL, INC.
REQUEST FOR QUOTATION
(INTER-DEPARTMENT)

NUMBER OF REQUEST _____

DATE 10/5/89

PROJECT CLOSURE PLAN FOR DEACTIVATION FURNACE

MECHANICAL ORDER NUMBER _____

QUANTITY 1 LOT

DESCRIPTION PROVIDE THE SERVICES OF A CONSULTING ENGINEER TO PROVIDE A CLOSURE PLAN AND RELATED DOCUMENTS FOR THE DEACTIVATION FURNACE. REQUIREMENTS ARE DESCRIBED IN SPECIFICATION PS-679, ATTACHED. NOTE THAT WE HAVE ASKED FOR AN OPTION TO RETAIN THE SAME ENGINEER TO OVERSEE CLOSURE, AND PROVIDE CERTIFICATION.

DELIVERY REQUESTED CLOSURE PLAN IS DUE TO EPA NOVEMBER 9, 1989, HOWEVER, FUNDING HAS NOT BEEN RECEIVED. FUNDING COULD COME ANYTIME. WE NEED TO BE READY TO AWARD CONTRACT IMMEDIATELY WHEN FUNDING IS RECEIVED.

QUOTATION REQUEST DATE _____

TOOLING QUOTATION SEPARATE YES ____ NO ____

MONTHLY STATUS REPORT YES ____ NO ____

MAINTENANCE DATA YES ____ NO ____

INSTALLATION REQUIRED YES ____ NO ____

DRAWINGS ATTACHED YES X NO ____ TO BE PROVIDED DURING SITE VISIT.

IF YES LIST DRAWING NUMBERS A-109 A-2580 A-2558

SUGGESTED VENDORS

ENVIRONMENTAL CONSULTING ENGINEERS

REQUESTED BY H. COOPER HC

DEPARTMENT 54

DATE QUOTATION RECEIVED _____

EXT. 3240

PROPOSAL TO RAVENNA ARSENAL, INC.

FOR

DEVELOPMENT OF A CLOSURE PLAN

FOR A DEACTIVATION FURNACE

SUBMITTED BY:

BAT Associates, Inc.

27801 Euclid Avenue, Suite 450

Euclid, Ohio 44132

OCTOBER 23, 1989

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3.0	Scope of Services	2
4.0	Project Personnel	4
5.0	Project Schedule	5
6.0	Fees and Payment	5
7.0	General	6

Appendix A: Resumes of Key Personnel

Appendix B: Cost Breakdown for Item 1, Section 6.0, Fees and Payment

Appendix C: Cost Breakdown for Item 2, Section 6.0, Fees and Payment

PROPOSAL FOR
DEVELOPMENT OF A CLOSURE PLAN
FOR A DEACTIVATION FURNACE
RAVENNA ARSENAL, INC.

1.0 INTRODUCTION

BAT Associates, Inc. (BAT) is pleased to submit a proposal for providing environmental services to Ravenna Arsenal, Inc. (RAI) for its plant facility in Ravenna, Ohio. Per RAI's Request For Proposal dated October 16, 1989, BAT has prepared this proposal for developing a closure plan for a deactivation furnace located at the plant's burning grounds.

BAT is a consulting engineering firm with a broad range of professional expertise in environmental management. The firm is headquartered in Cleveland, Ohio with a regional office in Atlanta, Georgia. BAT's engineers and scientists have demonstrated expertise in:

- Environmental engineering,
- Hazardous waste management,
- Underground storage tank management,
- Facilities design, and
- Construction inspection.

BAT will provide environmental services to RAI for its Ravenna Army Ammunition Plant from our Cleveland, Ohio office. The services for sample analyses on this project will be performed by BAT's subcontractor, HazLab Inc. in Marietta, Georgia.

This proposal has been prepared in accordance with RAI's Specification PS-679 dated October 5, 1989. The proposal includes project background, scope of services, project personnel, project schedule, and fees and payment.

2.0 PROJECT BACKGROUND

Ravenna Arsenal, Inc. is the prime contractor for the U.S. Army to operate the Ravenna Army Ammunition Plant (RVAAP). The plant is located on Route 5 near Ravenna, Ohio. The RVAAP has a deactivation furnace located out of doors at the plant's burning grounds. The furnace is surrounded by earth-filled timber walls to protect operating personnel.

The deactivation furnace is a No.2 fuel oil fired rotating feed drum (1 1/4" thick) which receives explosive filled components from a feed conveyor on one end. The drum contains flutes which move the components at a slow speed toward the burner end. The components reach an elevated temperature and explosive burns or detonates. The metal parts are discharged into a takeway conveyor to a collection site immediately outside the timber walls.

The explosive materials which were or could have been treated in the deactivation furnace include fuze and booster assemblies, ammunition primers, small arms ammunition, and small packets (no greater than 400 grains) of explosives and/or propellants that resulted in ash residues that contained EP toxic metals, aluminum, tin, iron, magnesium, calcium silicates, chlorides, potassium, copper, strontium, antimony, and variable thermally degraded organic compounds containing oxygen, nitrogen, sulphur, carbon, and hydrogen.

The RVAAP Deactivation Furnace is a RCRA treatment facility as it is used for treatment and disposal of hazardous wastes. The facility must be closed because it cannot be upgraded to meet incinerator standards as required for Class A and Class B explosives. After closure as a RCRA facility, the furnace will be operated as a non-hazardous waste treatment facility for Class C components.

3.0 SCOPE OF SERVICES

BAT Associates, Inc. proposes to provide consulting and technical services to Ravenna Arsenal, Inc. for development of a closure plan for the RVAAP Deactivation Furnace, as follows:

1. Perform sampling and analysis at and around the deactivation furnace to characterize ash residues and to confirm that soil contamination does not exist or, if it does, to establish the limits of the contamination.

   Prior to the sampling visit, BAT shall prepare a sampling and analysis plan (SAP), which will adress both sampling methods and quality assurance. Also, prior to the initiation of the sampling visit, BAT shall prepare a health and safety plan (HSP).

   BAT will use EPA approved sampling methods for collecting soil and ash residues samples. The samples collected will be shipped to HazLab Inc. laboratory in Marietta, Georgia in accordance with EPA approved shipping procedures. All applicable chain-of-custody and sample receipt protocols will be implemented.

   Based on a site visit conducted on October 16, 1989, BAT recommends that four (4) basic soil and ash residues samples be taken and analyzed to determine chemical compositions of ash residues and the presence or absence of contamination in the

soil. The proposed sampling locations are as follows:

1 - Ash residues from the head end of the takeaway conveyor.

1 - One-foot composite soil sample underneath the head end of the takeaway conveyor.

1 - One-foot composite soil sample underneath the discharge end of the takeaway conveyor.

1 - One-foot composite background soil sample as a basis for comparison.

Each sample shall be analyzed for EP toxic metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver), and Target Compound List/Target Analyte List (TCL/TAL) pollutants. TCL/TAL pollutants will be analyzed by a GC/MS scan to identify and quantify organic hazardous pollutants in the soil and ash residues.

If the soil is determined to be contaminated, BAT will prepare a work plan to establish the limits (horizontal and vertical) of contamination. The cost for preparation of the work plan and for additional sampling and analysis to establish the limits of soil contamination is not included in the base price of this proposal. However, unit prices for this additional work is presented.

2. Provide all services necessary to prepare and submit a closure plan for the deactivation furnace in accordance with 40 CFR Part 264 Subpart G and Subpart X Section 264.603; Part 265 Subpart G Sections 265.110 thru 265.115, Subpart O Section 265.351, Subpart P Section 265.381, Subpart Q Section 265.404 and any other applicable federal and Ohio EPA RCRA closure requirements. The closure plan shall include, but not be limited to the following:

a. Location of deactivation furnace;

b. Closure performance standards;

c. Maximum waste inventory;

d. Description of the furnace and associated equipment and the contaminants present (based on laboratory analysis of samples collected by BAT);

e. Detailed procedures for removal and treatment and/or disposal of any ash from decontamination of the furnace and associated equipment, collecting and disposal of any contaminated soil, and restoring the site to grade;

f. Requirements for documentation from the closure contractor

to RAI to assure proper disposal of furnace ash residues, contaminated soil, and other material disposed off site; and

g. Schedule for closure.

In preparing the closure plan and specifications, the capability to operate the furnace after closure for Class C explosive shall be maintained.

3. Attend meetings necessary to review the furnace closure plan with the Ohio EPA and make necessary changes.

4. Prepare plans and specifications incorporating the closure plan for closure work. In addition to the closure plan, the plans and specifications shall include:

   a. Identification of areas where suitable borrow material to replace any excavated soil will be obtained;

   b. Final grading and drainage specifications for borrow areas;

   c. Planting and seeding requirements of borrow areas;

   d. Providing an estimate of the total costs involved in the implementation of the furnace closure project;

   e. Developing plans and specifications required to obtain a contractor to perform the work;

   f. Providing a registered professional engineer to escort contractors bidding on the closure contract and to coordinate and witness the actual closure process. The registered professional engineer shall provide a certification of closure in accordance with applicable regulations and the approved closure plan.

   g. Providing any services necessary to modify the closure plan as a result of conditions found during the closure process; and

   h. Developing and providing and Environmental Assessment (EA) and Finding Of No Significant Impact (FONSI) as prescribed by 32 CFR Part 651 Subpart E Sections 651.20 thru 651.27; more commonly referred to as Army Regulation (AR) 200-2, Chapter 5. The preparation of an Environmental Impact Statement (EIS), if required, is not included in this proposal.

