Ravenna Army Ammunition Plant
Restoration Advisory Board (RAB)
Meeting Minutes
January 15, 2003

1. Call to Order and Reading of the Minutes

The meeting was called to order by Lt. Col. Tom Tadsen at the Freedom Town Hall, Freedom, Ohio at 6:07 p.m. Secretary Denise Gilliam took attendance with 15 present, 2 excused and 5 absent (Ms. Sarah Lock, Mr. Kevin Cooper, Mr. Walter Landor, Mr. Milan Markov, and Mr. Robert Daugherty). Col. Tadsen presented the motion to suspend with the reading of the minutes; made by Mr. Thomas Smith and seconded by Dr. Barbara Andreas.

2. Announcements

Ms. Kerry McComber announced that a new Portage County representative had been selected, Ms. Maureen Fredrick. She stated that this would be her last meeting. Lt. Col. Tadsen informed her that if she was interested she could apply for a seat on the board independent of the Trustees.

Mr. Mark Patterson informed the board that Mr. John Cicero had retired as the Commander's Representative. That position was eliminated, and the new position of Facility Manager had been filled by Mr. Patterson. The board members agreed that they would like to send a card to Mr. Cicero expressing their appreciation for all of the support he had given the RAB over the years. Secretary Gilliam agreed to send one out.

Sympathy was expressed over the passing of RAB member Mr. Richard Walton. A card will be sent to his family as well.

Mr. Patterson moved on to say that the severe weather prohibits some work being done at the arsenal. But the contractors are still trying to accomplish as much as possible. Lt. Col. Tadsen introduced Ms. Susan McCauslin from the SpecPro Corporation.

3. Presentation on the Scope and Progress of the Remedial Investigations at Open Demolition Area 2 and the Fuze and Booster Quarry Landfill Ponds. Presenter: Susan McCauslin, Spec Pro Corporation.

Ms. McCauslin introduced herself to the board and began her presentation with the update to the Phase II Remedial Investigation of Open Demolition Area 2. She showed the board an aerial view of the site. She stated the area was used since 1948, to treat large caliber munitions or off-specification bulk explosives. Items treated included primer elements, bombs, and various caliber munitions. The actual detonations occurred in excavated trenches at a minimum depth of 4 feet; the trenches were then backfilled with dirt and the ordnance was then detonated. Past operations of the site also included open burning and possible burial of munitions and ordnance components. Since 1994 a smaller portion of the area (approximately 2 _ acres), which falls under RCRA, was primarily used for non-routine and emergency detonation by EOD personnel. The exact boundaries of the area are uncertain. Ms. McCauslin stated that kick outs and fragments from detonation activities can be found 1250 to 4000 feet away, depending upon the size of the munitions. She stated that a geophysical study showed that there are 5 potential sour (eliminate this word) areas of significant contamination on the site: the Open Demolition Area, Open Burning Area, Prototype Testing Range, Burial Sites 1 and 2, and the Sand Creek Disposal Area. She showed the 5 areas on a topographical map. She stated that even though these 5 individual areas have been identified, the whole area holds the possibility of contamination. Ms. McCauslin told the board that while the area is checked for other contaminates the primary ones are white phosphorus, explosive compounds, propellants, and heavy metals. She stated that there were certain objectives of the phase II Remedial Investigation that they were trying to meet:

- Determine the boundaries of the area of concern (AOC)
- Measure and identify the AOC physical characteristics

- Identify sources, nature and extent of contamination via: Groundwater, sediments, surface soils and subsurface soils.
- Assess the risk posed to human health and the environment
- Establish a system to monitor potential off-site migration of contaminants

