Ravenna Army Ammunition Plant
Restoration Advisory Board (RAB)
Meeting Minutes
January 19, 2005

1. **Call to Order and Reading of the Minutes**
The meeting was called to order by LTC Tom Tadsen at the Shearer Center, Paris Township, Ohio at 6:06. The meeting start was delayed to allow seating of all members of the general public. Secretary Christy Esler took attendance with 14 present, 3 excused and 4 absent (Mr. Kevin Cooper, Ms. Maureen Frederick, Mr. Milan Markov and Mr. Mark Zigmont). LTC Tadsen announced that he would entertain a motion from the RAB to suspend with reading of the minutes of the previous meeting unless there were amendments. A motion to accept the minutes as distributed to the members was made by Mr. Tom Smith and Mr. Delbert Woloski seconded the motion. The motion carried. LTC Tadsen announced the minutes are approved as printed.

2. **General Business**
LTC Tadsen announced that once the evening presenters are finished, he will open the floor to the RAB members to ask questions of each individual presenter. Once the RAB members have exhausted all questions the floor will then be open to the public. LTC Tadsen and Mark Patterson announced they wanted to set the next RAB Meeting date before the presenters took the floor. The next meeting will be March 16, 2005 from 6:00 pm. to 8:00 pm. at Freedom Township.

3. **Mark Patterson, Facility Manager**
LTC Tadsen introduced Mark Patterson to the board. Mr. Patterson spoke about the history of the Ravenna Army Ammunition Plant. The Ravenna Army Ammunition Plant (RVAAP) supported World War II, Korean War and Viet Nam producing millions of munitions. RVAAP is 21, 419 acres, 3.5 miles wide and 11 miles long. There were twelve load lines which consisted of five melt/pour and seven fuze and booster lines. The last production period ended in 1971. Mr. Patterson stated that RVAAP no longer has a military mission, however; we do have an environmental mission in progress. Mr. Patterson went on to say that RVAAP did not manufacture explosives but RVAAP was a load, assemble and pack facility. As part of the liquidation process we had to look at environmental concerns and the materials used at this facility. PCBs (Polychlorinated biphenyls) were commonly used as a filler material in paints. Manufacturers commonly used these compounds in paints because they did the job and were very inexpensive. This was a common paint industry-wide practice back then and was not exclusive to Ravenna. In 1939 RVAAP was purchased by the Government and in the 1940's 61 billion dollars was used to build up the arsenal. The top priority of Ravenna was to prepare and provide.

4. **Presentation on Disassembly and Demolition of Structures with Residual Explosives through Thermal Decomposition, MKM Engineers.**
Mr. Patterson introduced Mr. Rick Callahan of MKM and stated that MKM Engineers has a long history of experience in this field. Mr. Callahan presented to the board and passed out a presentation packet (please see attached). Additional copies of the packet were made available to the members of the public in attendance.

LTC Tadsen asked Mr. Rick Callahan to address a couple of questions he had before introducing Ms. Eileen Mohr, Ohio Environmental Protection Agency (OEPA).

LTC Tadsen: Please explain what TSCA stands for?
Mr. Callahan: TSCA Stands for Toxic Substance Control Act.

LTC Tadsen: What maximum temperature for what time period did the thermocouple that melted down reach?
Mr. Callahan: The temperature exceeded 2500 degrees when the thermocouple melted. The objective of the burn is to achieve 1,200 degrees F for at least 20 minutes, given that all explosives manufactured to date will decompose at temperatures less than 800 degrees F, this provides a margin of safety. Temperature devices are placed in the building. We loaded around 55,000 to 60,000 pallets to achieve those temperatures; if this temperature is not achieved we must repeat the process again. The majority of the burn process usually takes 40 min to 1 hours.

5. **Presentation on the Ohio Environmental Protection Agency's (OEPA's) Involvement**
LTC Tadsen introduced Ms. Eileen Mohr of the OEPA. (Please see attached presentation).

Mark Patterson introduced Mr. Irwin Dreyfus from Lakeshore Engineering. Irwin stated that all data on the Thermal Decomposition were correct during Lakeshore's review. Lakeshore is a third party validator hired by the Army to review the model and results. As a third party validator they review the laboratory data the model approach and calculations to insure that was accurate. Mr. Dreyfus introduced Environmental Consultant, Larry Hannds, Mr. Hannds concurred that all data was correct and is pleased with the quality of work.
Mark Patterson reminded everyone that Lakeshore has validated the data but USEPA is still reviewing the modeling results.

