

**Picatinny Arsenal Environmental Restoration Advisory Board**  
**Meeting Minutes, Thursday, October 29, 2015**  
**Cannon Gate Conference Center – Picatinny Arsenal, New Jersey**

**Attendees**

<b>Name</b>	<b>Organization</b>
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***Members***

Ted Gabel	Government Co-Chair, Picatinny Arsenal
Mark Hiler	Community Co-Chair, Rockaway Twp. Env. Commission
Tom Brackin	Community Member, Rockaway Township
Bruce D'Adamo	Community Member, Denville Township
Chris Dour	Official representative, Denville Township
Michael Glaab	Official representative, Jefferson Township
Pat Matarazzo	Community Member, Township of Verona; NJ Clean Water Council
Virginia Michelin	Official representative, Morris County, Division of Planning and Preservation
Anne Pavelka	NJ Department of Environmental Protection (NJDEP)
William Roach	US Environmental Protection Agency (EPA)
Robert Rutan	Official representative, Town of Dover
Peter Tabbott	Official representative of Rockaway Township
Tom Trapasso	Official representative, Borough of Rockaway
Henry Van Dyke	Community Member, Borough of Rockaway

***Members of the Public, Support Staff for RAB, Picatinny, EPA and NJDEP***

Tom Solecki	Picatinny Environmental Management Division
Frank Misurelli	Picatinny Public Affairs Office
Larry Brady	Picatinny Legal
Nancy Flaherty	Army Corps of Engineers
Neil Julian	Picatinny/ARDEC
Sybil Lusardi	Picatinny/ARDEC
George Stafford	NJ Highlands Coalition
Thomas Crone	Arcadis
Frank DeSantis	EA Engineering
Savannah Livingston	EA Engineering
Mayble Abraham	HDR
Lisa Voyce	HDR
Anna-Lisa Marcum	EA Engineering
Thomas Myers	Sovereign Consulting
Mark Gesink	ECC
Mary Ellen Maly	US Army Environmental Command
Deb MacDonald	ECC
Katrina Harris	Bridge Consulting Corp.

Mr. Ted Gabel convened the meeting at 6:45 p.m. He welcomed all to the meeting and thanked everyone for attending.

## **Attendance**

Ms. Harris took attendance of the Restoration Advisory Board (RAB) members. Mr. Gabel invited all others present to introduce themselves.

## **Correspondence**

Mr. Gabel advised correspondence had been received from Ms. Lisa Voyce announcing her resignation as a Board member. Ms. Voyce is now a sub-contractor to ECC under a recently awarded contract and thus has a conflict of interest.

## **Resolutions, Motions, Significant Events**

- The next meeting was tentatively scheduled for March or April 2016.
- Mr. Mark Hiler was elected community co-chair.
- Charter updates were approved to comply with the RAB Rule.
- A motion was made by Mr. Tom Trappaso, seconded by Mr. Robert Rutan, and passed to approve the April 30, 2015 meeting minutes. Mr. Glaab abstained from voting as he was not present at the April meeting.

## **Old Business**

Mr. Gabel stated there were no Old Business items.

## **Election of Community Co-Chair**

Mr. Gabel invited nominations or self-nominations. Mr. Chris Dour nominated Mr. Mark Hiler and Mr. Tom Trappaso seconded the motion. Mr. Hiler was elected by a unanimous vote. Mr. Hiler encouraged other community members to consider the co-chair position in the future.

## **Agenda**

### **Slides 1 and 2 (of Mr. Gabel's presentation): Agenda for October 29<sup>th</sup> Picatinny Arsenal RAB**

Mr. Gabel reviewed the meeting agenda.