Ms. McCauslin stated that these objectives were important in order to more clearly identify the nature and extent of the contamination at the site, to make informed decisions as to the level of risk presented and to make appropriate remedial clean-up responses. Samples were taken at various locations around the site. They included soil sampling, sediment, water exit pathways and groundwater sampling. The locations or sample points were selected based on previous sampling, physical characteristics of the location, the site operational history and visual surveys. A lot of the locations were decided upon while the team was out in the field. Ms. McCauslin noted to the RAB that UXO avoidance support was needed for the sampling activities. She then showed the board pictures of the team, including UXO techs locating ordnance and the sample locations being probed for testing. She explained that SpecPro conducted both surface (0-1') and subsurface (1' – 3") sampling. There were 16 locations sampled north of Sand Creek and 32 locations south of Sand Creek. She stated that fewer locations were selected north of the creek due to the fact that previous sampling events had been taken here, and because there was no previous sampling south of the creek, they had to cover the whole area. For surface water sampling they have chosen 3 locations; 1 upstream and 2 downstream of the Open Demolition area. In total, it will take four separate rounds of sampling. Three rounds of samples have been taken so far and one more is needed. She stated that they are trying to spread the sampling events out so that they cover different water levels as well as seasons. She showed a picture of SpecPro taking water quality readings at Sand Creek. Ms. McCauslin stated that 20 groundwater monitoring wells had been installed and that one round of sampling was all that would be performed. She also stated that the wells were slug tested. She showed the RAB some pictures of Shelby tube samples being taken and of the barrier posts that surround the wells. She stated that the status of the project is as follows:

- Soil and sediment sampling has been completed
- Groundwater monitoring wells have been installed and sampling and testing is complete
- Three rounds of surface water sampling have been completed and the final round will be performed in the Spring of 2003
- Sample data verification/validation is in progress
- Site survey has been completed
- Risk assessment has yet to be performed. It is pending the data validation.

At this point Ms. McCauslin asked if there were any questions. Mr. Patterson: Why do you do slug tests and Shelby tubes? She answered that we are trying to determine some properties of the ground water flow. Slug tests enable you to measure how quickly the water will flow into the well when you have the slug in and how quickly it leaves without the slug. You may be able to draw conclusions about the overall groundwater flow. Dr. Abercrombie: You stated that you are testing the creek at various times of year to measure the flow? Are you using equipment for that? She replied that they measure using visual acuity. We have some idea of difference in the creek. Dr. Abercrombie asked how deep does it get? Reply, about 4 feet probably due to beavers. The lowest flow was a little less than two inches.

Lt. Col. Tadsen asked if the Open Demolition Area #2 was the most critical place on post for unexploded ordnance. Ms. McCauslin replied in the affirmative. She stated that they had found fragments and pieces of fuzes all over the AOC. Some well locations had to be moved due to UXO concerns. There is a big problem at the site. She stated that they have found shrapnel and active pieces of UXO in the woods in the surrounding areas. White phosphorus is a major concern and was reported to be in the area. SpecPro didn't run into it, but it might be present under the surface in the area. Mr. Smith: Is there a specific heavy metal that you are looking for. She replied, lead, barium, etc we are testing for all those on the TAL list.

Mr. Floyd Banks: What is the most stable state of the white phosphorus? She replied that she was glad that they hadn't run into it. She went on to explain how it ignites in air. She stated that if it is there and is uncovered it will probably ignite. Mr. Patterson explained that a pocket of

white phosphorus exploded back in 1975 when it was uncovered and caught on fire when Rick Bauman was fire chief at the arsenal. He informed the board that the safest thing to do when it is found is to cover it back up. Mr. Patterson continued to explain to the board that they will be conducting a more comprehensive approach on the waterways on the site. The EPA will join with RVAAP, looking at the fish and insect populations on the bottom of the streams. As more information is gathered it will be passed on to the RAB. He asked if anyone had any additional questions, then told Ms. McCauslin to proceed with her presentation on the Fuze and Booster Quarry Ponds.

