Final

Quality Control Plan for the 2010 Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern) Revision 0

> Ravenna Army Ammunition Plant Ravenna, Ohio

Contract No. W912QR-08-D-0008 Delivery Order No. 0019

**Prepared for:** 



US Army Corps of Engineers<sub>®</sub>

United States Army Corps of Engineers Louisville District

**Prepared by:** 



Science Applications International Corporation 8866 Commons Boulevard Twinsburg, Ohio 44087

July 2, 2010

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Final

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Contract No. W912QR-08-D-0008 Delivery Order No. 0019

### **Prepared for:**

U.S. Army Corps of Engineers 600 Martin Luther King, Jr. Place Louisville, Kentucky 40202

#### **Prepared by:**

Science Applications International Corporation 8866 Commons Boulevard Twinsburg, Ohio 44087

July 2, 2010

#### CONTRACTOR STATEMENT OF INDEPENDENT TECHNICAL REVIEW

Science Applications International Corporation (SAIC) has completed the Final Quality Control Plan for the 2010 Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern) at the Ravenna Army Ammunition Plant, Ravenna, Ohio. Notice is hereby given that an independent technical review has been conducted that is appropriate to the level of risk and complexity inherent in the project. During the independent technical review, compliance with established policy principles and procedures, utilizing justified and valid assumptions, was verified. This included review of data quality objectives; technical assumptions; methods, procedures, and materials to be used; the appropriateness of data used and level of data obtained; and reasonableness of the results, including whether the product meets the customer's needs consistent with law and existing USACE policy.

Corey Pacer, P.E. Study/Design Team Leader

06-28-10 Date

Joseph E. Peters

Independent Technical Review Team Leader

06-28-10 Date

Significant concerns and the explanation of the resolution are as follows:

Internal SAIC Independent Technical Review comments are recorded on a Document Review Record per SAIC quality assurance procedure QAAP 3.1. This Document Review Record is maintained in the project file. Changes to the report addressing the comments have been verified by the Study/Design Team Leader. As noted above, all concerns resulting from independent technical review of the project have been considered.

Tad Fox Principal w/ A-E firm

6 - 28-10 Date

## DOCUMENT DISTRIBUTION for the Final Quality Control Plan for the 2010 Phase I Remedial Investigation Services at Compliance Restoration Sites (9 Areas of Concern) Revision 0 Ravenna Army Ammunition Plant Ravenna, Ohio

Name/Organization	Number of Printed Copies	Number of Electronic Copies
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Mark Nichter, USACE – Louisville District	1	2
Joan Cullen, USACE – Louisville District	1	1
Kevin Jago, SAIC	1	1
Corey Pacer, SAIC	1	1
SAIC Project File W912QR-08-D-0008	1	1
SAIC Central Records Facility	0	1

NGB = National Guard Bureau

OHARNG = Ohio Army National Guard

RVAAP = Ravenna Army Ammunition Plant

USACE = United States Army Corps of Engineers

REIMS = Ravenna Environmental Information Management System

SAIC = Science Applications International Corporation

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Appendix A. Data Collection Forms

# ACRONYMS AND ABBREVIATIONS

AOC	Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIH	Certified Industrial Hygienist
CR	Compliance Restoration
CRF	Central Records Facility
CSP	Certified Safety Professional
DERP	Defense Environmental Restoration Program
DERR-NEDO	Division of Remedial Response – Northeast District Office
DoD	Department of Defense
DQO	Data Quality Objective
EM	Engineering Manual
HTRW	Hazardous, Toxic, or Radioactive Waste
IRP	Installation Restoration Program
ITR	Independent Technical Review
MC	Munitions Constituent
MMRP	Military Munitions Response Program
NCR	Nonconformance Report
NGB	National Guard Bureau
OE	Ordnance and Explosives
OFFO	Office of Federal Facilities Oversight
OHARNG	Ohio Army National Guard
Ohio EPA	Ohio Environmental Protection Agency
PE	Professional Engineer
PG	Professional Geologist
PM	Project Manager
PMP	Project Management Plan
PPE	Personal Protective Equipment
QA	Quality Assurance
QAAP	Quality Assurance Administrative Procedure
QAPP	Quality Assurance Program Plan
QC	Quality Control
QCP	Quality Control Plan
RI	Remedial Investigation
RVAAP	Ravenna Army Ammunition Plant
SAIC	Science Applications International Corporation
SOW	Scope of Work
SSHP	Site Safety and Health Plan
USACE	United States Army Corps of Engineers
UST	Underground Storage Tank

# **1.0 INTRODUCTION**

Science Applications International Corporation (SAIC) has been contracted by the United States Army Corps of Engineers (USACE) Louisville District to conduct Phase I Remedial Investigation (RI) services at nine (9) Areas of Concern (AOCs) at the former Ravenna Army Ammunition Plant (RVAAP). Knowledge of past facility practices and events and recent research have identified these 9 AOCs as requiring further study. Three AOCs were previously identified and six AOCs were recently added to the RVAAP Installation Restoration Program (IRP) Program as a result of recent changes in the Department of Defense's (DoD) Defense Environmental Restoration Program (DERP) policy.