## **Proposed RAB Charter Updates**

**Slides 3 - 4:** Mr. Gabel said the charter needed updating to bring it in compliance with the Department of Defense Restoration Advisory Board Rule. Mr. Gabel stated a list of proposed changes had been compiled and presented at the last meeting and sent out again prior to this meeting. Mr. Larry Brady suggested a change to Section V, Operating Procedures, B, first sentence to delete the word “the.” Mr. Chris Doug made a motion to accept the proposed updates with the change suggested by Mr. Brady, and Mr. Bruce D’Adamo seconded the motion. The motion was passed with one no vote by Mr. Glaab. Mr. Gabel advised the charter would be revised and presented at the next meeting.

## **Introduction to New Performance-Based Contracts and Contractors**

**Slide 1 (of Mr. Frank DeSantis’ presentation):** Mr. Gabel introduced Mr. Frank DeSantis of EA Engineering. Mr. Gabel advised EA Engineering was awarded the contract for long-term monitoring and remedial operations.

Mr. DeSantis gave a brief overview of EA Engineering noting the firm was started in 1973 and currently has more than 400 employees in 23 offices. He noted the company is headquartered in Hunt Valley, Maryland and offers a wide range of environmental services to public and private clients.

Mr. DeSantis stated the Picatinny contract includes 84 sites where EA Engineering will be supporting long-term monitoring and remedial operations. He advised the 84 sites have been consolidated into 19 groups, with 7 in remedial operations and 12 in long-term monitoring. Mr. DeSantis stated most of the field activities have been subcontracted to Sovereign Consulting who has offices in Robbinsville, Mine Hill, Cherry Hill and Burlington.

**Slides 2 - 4:** Mr. DeSantis showed lists of the sites covered under the long-term monitoring and remedial operations contract. He stated most activities involve soil cover maintenance and some monitoring of surface water, groundwater and sediment. He displayed a map showing the distribution of the sites across Picatinny, with most of the sites being in the southern half of the base.

**Slide 5:** Mr. DeSantis discussed work completed over the first three months of the contract. He advised planning documents had been developed which were needed prior to conducting field work. Mr. DeSantis stated groundwater, surface water and sediment sampling had begun under the monitoring programs. He noted sampling had been done at the southern boundary as part of an early warning program to monitor for any potential off-site migration of compounds in the groundwater. He advised the southern boundary samples were analyzed for a full suite of compounds, including explosives, metals and volatile organic compounds. He stated sampling also had been conducted in Green Pond Brook, and wetlands surveys completed at the Lower Burning Ground. Mr. DeSantis said other work completed has been the land use control inspections and no further action site monitoring.

Mr. Gabel added that the Board’s comments had influenced the continued sampling at Area C of the southern boundary wells.

Mr. DeSantis advised the data collected during the third quarter is being compiled, and reports will be generated.

**Slide 6:** Mr. DeSantis displayed a chart showing the schedule of field work into 2016.

**Slides 1 and 2 (of Ms. MacDonald's presentation):** Mr. Gabel introduced Ms. Deb MacDonald, Project Manager for ECC. He explained ECC's contract covers sites where there is not yet a signed Record of Decision.

Ms. MacDonald gave a brief overview of ECC, noting ECC is a private company. She stated more than 90 percent of ECC's clients are Federal agencies, with the Department of Defense being the largest client. She advised ECC has approximately 500 employees worldwide, with the company's headquarters in California and regional offices throughout the country, including New Jersey. She stated ECC's main services are construction, environmental remediation and unexploded ordnance. Ms. MacDonald said other New Jersey projects have included the Former Dupont Chambers at Deepwater, Cosden Chemical Coatings, the 177<sup>th</sup> Fighter Wing in Egg Harbor, and Joint Base McGuire-Dix-Lakehurst.

**Slide 3:** Ms. MacDonald introduced other team members which include EA Engineering, Sovereign Consulting, and HDR. She advised Sovereign has an office about five miles from Picatinny, so they will be assisting with much of the field work, while Ms. Lisa Voyce from HDR will be assisting with risk assessments.