Ms. McCauslin stated that Quarry Ponds were located off of Fuze and Booster Road. She stated that they were operational between 1945 and 1993. They were first utilized as a burning area from 1945 to 1949 and then as a landfill for fuze and booster assemblies, projectiles, ash, and sanitary wastes until 1976. She showed the RAB a drawing of the site from 1952. It depicted the quarry with a few areas of standing water and debris piles. The next drawing showed the general outline of the Quarry area and was dated 1971. In 1976 the existing debris was removed from the site at the time ponds were constructed. They were designed to contain spent brine and sand filtration back wash water from drinking water plant operations. It was used for this from 1987 through 1993. An NPDES permit was obtained that permitted this discharge. She presented to the RAB a topographical map that showed the distinct ponds in area. She said that the AOC was expanded in 1998 to include additional shallow settling ponds and debris piles. A 1952 drawing showed shallow lagoons that may have been used for wash water or water from the load lines. An aerial photo showed the ponds. The contaminants of concern in the area are explosive compounds, propellants, and heavy metals. The scope of work in this area combines a Phase I and a Phase II remedial investigation. Field sampling will be used and a risk assessment and remedial activities will be part of a later phase. The objectives in this area are to describe the physical characteristics of the site, characterize the sources of contamination and to characterize the nature and extent of the contamination. As with the other AOC soils, sediments, surface water exit pathways and groundwater sampling will be conducted. The sampling locations will be selected based on physical characteristics, operational history and visual survey of the area. Again, UXO avoidance will be part of the project due to evidence that the possible ordnance is present. Spec Pro is planning on taking 125 soil samples, sediment samples from 40 locations, 15 surface water samples, and 12 groundwater monitoring wells will be installed.

At this point Ms. McCauslin asked if anyone had any questions. Mr. Banks: Are there any plans to remove the UXO or are we going to wait until it just goes away? Mr. Patterson replied that the UXO issues were behind the power curve compared to environmental. He stated that right now RVAAP was currently involved in the closed, closing, transferred and transferring (CCTT) range inventory. Grenades were fired at the 40mm site to make sure that they met the quality standards from 1969 to 1971 during the Vietnam War. Most other areas are more into open detonation and open burn areas. Occasionally UXO has showed up at the various load lines and at the dump areas. The CCTT range inventory will be completed over the next 2 or 3 years. There are separate funds used to deal with UXO issues compared to environmental ones. However, with the chance of war looming, these funds often get low priority compared to other missions. Mr. Patterson went on to say that OD#2 was screened down to 4 feet; however, right now there aren't any dollars specifically used for UXO cleanup. Any dollars that can be put to this end in conjunction with environmental areas are utilized. The Army and DoD do not have the process or money to deal with these issues, which is unfortunate. The 40mm grenades are generally considered the most dangerous UXO on the facility and still pose a significant risk to others. Remediation of such sites is considered an environmental issue, yet in order for that to be accomplished the UXO needs to be cleaned up. Lt. Col. Tadsen added that the need to eliminate UXO is a problem at all bases around the states. He stated that perhaps it will become a more national issue and be awarded its own funding package. Mr. Earl Miller asked, "Should we write to our congressmen?" Lt. Col. Tadsen suggested that contacting federal elected officials might be more helpful. Mr. Patterson stated that on a more positive note the arsenal is not as heavily contaminated as others are, such as Fort Bliss and American University. These areas were turned over to the public only to later have UXO found in current residential areas. RVAAP is still an

Army facility. Most of the people that go on to the installation are affiliated with the military in some form or fashion. He added that the public generally is not permitted on the site. Lt. Col. Tadsen added that in California UXO is also turning up in residential areas, due to WWI and WWII activity. Mr. Miller then stated that he lives across from the north eastern end of the arsenal. He asked if there were problems with the local coyotes and foxes seeing as he saw one of each running across the road in broad daylight. He remarked that he felt this behavior was unusual. A member of the SpecPro team answered, that there are 5 known units of families living on the arsenal. She stated that they were all breeding and doing well as of this past summer. She noted that rabies and distemper are not in the area. She informed Mr. Miller that the animals that he viewed might have been actively hunting. She stated that it is not that unusual to see a female hunting during the day. They are more accustomed to people due to the recent increase in the Ohio Army National Guard activity. Mr. Miller remarked that he had been a little surprised seeing as he had never seen them out and about during the day, especially a red fox like the one he viewed. She replied that on the arsenal red foxes are more common then grays. She stated that there are a lot more animals around due to the fact that their prey are doing so well. Lt. Col Tadsen added that 17 coyotes were trapped in that area last year. He stated that Tim Morgan has a good wildlife control program and that sometimes they get over populated and sometimes their numbers need to be cut back. SpecPro retired at 6:55 p.m..