The 9 AOCs are referred to as Compliance Restoration (CR) sites and include the following:

- CC-RVAAP-68: Electric Substations (East, West, No. 3);
- CC-RVAAP-69: Building 1048 Fire Station;
- CC-RVAAP-70: East Classification Yard;
- CC-RVAAP-72: Facility-Wide Underground Storage Tanks (USTs);
- CC-RVAAP-73: Facility-Wide Coal Storage;
- CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75: George Road Sewage Treatment Plan;
- CC-RVAAP-76: Depot Area; and
- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

These sites may be potentially impacted by hazardous, toxic, or radioactive waste (HTRW) and/or possible munitions constituents (MC) identified under the Military Munitions Response Program (MMRP) (e.g., explosives, propellants, metals).

The objectives for this project include the following:

- Conduct comprehensive background historical review and research data pertaining to the 9 CR sites, including:
  - Review of historical records and aerial photographs;
  - Interviews with site personnel; and
  - Property Visit and Perimeter Survey of the 9 CR sites.
- Establish data quality objectives (DQOs) to support further investigation at the sites; and
- Document the findings in a Historical Records Review Report.

### **1.1 PURPOSE AND SCOPE**

This Quality Control Plan (QCP) is SAIC's approach to ensure quality throughout all aspects of the Phase I RI activities. This QCP sets forth the procedures under which deliverables will be produced to control

product quality. The project tasks identified in Table 2-1 represent the definable features for the Phase I RI at the 9 CR sites defined in the Scope of Work (SOW) dated January 19, 2010.

## **1.2 PLAN ORGANIZATION**

The remaining sections of this QCP are organized as follows:

- Section 2: *Management Philosophy* describes SAIC's management philosophy to be used to ensure high-quality deliverables, including management structure, project schedule, cost control, and communication.
- Section 3: *Customer Involvement* summarizes USACE and RVAAP stakeholders involvement in the project.
- Section 4: *Identification of Quality Indicators* defines the SAIC Quality Assurance Administrative Procedures (QAAPs) to be followed during this project.
- Section 5: *Provisions for Feedback and Lessons Learned* summarizes the procedure SAIC will utilize to obtain client feedback.

## 2.0 MANAGEMENT PHILOSOPHY

SAIC has developed a Project Management Plan (PMP) outlining SAIC's overall technical and management approach for this project. The PMP includes a summary of the work to be performed, project schedule, project team roles and responsibilities, and a deliverable matrix. The PMP will be updated if changes are made during the course of project implementation. This QCP augments the PMP and provides the basis for application of quality assurance/quality control (QA/QC) measures and the SAIC Quality Assurance Program Plan (QAPP) and QAAPs to the project.

## 2.1 MANAGEMENT APPROACH

All management level personnel will ensure that applicable QA program requirements are adhered to, and will encourage staff to identify technical or administrative problems and participate in their resolution. The SAIC QA program has the complete approval and support of the SAIC senior management, including the resources necessary to ensure its implementation. The SAIC Project Manager (PM) is responsible for delivering cost-effective, high-quality products, on-time within the scope of the contract. Each individual is responsible for the quality of his or her work.

The QA program will provide control over activities to an extent consistent with risk, complexity, duration, importance, health and safety considerations, and USACE expectations. SAIC will provide indoctrination and training of personnel to the extent necessary to perform their assigned tasks, and to ensure that proficiency is achieved and maintained. Training will be documented through SAIC's iTrack Professional Management System.

The preparatory phase of the QA program is performed prior to beginning work and may include a review of the applicable work scope, identification of procedures for performing the work, personnel assignments, and a kick-off meeting to discuss scope, budget, and schedule. The follow-up phase may include review of information collected and product reviews. Both editorial and technical reviews are conducted on all documents and are documented by the reviewer as discussed in Section 2.2.5 of this QCP.

### 2.2 MANAGEMENT STRUCTURE

The organization chart illustrated in Figure 2-1 outlines the management structure that will be used to implement the project. The functional responsibilities of the key SAIC personnel are described in the following parts of this plan. The assignment of personnel to each project position is based on a combination of the following:

- Experience in the type of work to be performed;
- Experience working with government personnel and procedures;
- A demonstrated commitment to high quality and timely job performance; and

• Staff availability.