4.0 PROJECT PERSONNEL

BAT's proposed personnel along with their responsibilities for the proposed work are as follows:

Project Manager/Senior Environmental Engineer	Jack R. Kuo, P.E.
Civil Engineer	Frank C. Lee, P.E.
Consulting Hydrogeologist	Thomas Sherrod, P.G.
Technician	Bill Moore

Mr. Kuo has over eighteen years of diversified hands-on experience in environmental engineering, hazardous waste management, underground storage tank management, and other related areas. He has prepared and/or reviewed more than 10 RCRA closure plans including one for explosive ordance disposal facility at Nellis Air Force Base in Las Vegas, Nevada. All closure plans he prepared were all approved by the concerned regulatory agencies. Mr. Kuo will manage and perform most of the work throughout the entire project period. Mr. Kuo is also proposed for inspection of closure activities and certification of the closure process. Mr. Kuo's resume is included in Appendix A.

Mr. Kuo will be assisted by Mr. Frank Lee in the area of civil engineering, by Mr. Thomas Sherrod in hydrogeological investigation, and by Mr. Bill Moore in field sampling and drafting, as needed.

5.0 PROJECT SCHEDULE

BAT proposes to complete the proposed services in accordance with the following schedule:

a. Award of Contract

b. Preliminary Closure Procedures for RAI Review
   - 3 Weeks After Award of Contract (AAC)

c. Complete Closure Plan supporting documents
   - 5 Weeks AAC

d. Preliminary Plans, Specifications, and Cost Estimate
   - 5 Weeks AAC

e. Plan approval by Ohio EPA

f. Completion of Plans and Specifications
   - 7 Weeks AAC

6.0 FEES AND PAYMENT

1. For performance of the work described herein under Section 3.0, Scope of Services, exclusive Items 4.f and 4.g, RAI shall pay, and BAT shall accept, as full compensation for such services, a total of ELEVEN THOUSAND DOLLARS ($11,000.00). (See Appendix B for detailed cost breakdowns).

2. For performance of the work described herein under Item 4.f, Section 3.0, Scope of Services, BAT shall be compensated at a time and material rate of $50.00 per hour for the service of a registered professional engineer for inspection and certification for the furnace closure. The total cost for providing such services was estimated to be approximately $1,800.00 (see Appendix C for a detailed cost breakdown). This estimate was based on an assumption of moderate soil contamination. The cost may be adjusted based on actual conditions.

3. For performance of the work described herein under Item 4.g, Section 3.0, Scope of Services, BAT shall be compensated at a time and material rate of $50.00 per hour for the service of a qualified engineer or scientist.

4. If additional soil sampling and analysis is needed to determine the limits of soil contamination, BAT proposes to perform such services at the following unit prices:

Senior Environmental Engineer	$50.00/Hr. (Time & Material)
Field Sampling Technician	$42.00/Hr. (Time & Material)
EP toxic metal analysis	$200.00/Sample
TCL/TAL pollutants by GC/MS scan	$650.00/Sample

It is likely that, after initial sampling and analysis, a better defined parameters for analysis will be obtained, resulting in reduction of the above unit prices for sample analyses.

Furthermore, if the soil contamination should turn out to be deep (more than 3 feet) requiring rental of heavy sampling equipment such as power auger, or drilling service of a subcontractor; the cost for such equipment rental or drilling service shall be reimbursed by RAI.

Invoices shall be submitted monthly and due within 30 days. The final payment shall be due and payable within 30 days after completion of the work and its acceptance by RAI.

All above prices shall be valid for six (6) months from the date this proposal is submitted. The prices shall also be firm for duration of the project.

7.0 GENERAL

In submitting this proposal, BAT agrees to meet all the requirements as specified by RAI in its Request For Quotation. Attached with this proposal are:

1. Completed Buy-American Certification,

2. Completed Assurance of Nonsegregated Facilities,

3. Completed Bidder's Mailing List Application, and

4. Standard Form 254 of BAT Associates, Inc.

We appreciate the opportunity for submitting this proposal and look forward to working with you on this project. If you have any questions regarding BAT or this proposal, please feel free to contact us at (216) 261-3724.

APPENDIX A

RESUMES OF KEY PERSONNEL

JACK R. KUO. P.E.

EDUCATION

M.S.C.E., Environmental and Water Resource Engineering, University of Cincinnati, 1971
M.S.C.E., Sanitary Engineering, National Taiwan University, 1969
B.S., Hydraulic Engineering, National Taiwan University, 1967

PROFESSIONAL REGISTRATION

Registered Professional Engineer in Ohio, Missouri, and Idaho

SPECIALIZATION

Hazardous Waste Management
Waste Minimization
Environmental Audit
Underground Storage Tank Management
Industrial Waste Treatment Design
Municipal Wastewater Collection & Treatment Design
Hydraulic and Water Resource Engineering

EMPLOYMENT

BAT Associates, Inc., President/Chief Environmental Engineer, 1989-present
Lee Wan & Associates, Inc, Atlanta, GA, Project Manager, 1985-1989
Northeast Ohio Regional Sewer District, Cleveland, OH, Project Engineer, 1979-1985
Cleveland State University, Cleveland, OH, Adjunct Professor, 1982-1983 (evening)
Mogul Corporation, Chagrin Falls, OH, Project Engineer, 1977-1979
Engineering-Science, Inc., Cleveland, OH, Sanitary/Hydraulic Engineer, 1976-1977
A.M.Kinney, Inc., Cincinnati, OH, Civil/Sanitary Engineer, 1971-1976

QUALIFICATION SUMMARY

Mr. Kuo has over seventeen years of diversified hands-on experience in hazardous waste management, environmental engineering, and other related areas. He has completed 40-hour basic health and safety training and 8-hour supervisory training for hazardous waste activities, and has attended numerous workshops and short courses in the areas of RCRA permitting, sampling overview, groundwater monitoring, pollutant transport, underground storage tank leak detection and monitoring, cathodic protection, and hazardous waste incineration. He served as Adjunct Professor for the Department of Civil Engineering, Cleveland

State University, teaching evening graduate courses including Environmental Chemistry, and Physical and Chemical Principles of Environmental Engineering. He Also taught evening P.E. review courses for Cleveland Engineering Society including Open Channel Hydraulics, Surface Hydrology, Groundwater Hydrology, and Fluid Mechanics.

Mr. Kuo's experience in the area of hazardous waste management includes: waste minimization, environmental audit, Part B permit application, RCRA facility assessment, RCRA facility closure, hazardous waste transportation, feasibility study (FS) of remedial action alternatives, remedial design/remedial action (RD/RA) oversight, remedial design and cost estimates, potentially responsible party (PRP) search for Superfund sites, groundwater contamination assessment, underground storage tank management, and spill prevention control and countermeasure. He is knowledgeable with RCRA, HSWA, CERCLA, SARA, TSCA, and underground storage tank (UST) regulations.

Mr. Kuo also has extensive experience in the design, cost estimates, preparation of plans and specifications, operation trouble-shooting, and preparation of operation and maintenance manuals for industrial/hazardous waste treatment and municipal wastewater collection and treatment facilities.

Mr. Kuo's other experience includes environmental impact assessment, stormwater management, drainage and erosion control design, hydraulic transient analysis and control design, and flood control study.

MAJOR PROJECT EXPERIENCE

The following is a list of major projects in which Mr.Kuo served as Project Manager, Work Assignment Manager, or Project Engineer:

A. <u>Hazardous Waste Management</u>

- RCRA Part B Permit Application, Nellis Air Force Base, Las Vegas, Nevada.
- Closure Plan for Old Drum Storage Area, Painting Technology, Inc., Euclid, Ohio.
- Waste Minimization Study, Laughlin Air Force

Base, Del Rio, Texas.
- o RCRA Facility Assessments, 7 RCRA sites in Puerto Rico and South Carolina.
- o RCRA Sampling and analysis Investigations, 4 RCRA sites in Puerto Rico.
- o RCRA Facility Checklists, 10 RCRA facilities in EPA Region IV.
- o Technical Support Services for Environmental Management, Feed Materials Production Center, U.S. Department of Energy, Fernald, Ohio.
- o Feasibility Study of Remedial Action Alternatives, The G.E. Wiring Devices Waste Fill Site, Juana Diza, Puerto Rico.
- o Remedial Design/Remedial Action (RD/RA) Oversight, WamChem Superfund Site, Beaufort, SC.
- o Records Compilation and Potentially Responsible Party Search, Newport Dump Site, Newport, KY.
- o Evaluation of Toxicity Hazards in Transportation, Research and Special Programs Administration, U.S. DOT, Washington, D.C.

B. <u>Underground Storage Tank Management</u>

- o Designed more than 30 underground storage tanks for gasoline, fuel oil, and hazardous chemicals.
- o Cathodic Protection Systems for Underground Storage Tanks, Plans and Specifications, EDGE Group, Inc., Nashville, Tenn.
- o Underground Storage Management Program, Atlanta Fuel Company, Atlanta, GA.
- o Training and Field Demonstration on Tank/Piping -To-Soil Potential Tests, EPA TES III.
- o Spill Prevention Control and Countermeasure (SPCC) Coordinator for Northeast Ohio Regional Sewer District, Cleveland, OH.