4. Project Status Report for the Explosive Decontamination of Load Lines 6 & 9, and Wet Storage Igloos, Mr. Richard Callahan, MKM Engineers, Inc.

Mr. Callahan began by going over with the RAB members the steps MKM needed to accomplish in order to get ready for the burn. First the brush surrounding sites must be cleared. A combined total of 87 acres was cleared within the two load lines to provide access for the site operations and provide a fire break for the Thermal Decomposition. This task was begun in September 2002 and was completed near the end of November 2002. Mr. Callahan stated that currently the clearing of Wet Storage is underway. Next the floors of the structures are swept. A combined total of 117,188 square feet of floor was swept within the two load lines to remove paint chips, organic debris and potential dust residue from past explosive assembly operations. This task was begun in early October 2002 and was completed at the end of November 2002. 6 cubic yards of solid waste was removed, including hazardous materials such as lead and cadmium and non-hazardous debris. Once all of this is done, the asbestos containing transite must be removed. This project was begun on October 16, 2002 and has an anticipated completion date of January 31, 2003. The task is 68% complete. Load Line 6 is completed at this time, and Load Line 9 will be completed by the target date. A combined total of 258,893 square feet of transite will be removed and disposed of as special waste. In addition to transite, lights, ballasts, asbestos gaskets, and mercury switches must be removed. This operation began on October 29, 2002 and was completed on January 10, 2003. 3400 fluorescent light bulbs and 1188 ballasts (20 drums) were removed for recycling. After all of this takes place the buildings scheduled for burning need to be loaded with dunnage. Dunnage is defined as clean pallets and bulk wood. The loading of dunnage in the buildings began on November 18, 2002 and the anticipated completion date is January 31, 2002. So far the project is 46% complete. Approximately 35,000 pallets will be required for thermal decomposition. Mr. Callahan stated that all of these steps are necessary to ensure a safe burn. He stated that one of the conditions required by the state was that MKM would remove as much hazardous materials as possible before the open burn. He stated that the while the temperature of the burn needed to only reach 800 degrees to successfully decontaminate the lines, that they were going to surpass that by maintaining a temperature of 1200 degrees for at least 20 minutes.

Mr. Callahan told the board members the lengths that MKM has gone through in order to obtain a burn permit. He stated that analytical data from paint samples and calculations were compiled for each of the Load Lines and the Wet Storage area on a “per building” basis. The application for permission to conduct open burning was submitted to the Akron Regional Air Quality Management District (ARAQMD) for review on December 11, 2002. He stated that a

high tech paper was submitted and that they have received good responses to it so far. He stated that they expect a response from ARAQMD at some point during the week of January 13, 2003. A technical paper was also submitted to the USEPA Region V, compiling the analytical data from the paint samples on December 18, 2002 for review. This was submitted due to concerns with possible PCB contamination. MKM is anticipating a response from the USEPA within two weeks. He told the RAB that at first the EPA was hesitant but after reviewing the package they appear much more receptive to the program. They have given really positive responses so far. He stated that the OhioEPA has really been an asset in helping move things through the agency. He stated that once Ms. Eileen Mohr came on board she made a tremendous ally.