The key project personnel have been assigned based upon the minimum education and qualification requirements for each assigned position. In the event that personnel identified in Figure 2-1 must be replaced after issuance of these documents, SAIC will provide the names for the replacement individuals to the USACE Louisville District PM.

## 2.2.1 SAIC PM

The SAIC PM manages the overall project performance and quality of the project deliverables. This individual will also provide the overall financial management of the project, and serve as the point of contact with the USACE-Louisville District PM.

The SAIC PM is responsible for the timely submittal of all deliverables in the quantities requested. If at any time, adhering to the schedule will compromise the quality of the deliverable, the SAIC PM will give the USACE PM sufficient notice of the delay and justify the need for an extension by explaining the impact to the project/deliverable.

## 2.2.2 SAIC Project Engineer

The SAIC Project Engineer will assist the SAIC PM, as requested, with the PM-related activities and will be the lead Task Manager for the tasks identified in the SOW. The SAIC Project Engineer is responsible for all project activities, including project objectives, data analysis, and report preparation. This individual will develop, monitor, and fill project staffing needs, delegate specific responsibilities to project team members, and coordinate with administrative staff to maintain a coordinated and timely flow of project activities. The SAIC Project Engineer reports directly to the SAIC PM.

## 2.2.3 SAIC QA/QC Officer

The SAIC QA/QC Officer is responsible for the project QA/QC in accordance with the requirements of the appropriate SAIC management guidance. This individual will be responsible for oversight and review of all documents and will ensure the quality control responsibilities of the project team members are carried out. The SAIC QA/QC Officer reports directly to the SAIC PM, but will inform the SAIC Managers, as appropriate, of all information and decisions reported.

## 2.2.4 SAIC Health and Safety Officer

The SAIC Health and Safety Manager manages the project health and safety program. This includes establishing health and safety policies and procedures, supporting project and office activities, and verifying safe work practices and conditions. Specific responsibilities of the SAIC Health and Safety Manager include:

- Reviewing and approving Site Safety and Health Plans (SSHPs);
- Conducting onsite audits during field work, if required; and
- Approving downgrades in personal protective equipment (PPE) or protective procedures.

## 2.2.5 Independent Technical Review (ITR) Team

In order to ensure Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) criteria are met and evaluated, preliminary draft and draft submittals for this delivery order will have an independent technical review (ITR) prior to the client submittal. An ITR team consisting of experienced individuals has been assembled to perform the ITRs on draft documents prior to submittal to USACE-Louisville for review. All ITR team members have previous work experience at CERCLA sites. The review will be performed by a single member of the team or a combination of members based on the technical nature of the document.

The ITRs will be conducted in accordance with SAIC QAAP 3.1, "Document Review," as shown in Figure 2-2. The reviewer will indicate acceptance of the final product by signing the signature page of submitted reports.

## **2.3 DATA COLLECTION**

Information collected during the personnel interviews will be documented on a personnel interview form as presented in Appendix A. Information collected at CR sites with buildings will be documented on a building inspection form found in Appendix A. Other information collected will be documented in field log books.

### **2.4 PROJECT SCHEDULE**

The project schedule for this delivery order is presented in Figure 2-3. If at any time, adhering to the schedule will compromise the quality of the deliverable, the SAIC PM will give the USACE PM sufficient notice of the delay and justify the need for an extension by explaining the impact to the project/deliverable.

### 2.5 COST CONTROL

Financial management tools and client reports will be developed to track project cost information for submittal to USACE. Budgets have been prepared on a task and subtask basis to allow for close control and tracking of project costs. The SAIC PM is directly responsible for cost and schedule control. Prior to the start of each task, the SAIC PM will meet with the project team to discuss the budget or level of effort required for each task. This will help to ensure a clear understanding of the scope and effort for each task prior to beginning work.

Task No.	Task Description
1.0	<i>Project Management</i> – SAIC will provide a PM qualified to oversee all work described in the SOW.
1.1	<i>Project Management Plan</i> – SAIC will develop a PMP summarizing SAIC's overall technical and management approach for this project. The PMP will include a summary of the work to be performed, project schedule, project team roles and responsibilities, and a deliverable matrix.
1.2	<i>Quality Control Plan</i> – SAIC will provide a QCP to define the procedures under which deliverables will be produced to control product quality.
1.3	<i>Site Safety and Health Plan</i> – SAIC will develop a SSHP to address task hazards associated with this project.
1.4	<i>Project Execution/Client Correspondence</i> – SAIC will complete the activities and deliverable se forth in Section 4.1.4 of the SOW.
2.0	<i>Historical Review and Research of Available Data</i> – SAIC will conduct a comprehensive background historical review and research of available data pertaining to the 9 CR sites in the Phase I RI.
2.1	<i>Conduct Historical Review of Available Data</i> – SAIC will conduct a historical review of available data at the 9 CR sites, including a review of available information, review of historical aerial photographs, conduct interviews with RVAAP staff members, visit the property, and survey its perimeter.
2.2	<i>Historical Records Review Report</i> – Upon completion of Task 2.0 activities, SAIC will develop a Historical Records Review Report to document the findings and identify DQOs to support furthe investigations of the 9 CR sites. DQO development will follow the DQO process outlined in the USACE Engineering Manual, Technical Project Planning, EM 200-1-2 (USACE 1998).