C. <u>Industrial Waste Treatment</u>

- o Biodenitrification Effluent Inhibition and Treatability Study, Westinghouse Materials Company of Ohio, Fernald, OH.
- o Industrial Waste Treatment Design, Sundstrand Compressors, Bristol, VA.
- o Industrial Waste Treatment and Disposal Design, Canton Drop Forging & Manufacturing Company, Canton, OH.
- o Waste Characterization and Minimization Study, Homelite Chain Saw Plant, Gastonia, NC.
- o Lead-Acid Battery Manufacturing Wastewater

APPENDIX B

COST BREAKDOWN FOR
ITEM 1, SECTION 6.0, FEES AND PAYMENT

1. Sampling and analysis

   Preparation of Sampling and Analysis Plan, and Health and Safety Plan $800.00

   Field sampling (4 samples)....$300.00

   EP toxic metals analyses @ $200/sample.....$800.00

   Target Compound List/Target Analyte List (TCL/TAL) pollutants analyses by GC/MS scan @ $650/sample.....$2,600.00

   Subtotal.....$4,500.00

2. Preparation of Closure Plan, including meetings with Ohio EPA and revisions.....$3,000.00

3. Preparation of plans and specifications incorporating the closure plan for closure work, including cost estimates.....$2,000.00

4. Preparation of Environmental Assessment (EA) and Finding Of No Significant Impact (FONSI).....$1,500.00

   TOTAL $11,000.00

APPENDIX C

COST BREAKDOWN FOR
ITEM 2, SECTION 6.0, FEES AND PAYMENT

Although it is not necessary for a registered professional engineer to oversee the entire closure process, the registered professional engineer is required to witness and/or inspect closure activities at certain critical points of the closure process. The following are services to be performed along with an estimated manhour for each service by the BAT's registered professional engineer for inspection and certification of the furnace closure:

SERVICES	EST. HOURS
1. Inspection during excavation of contaminated soil	6
2. Inspection upon completion of soil excavation	4
3. Inspection during decontamination of furnace and associated equipment	6
4. Inspection upon completion of furnace/equipment decontamination	4
5. Review of sample analysis data	2
6. Review of manifests for off-site disposal of removed contaminated soil and/or residues	2
7. Inspection during backfilling	6
8. Final inspection and certification	6
TOTAL	36 Hours
Estimated cost @ $50.00/hr.	$1,800.00

NOTES:

1. If the closure is prepared by a firm other than BAT Associates, Inc., an additional 2 hours for review of the closure plan shall be added to the above estimate.

2. If the soil is determined to be no or little contamination by sample analyses, the services as specified in Items 1 & 2 above will be eliminated or reduced.

RAVENNA ARMY AMMUNITION PLANT

SUBJECT: RCRA Closure Notice for Ravenna Army Ammunition Plant's Deactivation Furnace For Thermal Treatment of Explosive Class A & B Materiel
EPA I.D. No. OH5210020736

The Ravenna Army Ammunition Plant (RVAAP) is hereby providing formal notice to the Ohio EPA of the subject closure. The discontinuance of this RCRA thermal treatment process is only for Class A & B explosive typed materiel. Class C explosive items (e.g. small arms ammunition), designated as non-usable, are defined as being a non-regulated waste under RCRA characteristic standards for reactivity.

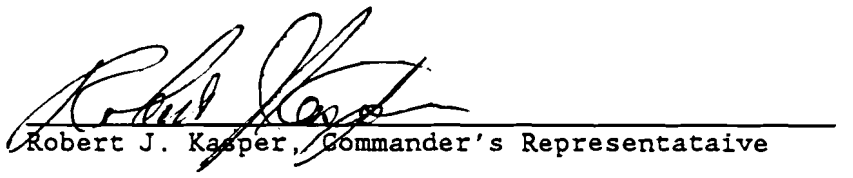
The RVAAP deactivation furnace has held a "T04----Other Thermal Treatment" classification during its interim status operation. USEPA's negotiations with the U.S. Army has determined that these deactivation furnaces will be reclassified as a RCRA hazardous waste incinerator for Class A & B explosive thermal treatment/demilitarization. This new ruling requires retrofitting these deactivation units with all applicable RCRA incinerator appurtenances and standards. RVAAP has determined it to be cost prohibitive for this upgrade to meet incinerator standards and therefore, will have to perform RCRA closure.

Since there are no plans to remove RVAAP's deactivation furnace during RCRA closure due to its Class C explosive treatment capability, a new RCRA closure plan will have to be developed. With the processes of Government funding and the acquisition of a qualified engineering firm, it will take 60 to 90 days to have a formal closure plan. Prior to any closure action, Ohio EPA will be given the formal plan for review and concurrence.

RVAAP has no demilitarization projects on-board for Class A, B, and/or C explosives at this time. RVAAP recently just completed a deactivation furnace activity/project during October 1989.

This installation's point of contact will be Thomas M. Chanda, Environmental Engineer at phone (216) 297-3221.

RAVENNA ARMY AMMUNITION PLANT



Robert J. Kasper, Commander's Representataive

cf: Ohio EPA
Northeast District Office
ATTN: Mr. Don Easterling, Div. of Solid and Hazardous Waste
Twinsburg, OH 44087

USEPA - Region 5
RCRA Permitting Branch
ATTN: 5HR13 (Don Heller)
230 South Dearborn St.
Chicago, IL 60604

Commander
HQTRS AMCCOM
ATTN: AMSMC-ISE
Rock Island, IL

Date

ROUTING AND TRANSMITTAL SLIP NOV. 8, 1989

TO: *(Name, office symbol, room number, building, Agency/Post)*	Initials	Date
1. DR. RICHARD L. SHANK, DIRECTOR		
OHIO ENVIRONMENTAL PROTECTION AGENCY		
2. P.O. BOX 1049, 1800 WATERMARK DRIVE		
COLUMBUS, OHIO 43266-0149		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

Attached is RCRA Closure Notice for Ravenna Army Ammunition Plant's Deactivation Furnace for Treatment of Explosive Class A & B Materiel.

cf: Ohio EPA
Northeast District Office
ATTN: MR. Don Easterling, Div. Solid & Haz. Waste
Twinsburg, OH 44087

USEPA - Region 5
RCRA Permitting Branch
ATTN: 5HR13 (Don Heller)
230 S. Dearborn St.
Chicago, IL 60604

Commander
HQTS AMCCOM
ATTN: AMSMC-ISE
Rock Island, IL

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions

FROM: *(Name, org. symbol, Agency/Post)*	Room No.—Bldg.
Robert J. Kasper, RVAAP, CR	Phone No. 216-297-3221

5041-102
☆ U.S. G.P.O. 1983-414-517

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

cc: N. Wulff
T. Chanda
R. Holford
G. Wolfgang
File

RAVENNA ARSENAL INC.

8451 STATE ROUTE 5
RAVENNA, OHIO 44266-9297

Telephone (216) 358-7111

Autovon 346-3210

November 8, 1989

Contracting Officer's Representative
Ravenna Army Ammunition Plant
8451 State Route 5
Ravenna, Ohio 44266-9297

Subject: RCRA Closure Notice For Ravenna Army Ammunition Plant's Deactivation Furnace for Treatment of Explosive Class A & B Materiel
EPA I.D. No. OH5210020736

Dear Mr. Kasper,

The attached notice is for your review, signature, and transmittal to the Director of Ohio Environmental Protection Agency (EPA).

The transmittal of the attached notice formally initiates the process of closure under RCRA. Closure is required because the furnace can not meet incinerator standards which is required when processing Class A & B explosives.

The formal closure notice should be sent to:

Dr. Richard L. Shank, Director
Ohio Environmental Protection Agency
P.O. Box 1049, 1800 WaterMark Drive
Columbus, Ohio 43266-0149

A transmittal form has been prepared for your use.

Point of contact is Mr. Thomas M. Chanda, Environmental Engineer. Please return a signed copy of the notice for our records.

Sincerely,

RAVENNA ARSENAL, INC.

H. R. Cooper
Plant Engineer

HRC/TMC/wt/tc89038

Attachment

BAT

BAT Associates, Inc.

ENGINEERS • SCIENTISTS • PLANNERS

27801 Euclid Avenue, Suite 450
Euclid, Ohio 44132
(216) 261-3724 • FAX (216) 261-2705

December 15, 1989

Mr. Tom Chanda
Ravenna Arsenal, Inc.
8451 State Route 5
Ravenna, Ohio 44266-9297

RE: Sampling and Analysis Plan
Development of Closure Plan for Deactivation Furnace

Dear Mr. Chanda:

Enclosed is a copy of a sampling and analysis plan to be used for soil sampling at and around the deactivation furnace at your facility. The purpose of this sampling and analysis is to determine the presence or absence of contamination at or around the above hazardous waste treatment facility.

This sampling and analysis plan has incorporated all review comments by Ravenna Arsenal, Inc.

Very truly yours,

BAT Associates, Inc.

Jack R. Kuo, P.E.
Senior Environmental Engineer

JRK:lf

Enclosure

SAMPLING AND ANALYSIS PLAN

DEVELOPMENT OF A CLOSURE PLAN
FOR
DEACTIVATION FURNACE

RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

PREPARED BY:

BAT ASSOCIATES, INC.
27801 EUCLID AVENUE, SUITE 450
EUCLID, OHIO 44132

DECEMBER 1989

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2.0	SAMPLING LOCATIONS	1
3.0	SAMPLING EQUIPMENT AND PROCEDURES	1
4.0	SAMPLE HANDLING AND ANALYSIS	3

SAMPLING AND ANALYSIS PLAN
RAVENNA ARMY AMMUNITION PLANT
RAVENNA, OHIO

1.0 INTRODUCTION

This sampling and analysis plan will be used for soil sampling and analysis at and around the deactivation furnace at Ravenna Army Ammunition Plant in Ravenna, Ohio. The purpose of this sampling and analysis is to determine the presence or absence of contamination at or around the above hazardous waste treatment facility. Included in this sampling and analysis plan are sampling locations, sampling equipment and procedures, and sample handling and analysis.