Mr. Callahan explained to the board that a Media Day was being planned for Load Lines 6 & 9 and Wet Storage to provided specific details on the Thermal Decomposition (TD) project. The invitees will include the RAB members, local media (television and radio), state and local elected representatives and local community leaders. The anticipated Media Day is to be held on the Saturday prior to the initial Thermal Decomposition Burn to facilitate the participation of the RAB members. As of right now the date will tentatively be either February 1st or 8th, 2003. The Media Day will be scheduled after the Burn Permit is received from ARAQMD. A viewing area with television monitors will be provided the day of the TD.

Mr. Callahan then proceeded to show the RAB pictures of the pre-burn activities. They were shown members of the MKM team sweeping the floor of one of the buildings with a 10% bleach solution, removing transite panels, brush hogging, dismantling lights, site walks, pallet/dunnage placement, and sampling events. Mr. Callahan then gave the RAB a break down of the status of each site, as follows:

Load Line 6 (24 buildings)	Brush hogging (42 acres) began in September 2002 and was completed in early October 2002
	Floor Sweeping (71,989 square feet) began in early October 2002 and was completed at the end of November 2002. Disposed of 3 cubic yards of hazardous (lead and cadmium) solid waste
	Asbestos transite removal (131,774 square feet) began October 16, 2002 and was completed December 6, 2002.
	2116 Fluorescent light bulbs and 723 ballasts removed for recycling. Project began October 29, 2002 and was completed November 22, 2002.
	The loading of dunnage into buildings began on November 18, 2002 and the anticipated completion date is January 31, 2003. Approximately 20,000 pallets needed for this site
	TD tentatively schedules to begin on or about February 3, 2003
	Demolition activities will follow the TD operations and continue until April 2003
	Site restoration will follow demolition and is scheduled for completion near the end of April 2003.
Load Line 9 (34 buildings)	Brush hogging (45 acres) began in October 2002 and was completed in early November 2002
	Floor Sweeping (45,199 square feet) began in mid November 2002 and was completed at mid December 2002. Disposed of 3 cubic yards of non-hazardous solid waste.
	Asbestos transite removal (127,119 feet) began November 26, 2002 and has an anticipated completion date of January 31, 2003.
	1249 fluorescent light bulbs and 465 ballasts removed for recycling. Project began October 29, 2002 and was completed November 22, 2002.
	The loading of dunnage into buildings began on November 18, 2002 and the anticipated completion date is January 31, 2003. Approximately 15,000 pallets needed for this site
	TD operations are scheduled to begin after the Wet Storage TD operations in mid March 2003.

	Demolition activities will follow the TD operations and continue until the end of May 2003
	Site restoration will follow demolition and is scheduled for completion in June 2003.
Wet Storage	Site clearing operations began January 13, 2003. Anticipated completion date is January 24, 2003. Vegetation and soil cover removal from top and sides of igloos.
	Desensitizing prior to loading dunnage and conducting TD operations to ensure the safety of onsite personnel.
	Dunnage will be loaded into the interior and a vent hole will be opened in the roof of each igloo.
	TD of these structures is scheduled to flow the Load Line 6 TD activities in February 2003, buy may precede LL6 depending upon the weather conditions. Anticipated completions is in mid March 2003.
	Demolition activities will the TD operations and continue until the beginning of April 2003.
	Site restoration will follow demolition and scheduled for completion at the end of April 2003.