**Slide 4:** Ms. MacDonald advised the contract is a five-year, firm fixed price performance-based contract, extending through 2020. She stated the contract includes 96 sites consolidated into 43 sites. She noted one site is at the Preliminary Assessment stage, eight sites are at the Site Inspection stage, and 87 sites are at the Remedial Investigation/Feasibility Study stage.

**Slide 5:** Ms. MacDonald discussed work underway, including the preparation of site-wide documents (such as an Accident Prevention Plan, Health and Safety Plan) which need to be approved before field work can begin. She stated development of site-specific documents will begin shortly, including work plans for sampling at sites which need additional delineation or characterization, and the Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA) reports and documents up through the Records of Decision.

**Slides 6 and 7:** Ms. MacDonald reviewed a preliminary schedule which showed the Preliminary Assessment for the abandoned railroad tracks being completed within 18 months, approximately November 2016. She advised there are several Site Inspection sites, including the eastern edge of Green Pond Brook which is scheduled to be completed within 24 months, approximately March 2017. She stated another Site Inspection project are the off-range ORAP ranges, and a Range Assessment to be completed on-range. Mr. Gabel added that the on-range assessment will not be shared with the regulators or public for review or comment; he advised this is an Army decision as the mission staff would need to agree for the information to be shared.

**Slides 8 and 9:** Ms. MacDonald discussed sites in the Feasibility Study stage and goals for these sites, including achieving a final Feasibility Study for the Lakes Group by October 2016. She stated other sites in this stage are the MMRP Sites, the 600 Hill Waste Pit, and Mortar and Skeet

Area. She noted the target date for these Feasibility Studies is September 2016; the target date for the Shell Burial Grounds and MR Sites is October 2016.

**Slide 10:** Ms. MacDonald said for the Non-Lakes, PICA 207, 25 Sites Group A and B, and PICA 111 Sites the contract calls for a Proposed Plan and Record of Decision within the five-year period, and the target dates are mid-2018 and mid-2019. She said the contract objective for the 3 Sites group is to achieve a final Record of Decision within 20 months. Mr. Gabel added the 3 Sites Group Proposed Plan meeting was held in October 2014.

Mr. Hiler asked about the length of the contracts, and Ms. MacDonald stated both the ECC contract and the EA contract are for five years. Mr. Gabel added that ECC is not under contract to perform the remediation if a Record of Decision is signed; there will be another contract awarded for that work. Ms. MacDonald added that the ECC contract has options built into the contract, so that if performance objectives are achieved within the allotted time, additional follow-on work can be awarded. She said an example would be completing a Preliminary Assessment in a timely manner and an award being made for a Site Inspection.

Mr. Matarazzo asked if the laboratory analyzing the samples is certified. Ms. MacDonald responded that ECC is using a Department of Defense certified laboratory in New Jersey.

Ms. Virginia Michelin asked if an organization chart could be provided showing the various companies working under the two new contracts. Mr. Gabel said a chart will be provided.

## **Ecological Risk Assessments**

**Slide 1 (of Mr. Tannenbaum's presentation):** Mr. Gabel introduced Mr. Larry Tannenbaum, of the U.S. Army Public Health Center. Mr. Gabel advised Mr. Tannenbaum had been very instrumental in reviewing Picatinny's human health and ecological risk assessments over the years. Mr. Gabel noted Mr. Tannenbaum presented at the last meeting on human health risk assessments and today would be discussing ecological risk assessments as a component of the CERCLA process. Mr. Gabel said an unacceptable human health risk or an ecological risk can trigger action under the CERCLA process.

**Slide 2:** Mr. Tannenbaum reviewed the topics he would cover in his presentation. He stated he would be discussing only ecological risk assessments at this meeting, and not human health risk assessments.

**Slide 3:** Mr. Tannenbaum reviewed what "risk" means, noting every aspect of life has an element of risk associated with it. He defined risk as the probability or likelihood of there being a negative outcome. He said risk is measurable or estimable and is necessarily negative—it is the thing that you do not want to happen.