2.0 SAMPLING LOCATIONS

Eighteen composite soil samples will be taken from six sampling sites as shown in the attached Figure 1. The six sampling sites along with sampling points at each site are tabulated as follows:

Sampling Sites	Sampling Points			
	0 - 12"	12" - 24"	24" - 36"	36" - 48"
No.1 - Retort Discharge	x	x	x	x
No.2 - Collection Bin Area	x	x	x	x
No.3 - Site Surface Runoff Confluence Point	x	x	x	x
No.4 - Background 100' SSE From Deactivation Furnace	x	x	x	x
No.5 - 20' NE From Entrance of Barricade	x			
No.6 - 20' NNE From Entrance of Barricade	x			

3.0 SAMPLING EQUIPMENT AND PROCEDURES

Eighteen composite soil samples will be collected from six sampling sites as shown in Figure 1 and listed in Section 2.0 above. Each soil sample will be collected with a stainless steel bucket auger, homogenized in a clean (decontaminated) glass dish with a clean (decontaminated) stainless steel spoon and placed into two clean (decontaminated) four-ounce wide-mouth jars- one plastic jar for total metals analyses and one glass jar for TNT, DNT, and RDX analyses. Fifteen bucket augers and eighteen each dishes and spoons, all pre-decontaminated and dedicated, will be used in this sampling event. Three of the fifteen bucket augers will be decontaminated in the field after use and reused for one more sampling.

Soil samples will be taken from each of one-foot depth intervals by a clean dedicated bucket auger. After each sampling, the sampling hole will be cleaned with the same auger taking the sample to insure that no old soil sample remains in the hole. A clean bucket auger will then be used for taking the next one-foot interval of sample. This sampling procedures will prevent cross-contamination between soils at different depth intervals. To further eliminate potential of such cross-contamination, the top 2 inches of soil sample in the bucket auger in each sampling (except the 0-12" interval) will be discarded.

All samples will be labeled with the collector's name, collector's sample number, place of collection, analysis required, and sampling date and time. A chain-of-custody form containing at least the same information will be prepared to accompany samples and maintain the chain-of-custody from time of sample collection through analysis.

In order to ship the samples to the designated laboratory for analysis, they will be packaged as follows:

1. Sample containers will be placed in plastic bags which will then be closed with electrical tapes, zipped or tied.

2. Chain-of-custody form will be placed into a separate plastic bag, closed, and taped into the cooler tops.

3. Coolers will be taped, closed with strapping tape and evidence tape and shipped on an overnight carrier to the laboratory. The cooler containing high concentration waste will be identified with DOT labels and shipped as hazardous materials in accordance with DOT shipping requirements.

All sampling equipment will be decontaminated prior to use. The decontamination procedures for stainless steel equipment (auger and spoon) are as follows:

1. Brush dirts off the equipment.

2. Wash with tap water and laboratory (non-phosphate) detergent.

3. Rinse thoroughly with tap water.

4. Rinse thoroughly with deionized water.

5. Rinse with isopropanol.

6. Rinse with organic free water.

7. Air dry and wrap with aluminum foil.

All sampling holes will be filled with bentonite after completion of sampling.

4.0 SAMPLE HANDLING AND ANALYSIS

A clean pair of new disposable gloves will be worn each time a different location is sampled. Sample containers for samples suspected of containing high concentrations of contaminants will be placed in separate plastic bags immediately after tagging. All sampling equipment will be constructed of stainless steel, Teflon, or glass, and will be properly decontaminated prior to use at each sampling location.

After collection, all samples will be handled as few times as possible. Laboratory personnel will use extreme care to ensure that samples are not contaminated. When samples are placed in ice chests, personnel will ensure that melted ice will not cause sample cross-contamination. All samples will be cooled at 4°C using blue ice in ice chests upon collection and during shipment.

All eighteen samples to be collected will be analyzed for total metals, TNT, 2,4-DNT, 2,6-DNT, and RDX. Total metals will be analyzed by ICP using EPA SW-846-6010 or 6000 Method. TNT, 2,4-DNT, 2,6-DNT, and RDX will be analyzed using U.S. Army THAMA 7W or 8H Method.

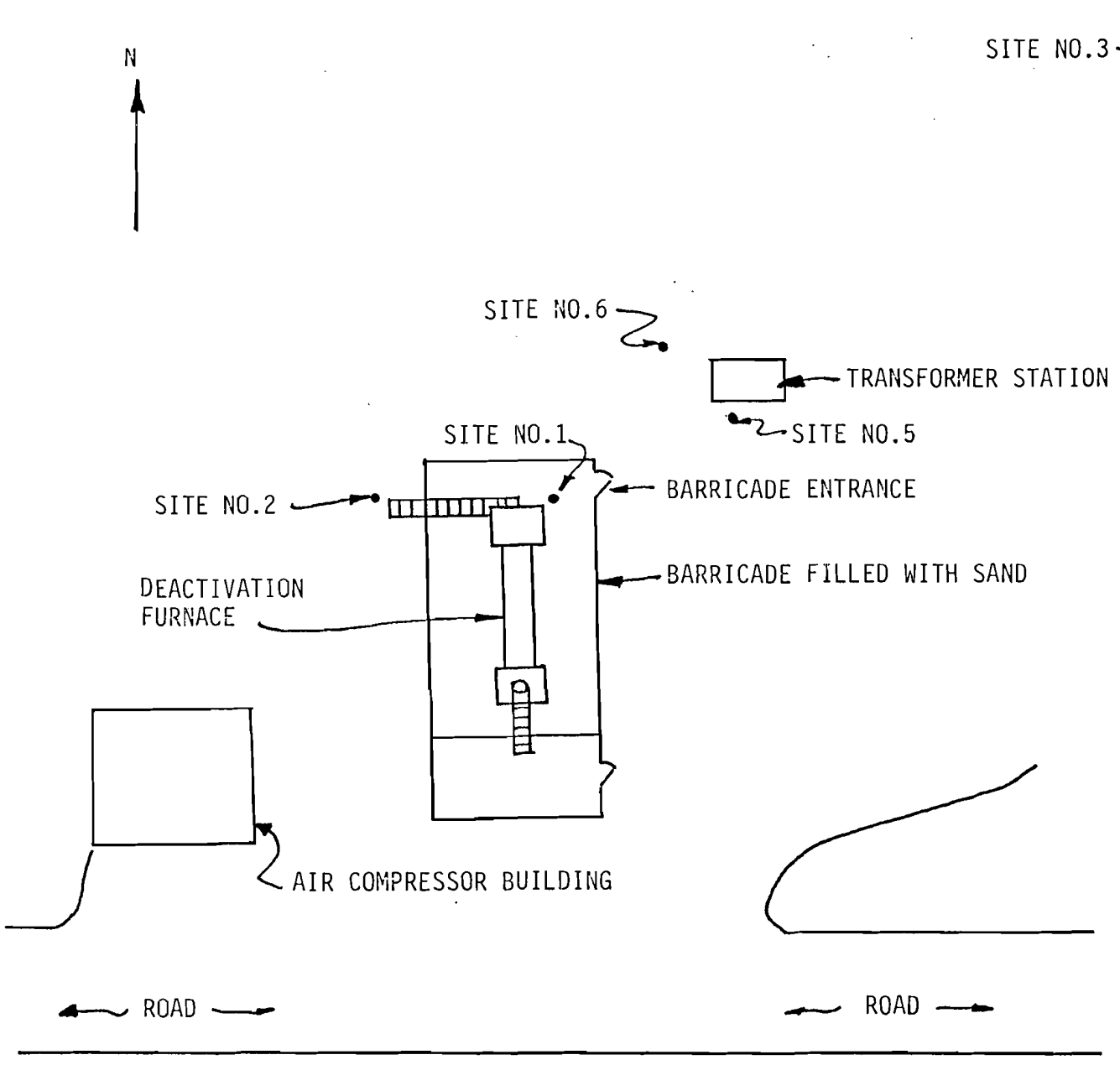

FIGURE 1 - SAMPLING LOCATIONS

FACSIMILE TRANSMITTAL SHEET

LEAD SHEET

FROM: Jack R. Kuo DATE: December 13, 1989

TIME: _____

BAT ASSOCIATES, INC.
27801 EUCLID AVENUE, SUITE 450
EUCLID, OHIO 44132

FAX NUMBER: (216) 261-2705

RECIPIENT'S NAME: Mr. Tom Chanda

RECIPIENT'S FAX NUMBER: 1-(216)-297-3216

ADDRESS: Ravenna Arsenal, Inc.
Ravenna, Ohio

SPECIAL INSTRUCTIONS: Please call or FAX me your comments. The plan will be transmitted to you after your comments are incorporated. I/we will see you around 8:10 A.m. Friday (12-15-89). We plan to finish sampling in one day.

PAGES SENT: 6 (INCLUDING LEAD PAGE)

cc: J Jenkins
S. McCaslin
T. Chanda

12/14/89 JRK

DEC 13 '89 9:57

PAGE.001

BAT

BAT Associates, Inc.