#### Table 2-1. Delivery Order Detailed Task Descriptions

SAIC = Science Application International Corporation

PM = Project Manager

SOW = Statement of Work

PMP = Project Management Plan

QCP = Quality Control Plan

 $\label{eq:SSHP} SSHP = Site \ Safety \ and \ Health \ Plan$ 

CR = Compliance Restoration

RI = Remedial Investigation

RVAAP = Ravenna Army Ammunition Plant

DQO = Data Quality Objective

EM = Engineering Manual

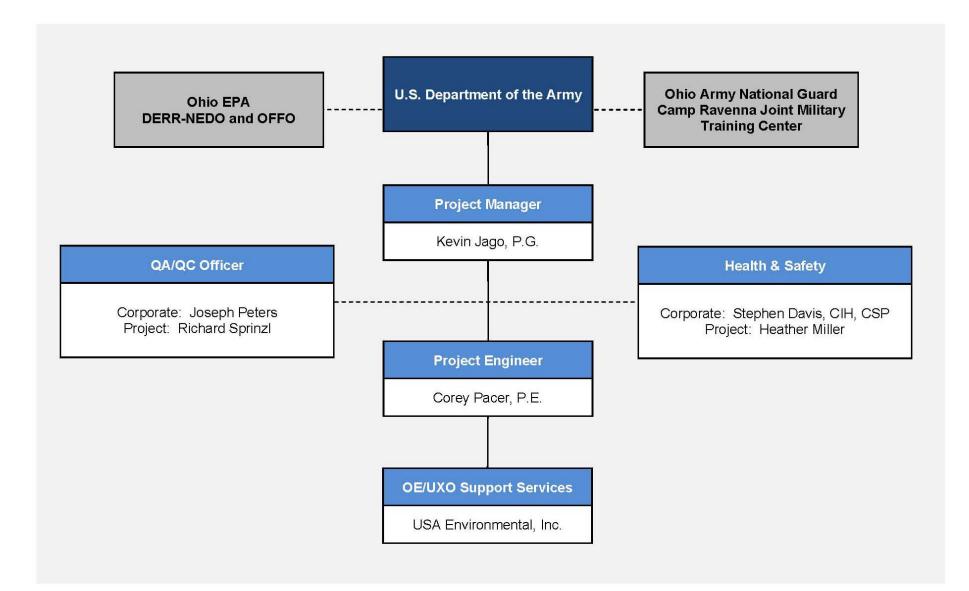


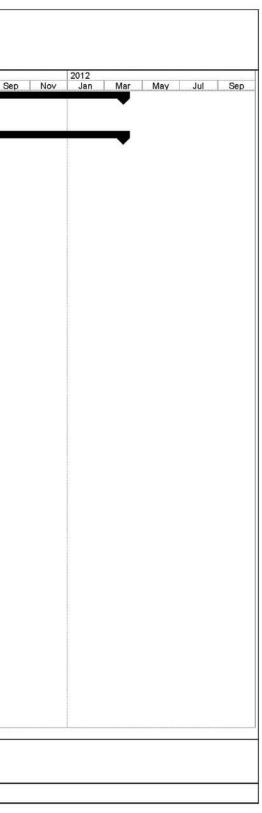
Figure 2-1. Organizational Chart

DOCUMENT PRE			VIEW RECORD	SHEET	of
DOCUMENT TITL	.E:				
DOCUMENT NUM	IBER:				
REVISION:					
DATE TRANSMIT			E COMMENTS REQUIRED	):	
REVIEW TYPE:			TORY AND REQUIRE RESPO		
PAGE OR					REVIEWER
SECTION/ PARAGRAPH	REVIEWER COMMENT	s	PREPARER RESPON	SE	ACCEPT/ REJECT
REVIEWED BY:		RES	PONSE BY:		
PRINT NAME		PRI	NT NAME		
SIGNATURE	DATE	SIG	NATURE		DATE
				Revision 1, 6/13/96	QAAP 3.1