**Slides 4 and 5:** Mr. Tannenbaum defined "risk assessment" as the process or means of assessing the likelihood or probability of a risk. Mr. Tannenbaum said an ecological risk assessment looks at the likelihood that adverse ecological effects or impacts may occur or are occurring as a result of exposure to one or more stressors. He said an example of an adverse ecological effect is the reproductive cycle of a species being interrupted.

**Slides 6 - 8:** Mr. Tannenbaum stated that there is no way to measure or express the likelihood of an ecological receptor or population developing an adverse ecological effect. He emphasized that hazard quotients are not risk expressions. He stated that the ideal situation would be to be able to say something like six percent of the songbirds at a site will exhibit a behavioral effect or that 17 percent of red fox at a site will develop a reproductive effect; however, these types of statements cannot be made. Mr. Tannenbaum said current ecological risk assessment guidance is incorrectly titled because it does not provide instruction on how to calculate or express ecological risk. He noted that ecological risk assessments identify risk factors which are not the same as expressions of levels of risk.

**Slides 9 and 10:** Mr. Tannenbaum compared the four steps of the human health risk assessment process (data collection/hazard identification, exposure assessment, toxicity assessment, and risk characterization) to the steps of the ecological risk assessment process. He said the steps in an ecological risk assessment are usually called problem formulation, exposure assessment, ecological effects assessment, and risk characterization.

**Slides 11 and 12:** Mr. Tannenbaum displayed a chart showing EPA's eight-step risk assessment process.

**Slides 13 and 14:** Mr. Tannenbaum discussed how a hazard quotient is calculated in an ecological risk assessment. He explained it is a simple ratio comparing an animal's estimated chemical dose (numerator) to either a safe dose or an effect-level dose (denominator). He noted an ecological risk assessment only considers ingestion as a chemical uptake route, and there is no consideration of inhalation or dermal contact. He explained in the case of terrestrial receptors (mammals and birds) the dermal contact pathway need not be considered due to the receptors having thick skin or pads or fur and thus it would take a long time to dermally transmit a chemical.

**Slides 15 -18:** Mr. Tannenbaum worked through an example of calculating a hazard quotient for a fox consuming field mice at a site with lead contamination in the soil. Mr. Tannenbaum reviewed a second means of computing hazard quotients for soil-dwelling organisms, for example, earthworms, and for aquatic organisms. He stated the hazard quotient involves estimating the environmental contaminant concentration which is generally used as a screening benchmark for aquatic life. He explained the hazard quotient measures a chemical concentration in an environmental medium such as surface water, and then compares it to a literature value for the protection of aquatic organisms. Mr. Tannenbaum said while the guidance for hazard quotients may state harmful effects cannot be ruled out, going to the field and validating whether there is a problem that requires cleanup action is suggested. Mr. Tannenbaum cautioned that ratios should not be interpreted as statistical probabilities. He discussed an example from U.S. EPA guidance; a ratio of .001 does not mean there is a one in one thousand chance of the effect occurring. He said the ratio is not a measure of risk nor is it a probability.

Mr. Henry VanDyke asked about the possible risk to children playing in water contaminated with lead. Mr. Tannenbaum said this type of risk would be considered in a human health risk assessment and not an ecological risk assessment.

**Slides 19 - 24:** Mr. Tannenbaum further discussed uncertainties with hazard quotients, emphasizing they are not population based and are not linearly scaled (a hazard quotient of 10 is not twice as bad as a hazard quotient of 5). He stated the lowest concentrations of metals in soil known to mankind will trigger hazard quotients greater than 1.0. He said computed hazard quotients are often unrealistically high and toxicologically impossible, such as a hazard quotient of 100 which would realistically mean there should be no animal life at the site. He noted hazard quotients are not linked to a temporal scheme. He explained a hazard quotient of five does not mean five animals will develop the effect, five percent of the population will be affected, one in five animals, animals on-site are five times more likely to display the effect, or five times as many animals on-site will be effected compared to off-site. He reiterated that a hazard quotient is a ratio of intake to effect; a hazard quotient of five indicates that by someone's estimation, an animal is taking in five times the safe level or effect level of a compound.