ENGINEERS • SCIENTISTS • PLANNERS

27801 Euclid Avenue, Suite 450
Euclid, Ohio 44132
(216) 261-3724 • FAX (216) 261-2705

December 11, 1989

B. J. JENKINS
DEC 13 1989

Mr. B.J. Jenkins, Administrator
Contract/Procurement & Purchasing
Ravenna Arsenal, Inc.
Ravenna, Ohio 44266-9297

cc: Tom Chanda
Harold Cooper
Please review and comment.
BJJ 12/13/89

RE: Development of a Closure Plan for a Deactivation Furnace
Ravenna Arsenal, Inc., Ravenna, Ohio

Dear Mr. Jenkins:

Per our discussion this morning, Item 1, Section 3.0 - Scope of Services and Section 6.0 - Fees and Payment of our proposal for the refernced project dated October 23, 1989 are revised as follows:

A. Item 1, Section 3.0 - Scope of Services

Perform sampling and analysis at and around the deactivation furnace to confirm that soil contamination does not exit or, if it does, to establish the limits of contamination.

Prior to sampling visit, BAT shall prepare a sampling and analysis plan which will include sampling locations, sampling points, sampling equipment, sampling methods, and analyses to be performed for each sample.

BAT will use EPA approved sampling methods for collecting soil samples. The samples collected will be shipped to HazLab, Inc. laboratory in Marietta, Georgia. All applicable chain-of-custody and sample receipt protocols will be implemented.

Based on discussion between RAI and BAT on December 11, 1989, 18 samples shall be taken from 6 sampling sites and analyzed for total metals , TNT, 2,4-DNT, 2,6-DNT, and RDX; to determine the presence or absence of contamination in soil. The six sampling sites are as follows:

Sampling Sites	Sampling Points			
	0 - 12"	12" - 24"	24" - 36"	36" - 48"
No.1 - Retort Discharge	x	x	x	x
No.2 - Collection Bin Area	x	x	x	x
No.3 - Site Surface Runoff Confluence Point	x	x	x	x
No.4 - Background 100' SSE From Deactivation Furnace	x	x	x	x

Sampling Sites	Sampling Points			
	0 - 12"	12" - 24"	24" - 36"	36" - 48"
No.5 - 20' NE From EXT of Barricade	x			
No.6 - 20' NNE From EXT of Barricade	x			

If the soil is determined to be contaminated, BAT will prepare a detailed sampling and analysis plan for establishment of the contamination limits (horizontal and vertical). This sampling and analysis plan will be included in the closure plan. The cost for preparing this plan is included in the base price of this proposal. However, the cost for additional sampling and analysis is not included in this proposal.

B. Section 6.0 - Fees and Payment

1. For performance of the work described herein under Section 3.0, Scope of Services, exclusive Item 4.f and 4.g, RAI shall pay and BAT shall accept, as full compensation for such services, a total of EIGHTEEN THOUSAND SEVEN HUNDRED AND THIRTY FOUR DOLLARS ($18,734.00). (See Appendix B for detailed cost breakdowns).

2. For performance of the work described herein under Item 4.f, Section 3.0, Scope of Services, BAT shall be compensated at a time and material rate of $50.00 per hour for the service of a registered professional engineer for inspection and certification for the furnace closure. The total cost for providing such services was estimated to be approximately $1,800.00 (see Appendix for a detailed cost breakdown). This estimate was based on an assumption of moderate soil contamination. The cost may be adjusted based on actual conditions. The cost for other services under this item (4.f) including escorting contractors bidding on the closure contract and coordinating and overseeing the actual closure process was estimated to be approximately $3,000.00.(60 hours @ $50.00/hr.).

3. For performance of the work described herein under Item 4.g, Section 3.0, Scope of Services, BAT shall be compensated at a time and material rate of $50.00 per hour for the service of a qualified engineer or scientist.

4. If additional soil and groundwater sampling and analysis is needed to determine the limits of contamination, BAT proposes to perform such services at the following unit prices:

Senior Environmental Engineer	$50.00/hr
Senior Hrogeologist	$60.00/hr
Field Sampling Technician	$42.00/hr
Total metals	$350.00/soil sample
TNT, DNT, and RDX	$170.00/soil sample

If the soil contamination should turn out to be deep (more than 3 feet) requiring rental of heavy sampling equipment such as power auger, or drilling services of a subcontractor; the cost for such equipment rental or drilling services shall be reimbursed by RAI.

Invoices shall be submitted monthly and due within 30 days. The final payment shall be due and payable within 30 days after completion of the work and its acceptance by RAI.

All above prices shall be valid for six (6) months from the date of this proposal is submitted. The prices shall be firm for duration of the project.

If you have any questions regarding the above revisions, please feel free to contact. We look forward to working with you on this project.

Very truly yours,

BAT Associates, Inc.

Jack R. Kuo, P.E.
Principal

JRK:lf

Enclosure

APPENDIX B

COST BREAKDOWN FOR

ITEM 1, SECTION 6.0, FEES AND PAYMENT

1. Sampling and Analysis

Preparation of sampling and analysis plan, and health and safety plan		$ 1,500.00
Field sampling		
Preparation including sampling equipment decontamination, wrapping, and packing, etc.: 4 hours @ $50.00/hr + 4 hours @ $42.00/hr	$368.00	
Expendable sampling equipment and supplies including decontamination chemicals, glove, etc.	$ 80.00	
Field sampling (18 samples): 8 hours @ $50.00/hr + 8 hours @ $42.00/hr	$736.00	
Samples shipment	$190.00	
Subtotal		$ 1,374.00
Total metals analyses: 18 samples @ $350.00/sample		$ 6,300.00
TNT, 2,4-DNT, 2,6-DNT, and RDX analyses: 18 samples @ $170.00/sample		$ 3,060.00
Subtotal		$12,234.00
2. Preparation of Closure Plan, including meetings with Ohio EPA and revisions		$ 3,000.00
3. Preparation of Plans and Specifications incorporating the closure plan for closure work, including cost estimates		$ 2,000.00
4. Preparation of Environmental Assessment (EA) and Finding of No Significant Impact (FONSI)		$ 1,500.00
TOTAL		$18,734.00

APPENDIX C

COST BREAKDOWN FOR
ITEM 2, SECTION 6.0, FEES AND PAYMENT

Although it is not necessary for a registered professional engineer to oversee the entire closure process, the registered professional engineer is required to witness and/or inspect closure activities at certain critical points of the closure process. The following are services to be performed along with an estimated manhour for each service by the BAT's registered professional engineer for inspection and certification of the furnace closure:

SERVICES	EST. HOURS
1. Inspection during excavation of contaminated soil	6
2. Inspection upon completion of soil excavation	4
3. Inspection during decontamination of furnace and associated equipment	6
4. Inspection upon completion of furnace/equipment decontamination	4
5. Review of sample analysis data	2
6. Review of manifests for off-site disposal of removed contaminated soil and/or residues	2
7. Inspection during backfilling	6
8. Final inspection and certification	6
TOTAL	36 Hours
Estimated cost @ $50.00/hr.	$1,800.00

NOTES:

1. If the closure is prepared by a firm other than BAT Associates, Inc., an additional 2 hours for review of the closure plan shall be added to the above estimate.

2. If the soil is determined to be no or little contamination by sample analyses, the services as specified in Items 1 & 2 above will be eliminated or reduced.

COST IMPACT ANALYSIS

1. Original Cost Proposal for Sampling and Analysis

Preparation of sampling and analysis plan, and health and safety plan		$ 800.00
Field sampling		
Preparation including sampling equipment decontamination, wrapping, and packing, etc.: 2 hours @ $50.00/hr	$100.00	
Field sampling (4 samples): 4 hours @ $50.00/hr	$200.00	
Subtotal		$ 300.00
EP toxic metals analysis (8 metals) @ $200.00/sample		$ 800.00
Target compound list/Target analyte list (TCL/TAL) organic pollutants by GC/MS scan @ $650.00/sample		$2,600.00
TOTAL		$4,500.00

2. New Cost Proposal for Sampling and Analysis

Preparation of sampling and analysis plan, and health ana safety plan		$ 800.00
Field sampling		
Preparation including sampling equipment decontamination, wrapping, and packing, etc.: 4 hours @ $50.00/hr + 4 hours @ $42.00/hr	$368.00	
Expendable sampling equipment and supplies including decontamination chemicals, gloves, etc.	$ 80.00	
Field sampling (18 samples): 8 hours @ $50.00/hr + 8 hours @ $42.00/hr	$736.00	
Samples shipment	$170.00	
Subtotal		$1,374.00
EP toxic metals analysis (8 metals) @ $200.00/sample		$3,600.00
Antimony, copper, and tin analyses @ $75.00/sample		$1,350.00
TNT, 2,4-DNT, 2,6-DNT, and RDX analyses @ $170.00/sample		$3,060.00
TOTAL		$10,184.00

Cost Difference = $10184.00 - $4,500.00 = $5,684.00

UNIT PRICE FOR SOIL SAMPLE ANALYSIS

RAVENNA ARSENAL, INC.

Fraction	Method	Unit Price
1. VOCs (Volatile Organic Compounds)	EPA SW-846-8240 (GC/MS)	$200.00
2. BNA & Pesticides/PCBs	EPA SW-846-8270 (GC/MS)	$450.00
3. Total Metals	EPA SW-846-6010 (ICP) or EPA SW-846-6000	$350.00
1. EP Toxic Metals	EPA SW-846-7000 (AA)	$200.00
2. Antimony, Copper, and Tin	EPA SW-846-7000 (AA)	$ 75.00
3. TNT, 2,4-DNT, 2,6-DNT and RDX	U.S. Army Method THAMA 7W or 8H	$170.00

RA-21, Rev. 1/88

[redacted] ORDER

RAVENNA ARSENAL, INC.