Figure 2-2. SAIC Document Review Record

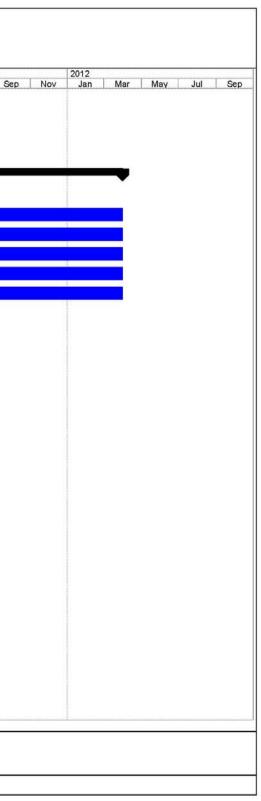
			~	Pronos	ed Proje	ct Sched	le		
ID	Task Name	Duration	Start		Predecessors			2011	
1	2010 Phase I Remedial Investigation Services	755 days	3/8/2010	3/31/2012		Mar May	Jul Sep Nov	Jan Mar May	Jul
2	Notice to Proceed/Contract Award Date	1 day	3/8/2010	3/8/2010		<b>1</b>			
3	Task 1.0: Project Management	754 days	3/9/2010	3/31/2012		η			
4	Contractor Identification of Project Manager	19 days	3/9/2010	3/27/2010	2				
5	Task 1.1: Project Management Plan	272 days	3/9/2010	12/5/2010				r	
6	Prepare and Submit PreDraft to USACE	32 days	3/9/2010	4/9/2010	2				
7	USACE Review	40 days	4/10/2010	5/19/2010					
8	Comment Resolution Meeting	1 day	5/20/2010	5/20/2010					
9	Prepare and Submit Draft to USACE	44 days	5/20/2010	7/2/2010			_		
10	USACE Concurrence Review of Draft			7/22/2010			<b>_</b>		
		20 days	7/3/2010				<b>-</b> 1		
11	Prepare and Submit Draft to Army and Ohio EPA	3 days	7/23/2010	7/25/2010		-	<u>h</u>		
12	Army and Ohio EPA Review	45 days	7/26/2010	9/8/2010		_	<b></b>		
13	Comment Resolution Meeting	15 days	9/9/2010	9/23/2010					
14	Prepare and Submit Final to USACE	30 days	9/9/2010	10/8/2010	12		<b>—</b> 1		
15	USACE Concurrence Review of Final	10 days	10/9/2010	10/18/2010	14		L.		
16	Prepare and Submit Final to Army and Ohio EPA	3 days	10/19/2010	10/21/2010	15		6		
17	Army and Ohio EPA Review and Approval	45 days	10/22/2010	12/5/2010	16				
18	Task 1.2: Quality Control Plan	161 days	3/9/2010	8/16/2010					
19	Prepare and Submit PreDraft to USACE	32 days	3/9/2010	4/9/2010	2				
20	USACE Review	40 days	4/10/2010	5/19/2010	19	1 <b>b</b>			
21	Comment Resolution Meeting	1 day	5/20/2010	5/20/2010	20				
22	Prepare and Submit Final to USACE	44 days	5/20/2010	7/2/2010	20				
23	USACE Review and Approval	45 days	7/3/2010	8/16/2010	22				
24	Task 1.3: Site Safety and Health Plan	272 days	3/9/2010	12/5/2010					
25	Prepare and Submit PreDraft to USACE	32 days	3/9/2010	4/9/2010	2				
26	USACE Review	40 days	4/10/2010	5/19/2010	25				
27	Comment Resolution Meeting	1 day	5/20/2010	5/20/2010	26				
28	Prepare and Submit Draft to USACE	44 days	5/20/2010	7/2/2010	26				
29	USACE Concurrence Review of Draft	20 days	7/3/2010	7/22/2010	28				
30	Prepare and Submit Draft to Army and Ohio EPA	3 days	7/23/2010	7/25/2010	29	-	Tr i		
31	Army and Ohio EPA Review	45 days	7/26/2010	9/8/2010	30		<b>1</b>		
32	Comment Resolution Meeting	15 days	9/9/2010	9/23/2010	31		<b></b>		
Droine	Ravenna 2009 PA/SI Schedule Task	Progress		Summa	iry		External Tasks	Deadline	心
	1/2010 Split	Milestone	٠		Summary		External Milestone		v