**Slides 25 - 30:** Mr. Tannenbaum discussed the source of toxicity reference values and stated they generally come from a mouse or rat study and do not account for such things as: species diversity, mode of chemical administration (how a chemical is administered to test animals compared to how animals in the field actually ingest the chemical), test animals not having been previously exposed to chemicals, the fixed temperature and lighting of lab studies deviating from the field conditions, the chemical form tested not necessarily being the same as that in the field, one generation test exposures being related to the multiple generations who lives perhaps 30 years at a contaminated site, and chemical-by-chemical assessment in the laboratory compared to ecological receptors in the wild being simultaneously exposed to multiple compounds.

**Slides 31 - 36:** Mr. Tannenbaum discussed how aquatic or water quality assessments are performed. He stated water samples are collected and analyzed and compared to tabularized criteria that intends to indicate what is protective of aquatic species. He noted there is just one number for all aquatic species and no differentiation for large fish versus small fish. He stated the resulting ratios are just screening level tools, but often action is taken based on the results. Mr. Tannenbaum recommended a field visit that examines the presence of fish should be part of the decision making process. He emphasized that CERCLA is a risk-based program and does not imply a cleanup is needed because a chemical is present. Mr. Gabel added there were these types of exceedances in Lake Picatinny, and remediation of the sediment is being discussed based on the types of numbers Mr. Tannenbaum is discussing.

**Slide 37:** Mr. Tannenbaum stated the one workable (reproduction-based) direct health status assessment method for mammals is the patented Rodent Sperm Analysis method. He stated it is the only patented method in the health risk assessment field, and it provides as definitive determinations as are possible concerning animal health. He noted the Rodent Sperm Analysis method has been used for some Picatinny sites.

**Slides 38 - 41:** Mr. Tannenbaum stated hazard quotients are fixtures of assessments, and regulators and others expect to see them computed; however, this does not mean they provide useful information or are an indication of unacceptable risk or probability. He said tools do not exist to adequately assess ecological risk. He noted hazard quotients are screening numbers, and it is premature to use these numbers to advance to a decision-making stage. He stated another important factor is time. He said if a site is 30 year-old contaminated site, as most are, it could have a hazard quotient of 100 which indicates a potential for risk, but this level of risk is unlikely. Mr. Tannenbaum said some sites are 50 or 75 years old and still report a potential for

risk based on hazard quotients, something that is not credible. He stated ecological receptors have shorter life spans than humans, often living only a few years. He emphasized that animals, such as mice, are still present at contaminated sites which is an indication that although sites might bear contamination, the contamination is not impinging on the animals.

Mr. Bruce D'Adamo asked if the bottom line is that there is no such thing as ecological risk. Mr. Tannenbaum said asking whether there is a potential for ecological risk at a 50-year old site is the wrong question; looking at representative species and determining their presence would be a more accurate assessment. Mr. Tannenbaum said the process needs to be followed and hazard quotients need to be determined because of existing regulations.

Ms. Voyce added there are steps built into the process prior to making a remedial decision based on ecological risk. She noted it is rare for a remedial decision to be made now based on screening levels, and many more steps are taken after hazard quotients are calculated to field verify, see the populations, and make a reasoned evaluation of what is a hazard to the ecosystem. She said if the hazard quotient is greater than 1, the next series of steps comes into play to further evaluate the ecosystem before a decision is made regarding remediation.

Mr. D'Adamo asked if there are alternatives to the hazard quotient since it seems to be so fraught with errors and obviously is being done at an expense to the government. Mr. Tannenbaum responded that currently it is a fixture of the CERCLA process and needs to be performed.