[redacted] ROUTE-5
[redacted] 44266-9297
[redacted] 7111
CONTR[redacted]A409-88-Z-0001

P.O. NO. [redacted]
This Number and Shipper's Name Must Appear on All Shipments & Papers Relating To This Order.

DO NOT OVERSHIP — OVERSHIPMENTS WILL BE RETURNED

RELEASE NO.

DATE	TERMS	F.O.B.
[redacted]	[redacted]	[redacted]

SHIP VIA	PER YOUR QUOTATION	ACCT. NO.
[redacted]	[redacted]	[redacted]

TO [redacted]

SHIP TO [redacted]

M/F [redacted]

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE UNIT	PRICE TOTAL
1.			[redacted]		
2.			[redacted]		
			DELIVERY REQUIRED [redacted]		[redacted]

ALL MATERIAL FURNISHED ON THIS ORDER MUST BE IN COMPLIANCE WITH THE BUY AMERICAN ACT.

PRIORITY RATING | DO-C3 | . CERTIFIED FOR NATIONAL DEFENSE USE UNDER DMS

REGULATION

AUTHORIZED SIGNATURE AND TITLE

RAVENNA ARSENAL, INC.

BY [redacted]
CONTRACT/PROCUREMENT & PURCHASING

DEPT. COPY

RA-21 Supplement Rev. 10/80

"SDB"

PURCHASE ORDER

RAVENNA ARSENAL, INC.

RAVENNA, OHIO 44266
(216) 358-7111

P. O. NO. 19367

This Number and Shipper's Name Must Appear on All Shipments & Papers Relating To This Order.

1 PAGE 2 OF 4

261-3724

CONTRACT NO. DAAA09-88-Z-0001 RELEASE NO. _____

DATE	12-11-89	TERMS	2%/10 NET 30	F.O.B.	DEST.
SHIP VIA	VENDOR	PER YOUR QUOTATION	DATED 10-23-89	ACCT. NO.	196-2505

TO BAT ASSOCIATES, INC.
27801 Euclid Avenue, Suite 450
Euclid, Ohio 44132

SHIP TO BLDG 1035
F/ATTN: T. CHANDA - 1030

P.O. 19367

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
3.			SUBCONTRACTOR TO PROVIDE RAVENNA ARSENAL, INC. CONTRACT/PROCUREMENT & PURCHASING ADMINISTRATOR WITH WORK SCHEDULE SHOWING STARTING AND ESTIMATED COMPLETION DATES, TOGETHER WITH A COMPLETED ADVANCE PASS REQUEST (FORM RA-588) FOR EACH EMPLOYEE SCHEDULED TO WORK AT THE SITE, AT LEAST ONE WEEK PRIOR TO COMMENCEMENT OF WORK.	
4.			SCHEDULING SHALL BE ARRANGED THROUGH THE RAVENNA ARSENAL, INC., PROJECT ENGINEER. PERMISSION MUST BE SECURED WHENEVER IT IS DESIRED TO WORK HOURS OTHER THAN 8:00 A.M. TO 4:30 P.M., MONDAY THROUGH FRIDAY.	
5.			ALL EQUIPMENT AND MATERIALS BROUGHT INTO THE AREA SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR. RAVENNA ARSENAL, INC. PROJECT ENGINEER MAY BE CONTACTED FOR INFORMATION CONCERNING STORAGE OF MATERIALS AND THE DESIGNATED AREA.	
6.			ALL SUBCONTRACTOR TOOLS MUST BE MARKED WITH SUBCONTRACTOR'S DISTINGUISHING MARKS IN ORDER TO PROVIDE RAVENNA ARSENAL, INC. WITH EVIDENCE OF PROOF OF OWNERSHIP. EGRESS WILL BE CHECKED BY RAVENNA ARSENAL, INC. SECURITY, AND A PACKAGE PASS FOR ALL SUBCONTRACTOR-OWNED TOOLS, EQUIPMENT AND MATERIAL LEAVING THE SITE MUST BE OBTAINED EACH DAY FROM THE PROJECT ENGINEER, RAVENNA ARSENAL, INC.	
7.			TECHNICAL PROBLEMS WILL BE BROUGHT TO THE ATTENTION OF THE RAVENNA ARSENAL, INC. PROJECT ENGINEER BY THE SUBCONTRACTOR, AND ANY DISPUTES ARISING SHALL BE SETTLED BY THE CONTRACT/ PROCUREMENT & PURCHASING ADMINISTRATOR, RAVENNA ARSENAL, INC.	
			DELIVERY REQUIRED 1-8-90 TOTAL	SEE PAGE FOUR

DO NOT OVERSHIP
OVERSHIPMENTS WILL BE RETURNED

RAVENNA ARSENAL, INC.

B. J. JENKINS, ADMINISTRATOR
CONTRACT/PROCUREMENT & PURCHASING

RA-21 Supplement Rev. 10/80 "SDB"

PURCHASE ORDER

RAVENNA ARSENAL, INC.

RAVENNA, OHIO 44266
(216) 358-7111

P. O. NO. 19367
This Number and Shipper's Name Must Appear on All Shipments & Papers Relating To This Order.

1 PAGE 3 OF 4

261-3724

CONTRACT NO. DAAA09-88-Z-0001 RELEASE NO.

DATE	12-11-89	TERMS	2%/10 NET 30	F.O.B.	DEST.
SHIP VIA	VENDOR	PER YOUR QUOTATION	DATED 10-23-89	ACCT. NO.	196-2505

TO BAT ASSOCIATES, INC.
27801 Euclid Avenue, Suite 450
Euclid, Ohio 44132

SHIP TO BLDG 1035
F/ATTN: T. CHANDA - 1030

P.O. 19367

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
8.			SAFETY REQUIREMENTS WILL BE REVIEWED WITH PERSONNEL ASSIGNED TO PERFORM THE WORK ON THIS CONTRACT AND ONLY APPROVED METHODS AND EQUIPMENT WILL BE ALLOWED. SUBCONTRACTOR SHALL COMPLY WITH SAFETY AND SECURITY REGULATIONS OF RAVENNA ARSENAL, INC., AS SET FORTH IN THE ATTACHED BOOKLET DATED AUGUST, 1986. ALL REGULATIONS WILL BE STRICTLY ENFORCED.	
9.			THE ATTACHED TERMS AND CONDITIONS FOR MAINTENANCE, CONSTRUCTION, AND ENGINEERING CONTRACTS AND SPECIAL TERMS AND CONDITIONS APPLICABLE TO SUBCONTRACTS AND PURCHASE ORDERS ISSUED UNDER GOVERNMENT PRIME CONTRACTS OR GOVERNMENT SUBCONTRACTS, WILL APPLY.	
10.			PLEASE PAY PARTICULAR ATTENTION TO CLAUSES 11 AND 16.	
11.			THIS CONTRACT SHALL BE PERFORMED IN ACCORDANCE WITH THE SERVICES CONTRACT ACT OF 1965. THE WAGES AND FRINGE BENEFITS SHALL BE AT LEAST EQUAL TO THE PREVAILING RATES IN THIS AREA FOR THE TECHNICIANS/OPERATORS AND LABORERS.	
12.			SUBCONTRACTOR TO SUBMIT A WAIVER OF LIEN WITH EACH INVOICE.	
13.			THE SUBCONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (VOLUME 36, NUMBER 75, PART II OF THE FEDERAL REGISTER). ANY PENALTIES ASSESSED RESULTING FROM AN ALLEGED VIOLATION FOR YOUR FAILURE TO COMPLY WILL BE YOUR RESPONSIBILITY TO PAY. ANY ASSESSMENT OF PENALTIES AGAINST RAVENNA ARSENAL, INC. RESULTING FROM YOUR FAILURE TO COMPLY WILL BE	

DELIVERY REQUIRED 1-8-90 TOTAL

SEE PAGE FOUR

DO NOT OVERSHIP
OVERSHIPMENTS WILL BE RETURNED

RAVENNA ARSENAL, INC.
B. J. JENKINS, ADMINISTRATOR
CONTRACT/PROCUREMENT & PURCHASING

RA-21 Supplement Rev. 10/80

"SDB"

PURCHASE ORDER

RAVENNA ARSENAL, INC.

RAVENNA, OHIO 44266
(216) 358-7111

P. O. NO. 19367

This Number and Shipper's Name Must Appear on All Shipments & Papers Relating To This Order.