Mr. Callahan asked the board if they had any questions. Lt. Col. Tadsen stated that the Ohio Army National Guard is looking for dunnage for MKM to burn but they have to be careful not to provide wood that has been treated with preservatives. Mr. Callahan replied that the wood they have received has been tested for CCAs and PCBs. Mr. Smith asked if they are looking for hard wood. Mr. Callahan replied that they are really looking for clean, soft wood as it will burn quicker. Clean is the key thing. Mr. Smith stated that there are tons of hard wood slabs in the area and told Mr. Callahan that he could come and get it. Mr. Callahan requested Mr. Smith's card so that he may get a hold of him. Lt. Col. Tadsen asked if the permits are approved as scheduled when will the first burn be scheduled? Mr. Callahan replied that the Media Day would probably be on the 8th of February and then allowing for proper wind conditions (this time of year there is not a great amount of inversion) then the burn will probably be the following Monday. The fire department will be on the first 24 hour fire watch then MKM personnel will be the next 48 hour watch. He stated that the burn could take place as early as the 3rd or 4th of February. He stated that the Ravenna Fire Department had been given a presentation; they were briefed and ready to go. The chief is going to coordinate with the other local fire departments. Lt. Col. Tadsen added that in addition to the media the volunteer fire personnel will be able to take their information back into their respective communities. MKM Engineers, Inc. closed at 7:21 p.m..

5. Scheduling of Next Meeting and General Notes

The next meeting was scheduled for March 12th at the Windham Town Hall in Windham, Ohio from 6 to 8 p.m..

Lt. Col. Tadsen reminded the board members to solicit interest from anyone that might want to sit on the board and fill the positions that are open. Mr. Patterson told the board that a new chairman was needed for the TAPP Committee. Dr. Rachael Craig was the former chairperson. The chairperson's responsibilities include direct communication with the TAPP Provider, URS. The TAPP is very important because it is set up to be an independent review of RVAAP documents and projects. A direct point of contact is essential. Mr. J.J. Leet asked what the position entails. Mr. Patterson replied not that much, the person would basically be the direct liaison with the TAPP Provider. Mr. Leet agreed to accept the position. Mr. Patterson stated that there is a limit to the amount of TAPP funds that can be obtained. We have already used 50% but there is still more funding left. He told the RAB that they are the first to have secured TAPP funds nationally. Lt. Col. Tadsen interjected that this was directly related to the work of Mr. Patterson, since his work made Ravenna the first site nationally to receive TAPP funds. Mr. Patterson stated that the board might want to a wait a year or so before pursuing the additional funds, but that it

was their ultimate decision. He stated that it was very important that the board members express their opinions.

Mr. Patterson reminded the board that military build up in the middle east might directly affect the arsenal. He stated that if the board remembers the facility was shut down for some time after 9/11. He stated that the base was now under the Base Realignment and Closure Office. He stated that Mr. Jeff Robb, the industrial expert, has now been replaced by Mr. Irv Venger. He introduced Mr. Venger to the board who expressed his pleasure at being here. Mr. Patterson stated that Mr. Venger comes with good qualifications and that we (RVAAP) are happy to have him.

Mr. Patterson told the board that the Army is looking at guaranteed fixed price remediation (GFPR) for its future clean-up endeavors. He stated that this will help get the sites to an end point faster allowing for quicker clean-up. He stated that they are looking at contract mechanisms so that some projects were the contamination is known, such as here at RVAAP and others, can be placed into a firm fixed price bid. This will encourage contractors to be more competitive with work procedures and price. He stated that this is on the table now and is being strongly pushed forward to the pentagon. He stated that at this time he was unsure if RVAAP would fall under this new endeavor, but he would keep the board informed.

Lt. Col. Tadsen told the board that the Guard has been trying to limit the dust in the air for some time now. He stated that over 1,000,000 gallons of water were utilized out here last summer. He stated that some of the training is being moved westward on the installation and tank mobility exercises have been moved to the main post. He stated that these initiatives are being taken to ensure that the dust is under control in the local areas outside of the arsenal. Both Mr. and Mrs. Miller stated that the dust and noise had decreased tremendously. They thanked the Guard. Lt. Col. Tadsen reminded the board members that if they ever have any questions as far as what is going on with the Guard, not to hesitate to contact him.

Mr. Patterson passed out electronic copies of the Installation Action Plan and reminded the board members that it was also available at the public repositories. Lt. Col. Tadsen adjourned the meeting at 7:35 p.m.

Respectfully Submitted,

Denise L. Gilliam
RAB Secretary

DG/dg