## **Installation Restoration Program and Military Munitions Response Program Updates:**

**Slides 5-7 (of Mr. Gabel's presentation):** Mr. Gabel displayed two charts showing the sites that are under the EA contract and sites that are under the ECC contract and the current status of each site. He noted there has been little change since October 2014.

**Slides 8-9:** Mr. Gabel discussed land use controls and unexploded ordnance support and avoidance for construction projects and displayed a list of actions since the previous meeting. He advised changes since the last meeting are bolded, and red indicates where munitions were found. Mr. Gabel stated GIS documentation of all the actions is under development. He advised there was ordnance support for a bunker construction project and soon there will be support for the five-acre site for a new drinking water plant. In response to a question, Mr. Gabel said the same wells will be used for the new water plant. In response to a question, Mr. Gabel said the old plant needed significant repairs and the Army decided to build a new one.

**Slide 10:** Mr. Gabel advised the 2015 Installation Action Plan is final and on the web site. He advised the Plan is outdated as it was based on information prior to the issuance of the ECC and EA contracts.

Mr. Gabel said the new web site has been updated with recent EPA, NJDEP, and Army letters as requested by Ms. Michelin at the last meeting.

Mr. Gabel advised the 2016 five-year review is underway and is being done by the Kansas City Corps of Engineers. He said all the sites with Records of Decision will be examined, as was

done during the previous five-year review in 2011, to determine the protectiveness of each remedial action. He said there will be public notices announcing the start of the five-year review and one after it is finished. Mr. Glaab asked which newspapers, and Mr. Gabel advised the Star Ledger, The Daily Record and The Voice (Picatinny's on-post newspaper).

Mr. Gabel advised the two-year joint execution plan between the Army and NJDEP has been accepted by Ms. Anne Pavelka, and Mr. Greg Zalaskus has advised verbally he will also be accepting the plan. Mr. Gabel explained this plan allows NJDEP to receive funding for review of Army documents.

**Slide 11:** Mr. Gabel updated the Board on the solar panel project. He stated 1,782 panels are in place and will produce five to seven percent of Picatinny's needs. He said the contractor is waiting on DC breakers before it can be turned on.

### **Next Meeting**

Mr. Gabel said a topic for a future meeting could be a discussion of the lakes at Picatinny in light of Mr. Tannenbaum's presentation and the interest of the community members.

Mr. Gabel asked for input on the location for the next meeting. Several members expressed a preference for continuing to hold meetings at the Picatinny Cannon Gate Conference Center. Mr. Glaab reminded the group of the requirement for the meeting to be accessible to the public. Mr. Gabel said the meeting was advertised in the Star Ledger and Daily Record, as well as the Picatinny newspaper, and the notice invited anyone interested in attending the meeting to let him know. Mr. Gabel said he remained in his office until 6 p.m. to ensure any last minute attendees would be accommodated. Mr. Glaab suggested the meeting be moved around to different locations. Mr. Peter Tabbott said the Rockaway Township building could be used as a future meeting location. Mr. Hiler stated the next meeting would be at the Picatinny Cannon Gate Conference Center, and he will consider the input on other locations for future meetings.

A motion was made by Ms. Michelin, seconded by Mr. Peter Tabbott, and unanimously approved to adjourn the meeting at 8:31 p.m.

**Picatunny Restoration Advisory Board Meeting  
 October 29, 2015  
 Pending/In Progress Action Items**

<b>Date Created</b>	<b>Action Item</b>	<b>Person Responsible</b>	<b>Status</b>
October 2015	Schedule next Board meeting for March or April.	Ted Gabel	Pending
October 2015	Prepare new charter/operating procedures and provide at next meeting.	Ted Gabel/Katrina Harris	Pending
October 2015	Provide an organization chart showing prime contractors and sub-contractors for new contracts.	Ted Gabel/ECC/EA	Pending