1 PAGE 4 OF 4

261-3724

CONTRACT NO. DAAA09-88-Z-0001 RELEASE NO. _____

DATE	12-11-89	TERMS	2%/10 NET 30	F.O.B.	DEST.
SHIP VIA	VENDOR	PER YOUR QUOTATION	DATED 10-23-89	ACCT. NO.	196-2505

TO BAT ASSOCIATES, INC.
27801 Euclid Avenue, Suite 450
Euclid, Ohio 44132

SHIP TO BLDG 1035
F/ATTN: T. CHANDA - 1030

P.O. 19367

ITEM	QUANTITY	UNIT	DESCRIPTION	PRICE
14.			CHARGED TO YOUR ACCOUNT AND THE ASSESSED AMOUNT WITHHELD FROM YOUR PAYMENT. IN THE EVENT OF A PEANALTY ASSESSED RAVENNA ARSENAL, INC. DUE TO FAILURE TO COMPLY BY MORE THAN ONE (1) SUBCONTRACTOR, AMOUNTS OF ASSESSMENT FOR SAID PENALTY WILL BE PROPORTIONATE IN ACCORDANCE WITH THE BEST JUDGMENT OF THE CONTRACT/PROCUREMENT & PURCHASING ADMINISTRATOR, RAVENNA ARSENAL, INC.	
15.			THE FINANCIAL LIABILITY OF RAVENNA ARSENAL, INC. UNDER THIS PURCHASE AGREEMENT WILL BE LIMITED TO THE VALUE OF GOODS OR SERVICES ACTUALLY RECEIVED OR PERFORMED UNDER THIS AGREEMENT.	
			CONFIRMING/QUOTE DATED 10-23-89/JACK KUO DO NOT DUPLICATE	
			PROMISED: January 1, 1990	
			ENGR/BJJ/co	
			DELIVERY REQUIRED 1-8-90 TOTAL	$18,734.00/LOT

DO NOT OVERSHIP
OVERSHIPMENTS WILL BE RETURNED

RAVENNA ARSENAL, INC.
BY _____ ADMINISTRATOR
CONTRACT/PROCUREMENT & PURCHASING

TELEPHONE TRANSCRIPT 10/06/89

TO: MS Ronnie DePorter PHONE: AV 793-1890
AMCCOM
AMSMC-ISE-M
ROCK ISLAND, IL

FROM: T.M. Chanda PHONE: AV 346-3221
Env. Eng

SUBJECT: RVAAP ENVIRONMENTAL FUNDING STATUS FOR SANITARY LANDFILL CLOSURE, DEACTIVATION FURNACE CLOSURE PLAN, UST TESTING, UST REMOVAL PROJECT

The following was Ms DePorter's response to subject update status request:

1. The landfill closure and the deactivation furnace closure plan has been given AMC funding approval. Deporter is unsure as to where the funds are currently situated at within the command channels. It's fairly certain these two projects are funded

2. The bad news is that Deporter has just received a print-out with all funding approvals regarding UST projects and RVAAP was not on that list for installations to receive the designated funds. Deporter was asked if this meant that RVAAP could expect not to meet regulatory deadlines in accomplishing UST testing prior to 22 Dec. 1989; DePorter's response was yes. However, AMCCOM is continuing to try and find other funding sources to divert over to UST funding; so far efforts have not been productive. Her boss, Ron Shinbori, has been in meetings with AMC counterparts to try and find ways of accessing other funding programs to help installations meet their UST compliance deadlines. When Shinbori returns to his office on Monday Oct. 9 '89, Deporter will know more on the current state of funds to support the unfunded UST projects.

DePorter was informed that RVAAP needs to have both projects funded simultaneously because the current situation has RVAAP in a unfavorable situation with its inactive tanks. These inactive tanks, by State regs. are abandoned tanks which currently don't comply with abandonment standards If funds are only relinquished for UST testing, those funds will be inadequate to address both testing and subsequent administration of proper abandonment of inactive tanks. The requested RVAAP UST removal project was to preclude the involvement of implementing tank abandonment procedures

This office said it would call within 1-2 weeks to get a further update on RVAAP's USTs funding project. DePorter indicated she would notify the installation immediately if the funding atmosphere becomes more favorable.

TMC 10/6/89

CC: RVAAP COR OFFICE
N. WULFF
H. COOPER
W. CARKIDO
FILE

J. Watson

TELEPHONE CONVERSATION RECORD

DATE: NOVEMBER 3, 1989

FROM: T.M. CHANDA - ENVIRONMENTAL ENGINEER **PHONE** AV346-3221

TO: MS. RONNIE DEPORTER - AMCCOM AMSMC - ISE **PHONE** AV793:1890
ROCK ISLAND - IL

SUBJECT: FUNDING FOR RVAAP'S PHYSICAL CLOSURE OF LANDFILL, DEACTIVATION FURNACE CLOSURE PLAN, AND UST REMOVAL (PROJ. #1) AND UST TESTING

Ms. DePorter conveyed the following subject information:

1. AMC will be transferring funds to the AMCCOM comptroller either today or no later than Monday 6 November 1989 to support RVAAP's Landfill Closure and Deactivation Closure Plan. These funds should be formally in-hand of RVAAP no later than Friday 10 November 1989.

2. DePorter is consolidating into one project the RVAAP UST Removal Project #1 and the UST Testing Project submitted under 1383 and Form 319R. The reason for this consolidation is said to be for FY90 funding purposes/ logistics. DePorter is back logging a currently FY90 funded AMCCOM project to be replaced by RVAAP's two UST project consolidation. DePorter is uncertain to when funds will be given to RVAAP, but is hoping that RVAAP will have money in hand no later than the end of this month.

T.M. CHANDA

TMC:ade
cc:
RVAAP COR
W. Carkido
H. Cooper
B. Jenkins
D. Kanevy
N. Wulff
[redacted]

RAVENNA ARMY AMMUNITION PLANT

Data Summary of Regulatory Non-Compliance In Response to No Action on RVAAP's Solid & Hazardous Waste Closure Projects

I. **RVAAP Sanitary (Solid Waste) Landfill Physical Closure**

Current Data

1. On 9 June 89, Ohio EPA Director was formally notified that RVAAP Sanitary Landfill will cease disposal operations at COB, 22 Sept. 89. Reason for action was prompted by regulator's declaration that by 24 Sept. 89 Ohio will have greater mandates imposed upon Solid Waste Landfills (e.g. groundwater protective devices, detailed engineering revisions to existing landfill conditions, 30 year monitoring requirements following closure, expansive analytical monitoring requirements entailing TCLP procedures). RVAAP elected to close under existing regulations rather than facing enormous financial burden trying to upgrade a "Grandfathered" landfill.

2. RVAAP submits closure plan to Ohio EPA July 1989; Regulator approves the plan with exceptional variance to one area containing a wetlands.

3. Sept. 22, 1989 RVAAP ceases landfill operations. No action on physical closure due to unavailability funds.

4. Ohio EPA Administrative Code specifies under Chapter 3745-27-10, Paragraph (c) that the landfill operator (RVAAP) in no more than 60 days will complete physical closure following the termination of disposal operations. Nov. 24, 1989 RVAAP's Landfill is suppose to be totally closed. Since no funding is available as of this date, RVAAP will not be able to meet regulatory scheduled closure date.

Potential Impacts With Failure to Complete Closure by Nov. 24, 1989

1. RVAAP will be non-compliant with Ohio EPA Regulations. Unavailability of funds may not constitute justifiable reason to petition Ohio EPA Director for waiver of not closing within regulated time constraints.

2. Inability to close landfill or at least be in process of physical closure may designate landfill as still "active" and therefore, make RVAAP responsible to comply with all new regulatory guidelines to manage a landfill. This situation would escalate RVAAP costs in closure. Especially, in a 30 year monitoring and maintenance program versus the current 3 year mandate.

3. The Ohio EPA Director under Ohio Regulations 3745-49-04 and the Ohio Administrative Code 3734.99 can direct the Attorney General to commence litigative action which can result in civil fines and penalties of $10,000 - $25,000 per day while in violation along with a 2 - 4 year term of imprisonment.

II. RVAAP Closure Plan for a RCRA Interim Status Deactivation Furnace

Current Data

1. As of 9 Nov. 1989 RVAAP's Deactivation Furnace can no longer operate as a miscellaneous thermal treatment unit. The furnace must have been upgraded to RCRA incinerator status. Due to the financial impact of upgrading to incinerator status (estimated at 3.0 million dollars) RVAAP has to perform a RCRA closure upon the unit.

2. RVAAP is to formally notify the Ohio EPA prior to Nov. 9, 1989 of its intent to close the Deactivation Furnace. No later than 45 days following Nov. 9, 1989 Ohio EPA is to receive RVAAP's Closure Plan. As of this date, RVAAP has received no funds to develop a closure plan. In past experience it takes 60 days to accomplish a formal closure plan submittal to the regulator. This 60 days encompasses the contractual acquisition of an appropriate engineering agency; data gathering; draft document preparation, consultation, review; and formal document submittal. The current situation indicates RVAAP will be unable to comply with Ohio EPA submittal requirements as prescribed by Ohio Administrative Code 3745-55-12 D(1). Ohio's requirements are more stringent than USEPA's RCRA Regs.

Potential Impacts In Failure to Provide A Formal Closure Plan

1. RVAAP will be in violation of Ohio EPA regulations applicable to mandates prescribing regimented closure processes for RCRA regulated units.

2. Without a closure plan submittal, it could further lead to other violations applicable physical site closure processes. This would result in greater consequences of non-compliancy.

3. Ultimately, the Ohio EPA Director under Ohio Regulations 3745-49-04 and the Ohio Administrative Code 3734.99 can direct the Attorney General to commence litigative action which can result in civil fines and penalties of $10,000 - $25,000 per day while in violation along with a 2 - 4 year term of imprisonment.

RA-206, rev 4/79

Cooper
Chanda

In: 10/20/89

DO-C3
BJJ-787

QUOTATION RECAP

Date OCTOBER 16, 1989

RAVENNA ARSENAL, INC.