Figure 2-3. Project Schedule



				-	- Propos	sed Project	t Schedule		
ID	Task Name		Duration	Start	Finish	Predecessors			2011
33	Prepare and Submit Final to	USACE	30 days	9/9/2010	10/8/2010	31	Mar May	Jul Sep Nov	Jan Mar May Jul
34	USACE Concurrence Review	v of Final	10 days	10/9/2010	10/18/2010	33			
35	Prepare and Submit Final to	Army and Ohio EPA	3 days	10/19/2010	10/21/2010	34			
36	Amry and Ohio EPA Review	& Approval	45 days	10/22/2010	12/5/2010	35		<b>*</b>	
37	Task 1.4: Project Execution/Clie	ent Correspondence	754 days	3/9/2010	3/31/2012			- 19 <mark>10</mark>	
38	Task 1.4.1a: Preliminary Ass	essment Kick-Off Meeting	1 day	6/24/2010	6/24/2010				
39	Task 1.4.2: Monthly Progress	s Reports	754 days	3/9/2010	3/31/2012	2	+ '		
40	Task 1.4.3: Records of Conv	ersations	754 days	3/9/2010	3/31/2012	2	*		
41	Task 1.4.4: Teleconference F	Progress Updates	754 days	3/9/2010	3/31/2012	2	*		
42	Task 1.4.5: Meeting Minutes	Documentation	754 days	3/9/2010	3/31/2012	2	*		
43	Task 1.4.5: Public Involveme	nt/RAB Meetings	754 days	3/9/2010	3/31/2012	2	*		
44	Task 2.0: Preliminary Assessment		426 days	6/24/2010	8/23/2011				
45	Task 2.1: Conduct Preliminary	Assessmnet	120 days	6/24/2010	10/21/2010				
49	Task 2.1.1: Review of Availa		120 days	6/24/2010	10/21/2010	38SS			
50	Task 2.1.2: Property Historic	al Data/Archive File Search	120 days	6/24/2010	10/21/2010	38SS			
51	Task 2.1.3: Historic Aerial Ph		120 days	6/24/2010	10/21/2010				
52	Task 2.1.4: Interviews		120 days	6/24/2010	10/21/2010	38SS			
53	Task 2.1.5: Property Visit		20 days	10/2/2010	10/21/2010				
54	Task 2.1.6: Perimeter Survey	/	20 days	10/2/2010	10/21/2010				
55	Task 2.2: Preliminary Assessm		306 days	10/22/2010	8/23/2011				
56	Prepare and Submit PreDraf		90 days	10/22/2010	1/19/2011	53		· · · · ·	
57	USACE Review		30 days	1/20/2011	2/18/2011			2	
58	Comment Resolution Meetin	a	15 days	2/19/2011	3/5/2011				
59	Prepare and Submit Draft to		30 days	2/19/2011	3/20/2011				<b>.</b>
60	USACE Concurrence Review		20 days	3/21/2011	4/9/2011				
61	Prepare and Submit Draft to		3 days	4/10/2011	4/12/2011				
62	Army and Ohio EPA Review		45 days	4/13/2011	5/27/2011				<b>↓</b>
63	Comment Resolution Meetin		15 days	5/28/2011	6/11/2011				
64	Prepare and Submit Final to	5	30 days	5/28/2011	6/26/2011				
65	USACE Concurrence Review		10 days	6/27/2011	7/6/2011				
66			3 days	7/7/2011	7/9/2011				
67			45 days	7/10/2011	8/23/2011				1
01		απα Αψμισναι	45 Uays	710/2011	0/20/2011	00			
alast	Devenes 2000 DA/OL Och a dula	Task	Progress		Summ	ary	Ext	ernal Tasks	Deadline 🗸
	Ravenna 2009 PA/SI Schedule 1/2010	Split	Milestone			t Summary		ernal Milestone 🔶	

Figure 2-3. Project Schedule (continued)



# **3.0** CUSTOMER INVOLVEMENT

The primary customer for the services provided through this delivery order is the USACE Louisville District. The deliverables, as defined in the SOW, will also be reviewed by the following:

- RVAAP Project Manager;
- Ohio Army National Guard (OHARNG);
- National Guard Bureau (NGB); and
- Ohio Environmental Protection Agency (Ohio EPA).

Representatives of these organizations will be involved in meetings pertaining to implementation of delivery order activities and in review of draft documents generated in the process.

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SAIC Procedures QAAP 15.1, "Control of Nonconforming Items and Services," and QAAP 16.1, "Corrective Action," will be used to identify, track, and correct items and services that could have a potentially adverse effect on the quality of the work to be performed. Nonconformance issues will be tracked and managed using nonconformance reports (NCRs).

SAIC Procedure QAAP 17.1, "Records Management," will be used for the collection, control, processing, storage, and retrieval of critical project records submitted to SAIC's Central Records Facility (CRF). SAIC Procedure QAAP 3.1, "Document Review," will be implemented to document and track both technical and editorial reviews of draft submittals. Document review records will be maintained in the Project File and CRF.

The SAIC PM will implement SAIC Procedure QAAP 18.4, "Client Assessments," to ensure SAIC performance under this delivery order is meeting client expectations and to identify areas for improvement.

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Documented feedback from the client is obtained through regular communication and client assessment of SAIC performance. Client assessments will be performed by the SAIC PM in accordance with SAIC Procedure QAAP 18.4: "Client Assessments." Information obtained from client assessments is analyzed and used to improve customer satisfaction and prevent future problems.