6. **RAB Members' Questions to the Presenters**
LTC Tadsen opened the floor to the RAB Members for any questions, and requested that each RAB member state their name and township before asking a question of the individual presenters.

Earl Miller directed a question to Rick Callahan of MKM Engineers. What about the land being trespasser safe?
Rick Callahan- The buildings are deteriorating and some are structurally unsound. The structural Engineering Evaluation showed some of the support beams are unsound, deterioration of wood framing/flooring, cracks in concrete floors and beams.

Tom Smith asked Rick Callahan to explain or define the word "burn".
Rick Callahan- Load Line 11 is 23,000 sq. ft., Load Line 2 and 3 had the same floor space. 55,000 to 60,000 pallets or dunnage as the Army refers to it, is loaded into the explosive contaminated structures. Fire Department is on site to insure a safe and successful burn. The Fire Department has been on contract for many years and they have experience, past knowledge of structures at the Ravenna Army Ammunition Plant. Dunnage needs to be placed appropriately in places inside the building to reach the desired temperature.
Tom Smith- Rick, they are not actually burning the building?
Rick Callahan- No, the temperature is achieved quickly and reaches cracks and crevices in the building to remove explosive contamination. The buildings are concrete steal and brick and remain after the burn.

Charlie Ramer- Despite the fact there is a 2 mile radius from Load Line 11; can you assure that there will not be a cloud of smoke coming into back yards of the residents? What kind of assurance and notice will you give to these people? What if the wind doesn't do what you think it will on the day of the burn?
Rick Callahan- When we conducted Load Line 6 & Load Line 9 burn the smoke went 200 to 300 ft. in the air. There are many notifications to the public. MKM consults with the Ravenna Fire Department, Akron Air Quality and meteorologists to determine wind direction and weather information. If for any reason they determine we should not go ahead with the burn then the burn is cancelled. During planning of a burn we meet with these organizations, like the fire department between 5 to 7 times.

Tom Smith- What types of notification will the public receive?
Rick Callahan- We have a list of media, public and RAB Members that are notified 2 weeks ahead of time.
Mark Patterson added that the RAB serves as an information source for the townships and an invitation was sent out for the RAB members to attend.

Charlie Ramer- So, is anyone going to get smoke in back yards?
Rick Callahan- No- 100% Guarantee, we map out wind direction, weather conditions and avoid any chance that this could occur. If conditions are not favorable we cancel the burn for that day. When we burned Load Line 6 & Load Line 9 to our knowledge there were no phone calls concerning problems resulting from the burn.

Charlie Ramer- Could this burn take place as soon as this summer?
Rick Callahan- Data has been sent to USEPA for review, we need to get the approval of the USEPA before proceeding. Tony Martig of the USEPA provided his phone number for any questions at the earlier meeting today.

Charlie Ramer- Will you have another meeting prior to the burn if you receive the approval?
Rick Callahan- Yes- We promised the RAB we would return once we had the data from the paint sampling and the air modeling, which is why we are here today. We will come back and provide you with the USEPA's response and comments to the modeling effort- to the RAB Members and public.

Mark Patterson intervened and provided the RAB and the public Tony Martig's phone number (312-353-2291) and urged anyone with questions to please feel free to call Tony at the USEPA.

Marti Long- Rick do you know what happens to PCB's when they are burned?
Rick Callahan- We have assumed that 100% of the PCBs are liberated from the paint and that the maximum potential would convert into dioxins and furans.

Nina Miller- PCB's can travel as far as 10 miles. Dioxins and furan can go into the air and soils - right?
Rick Callahan- Yes- at some level, but that is why the risk assessment and modeling of the PCBs in paint was performed- and as stated earlier – with risks well below the USEPA's level of 1 in 1 million risk of cancer. Currently research has identified over 40 sources of dioxins in everyday uses, like incinerators, forest fires, house fires and home heating, for example.