614-888-4953

Contract No. ~~DAAA09-XX-X-XXXX~~
DAAA09-88-Z-0001

614-459-2050

Requisition No.	**PURCHASE APPROVED BECAUSE** 1-891-0220
Quotation Requested Not Later Than	_____ Lowest Price _____ Quality _____ G.S.A. _____ Required Design _____ G.S. Contract _____ Only Source _____ Proprietary _____ 215-692-3030
OCTOBER 27, 1989	**Explain Fully**

1. ATTN: LYN RYCHLIK ✓
ENVIROMENTAL DESIGN GROUP
1533 COMMERCE DRIVE
STOW, OHIO 44224

2. MALCOLM PIRNIE INC.
6161 BUSCH BLVD.
COLUMBUS, OHIO 43229
ATTN: HARRY BHATT

3. BURGESS NIPLE LTD.
5058 REED RD.
COLUMBUS, OHIO 43220
ATTN: JOHN NOYES

4. ALL STATES ANTI-POLLUTION
6801 ENGLE RD. SUITE N
MIDDLEBURG, OHIO 44130
ATTN: BOLLAGIA DOSUNMU

5. ROY F. WESTON COMPANY
1 WESTON WAY
WESTCHESTER, PA. 19380
ATTN: PROPOSAL DEPT.

Item No.	1.	2.	3.	4.	5.
PROVIDE A CLOSURE PLAN AND RELATED DOCUMENTS FOR RAI DEACTIVATION FURNACE. PER RAI SPECIFICATION PS-679. 1. COST FOR PLAN 2. COST FOR OVERSEEING CLOSURE PLAN AND PROVIDE CERTIFICATION.					

RA-206, rev 4/79

283-000

DO-C3
BJJ-787

QUOTATION RECAP

Date OCTOBER 16, 1989

RAVENNA ARSENAL, INC.

Contract No. DAAA09-88-Z-0001

412-835-3517

666-2200

621-2407

313-344-0205

6. URS CONSULTANT
3605 WARRENSVILLE CENTER
CLEVELAND, OHIO 44122
ATTN: GARY HRIRAR

7. DATA GRAPHICS INC.
P.O. BOX 10369
PITTSBURG, PA. 15234
ATTN: ED SHAPIRO

8. R&R INTERNATIONAL INC.
1234 S. CLEVELAND-MASSILI
AKRON, OHIO 44321
ATTN: JIM SMITH

9. HAVENS AND EMERSON INC.
700 BOND COURT BLDG.
CLEVELAND, OHIO 44114

10. WARZYN ENGINEERING INC.
26200 TWON CENTER DR.
SUITE 105
NOVI, MI. 48050

Requisition No.

Quotation Requested Not Later Than

OCTOBER 27, 1989

PURCHASE APPROVED BECAUSE

_____ Lowest Price _____ Quality
_____ G.S.A. _____ Required Design
_____ G.S. Contract _____ Only Source
_____ Proprietary

Explain Fully

Item No.	6.	7.	8.	9.	10.
PROVIDE A CLOSURE PLAN AND RELATED DOCUMENTS FOR RAI DEACTIVATION FURNACE. PER RAI SPECIFICATION PS-679. 1. COST FOR PLAN 2. COST FOR OVERSEEING CLOSURE PLAN AND PROVIDE CERTIFICATION.					

RA-206, rev 4/79

DO-C3
BJJ-787

QUOTATION RECAP

Date OCTOBER 16, 1989

11. BAT ASSOCIATES INC.
27801 EUCLID AVE.
SUITE 450
EUCLID, OHIO 44132
ATTN: JACK KUO

10/18/89

RAVENNA ARSENAL, INC.

Contract No. ~~DAAA09-XX-X-XXXX~~
DAAA09-88-Z-0001

Requisition No.	PURCHASE APPROVED BECAUSE	
	Lowest Price	Quality
Quotation Requested Not Later Than	G.S.A.	Required Design
	G.S. Contract	Only Source
OCTOBER 27, 1989	Proprietary	
	Explain Fully	

Item No.	11.
PROVIDE A CLOSURE PLAN AND RELATED DOCUMENTS FOR RAI DEACTIVATION FURNACE. PER RAI SPECIFICATION PS-679. 1. COST FOR PLAN 2. COST FOR OVERSEEING CLOSURE PLAN AND PROVIDE CERTIFICATION.	

RA-130, Rev. 4/79

D.O. No. C-3

D.M.S. Reg. No. 1

RAVENNA ARSENAL, INC.

8451 STATE ROUTE 5
RAVENNA, OHIO 44266-9297
CONTRACT NO. DAAA09-88-Z-0001

Inquiry No. BJJ-787

Date: 10-16-89

REQUEST FOR QUOTATION

TO:

THIS IS NOT AN ORDER
Please quote price - f.o.b. shipping point and f.o.b. destination, delivery, and cash terms. Your quotation should also show shipping weight and point of shipment. Price each item separately. Quotations must be submitted in duplicate. Our inquiry number must appear on your quotation. We reserve the right to reject all or any part of your quotation.

QUANTITY	DESCRIPTION
	RAVENNA ARSENAL INC., THE PRIME CONTRACTOR FOR THE RAVENNA ARMY AMMUNITION PLANT IS CURRENTLY SOLICITING SEALED BIDS FOR DEVELOPING A CLOSURE PLAN FOR A DEACTIVATION FURNACE LOCATED AT THE PLANT'S BURNING GROUNDS. THE SUCCESSFUL BIDDER WILL PROVIDE THE LOWEST COST TO PROVIDE CONSULTING AND TECHNICAL SERVICES REQUIRED TO PREPARE AN RCRA CLOSURE PLAN, COMPLETE WITH ALL SUPPORTING DATA, SUITABLE FOR SUBMITTAL TO THE OHIO AND U.S. EPA. THE SPECIFICATION AND DETAILS ARE ATTACHED. RAI SPECIFICATION (PS-679 DATED OCTOBER 5, 1989) TO GUIDE IN THE DEVELOPMENT OF THE ABOVE PLAN. DRAWINGS WILL BE PROVIDED AT TIME OF SITE VISIT. SITE VISIT MAY BE ARRANGED BY CONTACTING HAROLD COOPER, RAI PLANT ENGINEERING MANAGER, AT (216) 297-3240. ALL BIDS WILL IDENTIFY TOTAL COST TO PREPARE THE PLAN AND AS AN ADDITIONAL ITEM, COST TO OVERSEE THE ACTUAL CLOSURE AND CERTIFICATION. IN ADDITION BIDS WILL BE FIRM FOR DURATION OF PROJECT, IDENTIFY START DATE, FINISH DATE, QUOTE VALIDITY, AND PAYMENT TERMS. ALL BIDDERS MUST RECOGNIZE THIS PROJECT IS SUBJECT TO APPROVAL OF FUNDING BY THE U.S. ARMY AND WILL NOT BE LET UNTIL SUCH FUNDING BECOMES AVAILABLE. ANY QUESTIONS OR REQUEST FOR ADDITIONAL INFORMATION MAY BE OBTAINED BY CONTACTING ME AT (216) 297-3107. **Your Quotation Must Be In Our Hands By:** OCTOBER 27, 1989

All correspondence related to the above inquiry should be addressed to the attention of:

B. J. Jenkins

B.J. JENKINS, ADMINISTRATOR
CONTRACT/PROCUREMENT & PURCHASING

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QUANTITY	DESCRIPTION

YOUR BID MUST MEET THE FOLLOWING REQUIREMENTS:

1. ATTACHED TERMS AND CONDITIONS FOR MAINTENANCE, CONSTRUCTION, AND ENGINEERING CONTRACTS AND SPECIAL TERMS AND CONDITIONS APPLICABLE TO SUBCONTRACTS AND PURCHASE ORDERS ISSUED UNDER GOVERNMENT PRIME CONTRACTS OR GOVERNMENT SUBCONTRACTS.

   PLEASE PAY PARTICULAR ATTENTION TO CLAUSES 11 AND 16.

2. THIS CONTRACT SHALL BE PERFORMED IN ACCORDANCE WITH THE SERVICES CONTRACT ACT OF 1965. THE WAGES AND FRINGE BENEFITS SHALL BE AT LEAST EQUAL TO THE PREVAILING RATES.

3. COMPLIANCE WITH SAFETY AND SECURITY REGULATIONS OF RAVENNA ARSENAL, INC. AND THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THE SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (VOLUME 36, NUMBER 75, PART II OF THE FEDERAL REGISTER). ALL REGULATIONS WILL BE STRICTLY ENFORCED.

4. BUY-AMERICAN ACT CERTIFICATION (ATTACHED); TO BE COMPLETED AND RETURNED.

5. ASSURANCE OF NONSEGREGATED FACILITIES (ATTACHED); TO BE COMPLETED AND RETURNE

6. BIDDER'S MAILING LIST APPLICATION FORM SF-129 (ATTACHED); TO BE COMPLETED ANI RETURNED.

Your Quotation Must Be In Our Hands By: SEE PAGE ONE

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QUANTITY	DESCRIPTION

7. YOUR QUOTATION MUST SHOW THAT PRICES ARE FIRM FOR THE DURATION OF THE SCHEDULE AS OFFERED, AND THAT ANY CONTRACT OR PURCHASE ORDER RESULTING THEREOF WILL BE IN CONFORMITY WITH THE SPECIAL TERMS AND CONDITIONS.

8. IN ADDITION TO THE ABOVE, PLEASE STATE IN THE PROPOSAL THAT THE PRICES ARE IN ACCORDANCE WITH THE SPECIFICATIONS.

9. ALL SUBCONTRACTORS SHALL SUBMIT THEIR BIDS IN SEALED ENVELOPES IDENTIFIED BY THE NAME AND ADDRESS OF THE BIDDER, THE NUMBER OF THE INQUIRY, AND THE DATE OF BID CLOSING.

IF THERE IS NO INTENTION TO PROVIDE A QUOTATION, THE COMPLETE BID PACKAGE MUST BE RETURNED AS AN ATTACHMENT TO YOUR LETTERHEAD.

Your Quotation Must Be In Our Hands By: SEE PAGE ONE

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CONTRACT/PROCUREMENT & PURCHASING