Lessons learned are discussed at scheduled monthly status meetings attended by delivery order managers performing work for the USACE Louisville District. Lessons learned are also documented in the SAIC monthly reporting process and the SAIC-internal Energy, Engineering, and Infrastructure Business Unit Lessons Learned database.

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Appendix A. Data Collection Forms

# **BUILDING/SITE INSPECTION FORM**

			GENE	RAL I	NFOR	RMATION
DAT	E:					
BUILDING/SITE:						
CON	DITION:					
CUR	RENT USE:					
LOC	ATION:					
INSP	ECTOR:					
			INTERI	OR O	BSER	VATIONS
	ITEN	Л	YES	NO	N/A	COMMENTS
1	Mercury switc	hes?				
2	2 PCB ballasts?					
3	3 Floor drains?					
4	4 Sumps or pits?					
5	5 Asbestos indications (pipe insulation, floor tile, etc.?)					
6	6 Chemical storage?					
7	Hazardous wa	astes? Drums?				
8	8 Floor staining?					
9	Other observa	ations				

# **BUILDING/SITE INSPECTION FORM**

	I	EXTER	IOR O	BSER	VATIONS
	ITEM	YES	NO	N/A	COMMENTS
1	Physical evidence of MEC/MC/MD releases (target remnants, ground scarring, etc.)?				
2	Physical evidence of HTRW releases (staining, residue, odor, free product, stressed vegetation, seeps)?				
3	Disposal areas (drums, burn pits, landfill, etc.)				
4	Signs of contaminant migration to/from CR sites?				
5	Maintenance or refueling operations?				
6	Storage practices (USTs, drums, etc.)				
7	UST/AST physical information (if present)				
8	Tanks beneficially used by others following operation of RVAAP?				

# **BUILDING/SITE INSPECTION FORM**

EXTERIOR OBSERVATIONS (continued)								
	ITEM	YES	NO	N/A	COMMENTS			
9	Transformers present (in use, condition, date of discontinued use)							
10	Transformers beneficially used by others following operation of RVAAP?							
11	On-site wells?							
12	Sensitive habitats, natural or cultural resources?							
13	Preferential pathways for surface water runoff and nearest surface water body?							
14	Other observations							

### **PERSONNEL INTERVIEW QUESTIONNAIRE**

Interview Date:				
Interviewee:			Affiliation:	
Title:			Telephone No.:	
Made Call	I	Received Call	Meeting at:	

#### Interviewee Background

1. Please provide job title at or in relation to the installation, date range for each title, your responsibilities, and areas of oversight (area/building/site-wide) in chronological order.

Title	Date Range	Areas of Responsibility/Oversight

#### 2. To the best of your knowledge, please describe the **history** of the site:

#### 3. Is the property or any adjoining property used for any of the following?

Gasoline/fueling station	Yes	No	Don't know
Motor repair facility	Yes	No	Don't know
Dry cleaners	Yes	No	Don't know
Photo developing laboratory	Yes	No	Don't know
Plating shop	Yes	No	Don't know
Medical or dental facility	Yes	No	Don't know
Junkyard or landfill	Yes	No	Don't know
Training area	Yes	No	Don't know
Waste treatment, storage, disposal, processing or recycling facility	Yes	No	Don't know

Please describe:

4. Are there currently, or have there been previously, any of the following **stored** on or used at the property or any adjoining property?

Asbestos	Yes	No	Don't know
Automotive batteries	Yes	No	Don't know
Drums, sacks, cartons, or bulk chemical containers	Yes	No	Don't know
Hazardous materials	Yes	No	Don't know
Industrial batteries	Yes	No	Don't know
Paints	Yes	No	Don't know
Pesticides (insecticides, herbicides, fungicides, avicides, rodenticides)	Yes	No	Don't know
Petroleum products	Yes	No	Don't know
Radioactive materials	Yes	No	Don't know

Please describe:

5. To the best of your knowledge, have any of the following been **dumped**, buried and/or burned on the property?

Asbestos	Yes	No	Don't know
Automotive batteries	Yes	No	Don't know
Hazardous substances	Yes	No	Don't know
Industrial batteries	Yes	No	Don't know
Ordnance/explosives	Yes	No	Don't know
Paints	Yes	No	Don't know
Pesticides	Yes	No	Don't know
Petroleum products	Yes	No	Don't know
Tires	Yes	No	Don't know
Any other waste materials	Yes	No	Don't know

Please describe:

- 6. How were hazardous materials used at the site disposed of? Please describe:
- 7. Was **mercury** used or contained in any machinery parts; electrical, pressure, vacuum instruments; sprinkler check valves; or other items? Yes No Don't know