Jay Abercrombie- The burn goes on for 30 to 40 min? At the certain temperature, explosives are detonated but paint is still left on the walls?
Rick Callahan- Yes- at Load Line 9 pictures before and after showed that there were some places that paint remained on the walls. But the paint did what it was designed to do – resist fire.
Jay Abercrombie- Are all PCB's liberated?
Rick Callahan- We assumed the worst case that 100% of the PCBs are liberated from the paint. If say 80% is liberated and 20% remains in the paint, that is a better result than our assumptions and resulting risk would be lower. We need to do what is safest for all concern- the work force and the public.

J.J Leet- Rick Callahan I would like to make a correction to a slide in your presentation, (Calculation & Comparison of PCB Risks from Engineered Open Burn) for an adult Load Line 11 calculated risk should read 0.0142 in a million and 0.0316 in a million for a child (simply a decimal point error). In the following slide it should read adult 0.00247 in a million and 0.00548 in a million for a child.
Rick Callahan - Thank you JJ for that correction.

Joe Beutler- Does the air monitoring stop after these events?
Rick Callahan- No sir, we don't know how many monitors we will need but considerations of air monitoring are a little pre-mature, once we access the risk and analyze data before - the next step will be to develop an air monitoring plan.

Jay Abercrombie directed a question to Ms. Eileen Mohr- Who characterizes the ash?
Eileen Mohr- MKM Engineers.

Jay Abercrombie asked Irwin Dreyfus what does your company review?
Irwin Dreyfus- Our Company was hired to validate the statistical data.
Rick Callahan- The ash was non-hazardous which was a positive indication on the burn process.

7. Public Attendees Questions to the Presenters

David Kerester (The Tribune Chronicle) directed a question to Rick Callahan and Eileen Mohr- During the presentation, an analytical comparison of expected average amounts of pollutants was higher with other daily activities but very low with this proposed burn? Eileen Mohr referred to the wood that is used in the burn as clean wood, but a typical outdoor wood fire generates more PCB's.
Rick Callahan- The comparison slide shows dioxin figures - not PCBs.
David Kerester (The Tribune Chronicle) - I am just trying to figure out how a typical wood fire releases higher amounts of dioxins into the air than a Load Line burn with explosives.
Rick Callahan- The slides show a national average.
David Kerester (The Tribune Chronicle) The paint is more dangerous than the explosives?
Rick Callahan- The explosives burn very fast once initiated the PCBs and dioxin emissions are what we have modeled.

Dwayne Marrick (Wayland Rd. Resident) - The amount of wood to be used in burning the Load Lines is considerably greater than the amount of wood in a typical house fire. What other contaminates are in the building? How many pounds of contaminates would be released in the neighborhood?
Rick Callahan – The floors are swept and the lights removed. What is left is concrete, steel, brick and paint. We have calculated 50.98 lbs. of PCBs in the paint in Load Line 11. A 100% is assumed to go into the air during the burn. The burn is a controlled process and the clean up is then completed afterward.

Dwayne Marrick- How many pounds of contaminates are in each Load Line?
Rick Callahan- The largest is Load Line 2 – we are looking at location of each load line, it's size and distance from the property line and nearest homes.

Dwayne Marrick- Who is responsible for these burns?
Mark Patterson- The United States Army
Dwayne Marrick- If there is a large amount of smoke in our back yards who do we call?
Mark Patterson- You can call me, Dwayne.

Jeff Bell (Ravenna Rd. Resident)- Directed to Eileen Mohr (OEPA)- Why is Portage County holding all of these E-Check Pollution restrictions?
Eileen Mohr- I cannot answer air quality questions but if you contact me after the meeting I can provide a number for you to call.

Bill Krimmer (Newton Falls Rd. Resident) - Dioxins are in us already- Can we handle anymore? Are there any plans for Risk Assessment on us for dioxins, tissue sample tests? What contaminates are in our ground water wells?
Mark Patterson- Those questions should be addressed by other agencies such as the Agency for Toxic Substances and Disease Registry (ATSDR). You can call me at 330-358-7311 for the agencies number. Three to four years ago Ohio Department of Health reviewed the mortality data for the area around RVAAP, no cancer clusters in this area were reported.

LTC Tadsen stated that the OEPA previously sampled ground water wells on private properties surrounding the RVAAP perimeter fence.

Eileen Mohr- In 1997 – 1998 the OEPA was able to receive state funding to sample wells in the area. We retrieved well logs. We were looking at how deep the ground water wells measured, whether they were set in bedrock or consolidated material or are they downgradient. We need a sample of raw water with no filtration system, basic water quality. We looked for explosive and metal contaminates. We found no explosive compounds. Only one or two wells showed elevated levels of metals.

Congressman Tim Ryans office representative- Mr. Callahan can you elaborate on containerization of the ash?
Rick Callahan- We conduct a 72 hour fire watch. Analytical time is 2 to 5 days for a full screen analysis. All ash to date has been Non-Hazardous. Ash is then containerized in a Gaylord box or drums; once the characterization (and the profile) is complete we know how to dispose of the ash.

Ed Meade (St. Rt. 534 Resident) - What training or special precautions does the fire department take or have- HAZMAT etc?
Rick Callahan- Ravenna Fire Department has been on contract with RVAAP for 15 to 20 years. What we looked for was a commander with the experience and knowledge of RVAAP with extensive training, and The Ravenna Fire Department has that.

Kathleen Chandler (Ohio State House of Rep) - Am I correct to say that the purpose of the burns is to get rid of Explosives? The side effect is that you release PCB's and the dioxins are poison. What level of PCBs is acceptable? Are you going to burn one bldg. with low PCB's and one bldg. with high PCB levels for a comparison?
Rick Callahan- Our approach is to tackle Load Line 11 at one time. All of the buildings in Load Line 11 have been folded into the calculation of risk. The results of the risk model are there is less than the USEPA's one in one million chance of getting cancer. We will evaluate the data from the Load Line 11 burn and revise the model and the calculation of risk for future burns.

Charles Jenkins (Wayland Rd. Resident) - What is the leachability of PCB's?
Rick Callahan- We are looking at the data right now.
Mark Patterson- We do sample for PCBs for environmental media, and there is a very low chance for leached PCB's. There is an exemption for solid PCBs.

Brandon Petit- What are the effects to the wildlife? I am a hunter. What if I consume wildlife from the downwind area of the burn?
Mark Patterson- Human Health Risk Assessment evaluates the ingestion of foods that the wildlife is consuming, have shown no unacceptable risk to people from the game taken at RVAAP.

Josh Smith (Min-young Rd. Resident) - Everyone in this room is wondering the same thing, how many people will be affected when you burn 64 buildings? Seems like all of you are just using Load Line 11 as an excuse to burn.
Rick Callahan- No Sir, Load Line 11 is not an excuse to burn. We evaluate the model inputs, prove and or modify the risk model and apply the revised model to other RVAAP load lines. The rationale behind the selection of Load Line 11 is that it is a small fuze and booster line, centrally located within RVAAP, over 2 miles from the property line and air monitoring can be performed within the RVAAP property.
Mark Patterson- There are 184 buildings, 121 buildings have explosives, 64 buildings have PCB's > 50 ppm and 57 buildings have PCB's < 50 ppm. Most of the other uncontaminated buildings at the arsenal have been turned over to the National Guard.

Unidentified Public Attendee- Why was nothing done years ago to these buildings?
Mark Patterson- Shock, heat or friction could potentially cause a catastrophic explosion. Most production was accomplished behind 18 inch thick wall. There is no other way to tear these buildings down safely.

Unidentified Public Attendee- So when is this burn going to happen?
Mark Patterson- the USEPA has strict standards and we do not have the approval to burn. They are currently reviewing the documents from MKM.
Eileen Mohr- That is correct. The trial burn has not been approved. The OEPA will review the draft request for a trial burn in conjunction with the USEPA.

Unidentified Public Attendee- Why was Wisconsin's Badger AAP denied permission to burn PCB's?
Mark Patterson- Badger submitted documents but was working with USEPA and ran out of funding. Their request to burn was not denied by the USEPA.

Julie Smeiles (The Villager) - wouldn't dunnage release PCB's?
Rick Callahan – No, not PCBs the wood used is clean, untreated wood. Rick Callahan asked Vijay Gudivaka (MKM Engineers) to comment- Kiln-dried wood is used to provide a clean-burning wood.

LTC Tadsen adjourned the meeting at 9:30 p.m

Respectfully submitted,

Christy Esler
RAB Secretary