#### Please describe:

8. Have there been any **discharges/spills** of hazardous materials or petroleum products and their derivatives on the property? Yes No Don't know

Please describe:

- 9. Which regulatory agencies were notified of the discharge/spill? Please describe:
- 10. Was soil and/or groundwater affected as a result of the discharges/spills? Yes No Don't know Were discharges/spilled **remediated**, and if so how? Yes No Don't know

#### Please describe:

11. Was any of the property used as a **firing and/or bombing range** (including skeet/trap and indoor ranges)? Yes No Don't know

Please describe:

12. Was any of the property used for fire training? Yes No Don't know

Please describe:

13. Was there a **pesticide** shop, storage or mixing area located onsite? Yes No Don't know

Please describe:

14. Have there been any **demolition** activities in this area or in relation to this facility? Yes No Don't know

Please describe:

15. Are there currently, or have there been previously, any **pits, ponds, or lagoons** located on the property in connection with waste treatment or waste disposal? Yes No Don't know

Please describe:

16. If wastewater was generated at the site, where/how was it treated? Please describe:

17. Does the property discharge wastewater on or adjacent to the property? Yes No Don't know

Please describe:

 Do you have knowledge of any documented environmental violations or environmental liens associated with the site? Yes No

#### Please describe:

19. Do you have knowledge of any environmental issues or information regarding **properties adjacent to the site**? Yes No

Please describe:

20. Are you aware of any other **past activities** or events or have you made any observations that you feel might be useful to this study? Yes No

Please describe:

21. Do you have knowledge of any **other people** who may have additional knowledge of activities at the site? Yes No

Please provide names:

22. Do you have knowledge of any documents that may provide additional useful information on potential impacts to the environment at the site? Examples: environmental assessment reports, audits, permits, AST/UST registrations, MSDSs, community right-to-know plans, hydrogeologic reports, notices or other correspondence relating to past or current violations of environmental laws, SPCCs, hazardous waste generator notices, etc.? Yes No

Please provide names:

Additional Information:

#### PRELIMINARY DRAFT OF THE QUALITY CONTROL PLAN FOR THE 2010 PHASE I REMEDIAL INVESTIGATION SERVICES AT COMPLIANCE RESTORATION SITES (9 AREAS OF CONCERN) RAVENNA ARMY AMMUNITION PLANT, RAVENNA, OHIO COMMENT RESPONSE TABLE

Comment Number	Page or Sheet & Line No.	New Page or Sheet	Comment	Recommendation	Response
-			USACE - Louisvil	le (Joan Cullen and Shelton Poole)	
A-1	General	Section 2 Paragraph 1	Comments for same components of PMP applicable to this report.		Agree. The text edits requested in the PMP were incorporated into the QCP as applicable. These edits included changed based on PMP comments A- 13 and A-14 on the PMP as follows: <u>PMP comment A-13</u> The QCP text of Section 2.0, 1 <sup>st</sup> paragraph has been revised as follows: "SAIC is dedicated to providing its clients unparalleled quality work with engoing Quality Assurance/Quality Control (QA/QC) measures. The full SAIC QA/QC program consists of the Quality Assurance Program Plan (QAPP) and the QAAPs. SAIC is committed to meeting or exceeding our client's specified requirements at the agreed price within schedule. SAIC has developed a Project Management Plan (PMP) outlining SAIC's overall technical and management approach for this project. The PMP includes a summary of the work to be performed, project schedule, project team roles and responsibilities, and a deliverable matrix. The PMP will be updated if changes are made during the course of project implementation. This QCP augments the PMP and provides the basis for application of quality assurance/quality control (QA/QC) measures and the SAIC Quality Assurance Program Plan and QAAPs to the project."

Page 1 of 2

#### PRELIMINARY DRAFT OF THE QUALITY CONTROL PLAN FOR THE 2010 PHASE I REMEDIAL INVESTIGATION SERVICES AT COMPLIANCE RESTORATION SITES (9 AREAS OF CONCERN) RAVENNA ARMY AMMUNITION PLANT, RAVENNA, OHIO COMMENT RESPONSE TABLE

Page 2 of 2

Comment Number	Page or Sheet & Line No.	New Page or Sheet	Comment	Recommendation	Response
A-1 (Cont'd)		Pg 2-4 Table 2-1 Task 2.2			<u>PMP comment A-14</u> The QCP text of Table 2-1, Task 2.2 Description has been revised as follows: " <i>Historical Records Review Report</i> – Upon completion of Task 2.0 activities, SAIC will develop a Historical Records Review Report to document the findings and identify data quality objectives (DQOs) to support further investigations of the 9 CR sites. DQO development will follow the DQO process outlined in the USACE Engineering Manual, Technical Project Planning, EM 200-1-2 (USACE 1998)."