# Joint Base McGuire-Dix-Lakehurst (JB MDL) Restoration Advisory Board (RAB) Final Meeting Minutes Meeting No. 53 – 12 May 2016

SUBJECT: Restoration Advisory Board (RAB) Meeting No. 53 – Meeting Minutes

1) Place: Edward Holloway Senior Citizen Community Center, 5 Cookstown Browns Mills Road, Cookstown, New Jersey

2) Date/Time: Thursday, 12 May 2016; 6:45 PM

3) Co-Chairs: Col Gregory McClure, 87th Civil Engineer Group Commander, JB MDL
Mr. Michael Tamn, Resident, Southampton Township, New Jersey

4) Attendees:

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| Mr. Frank Storm | RAB Member |
| Ms. Theresa Lettman | RAB Member, Pinelands Preservation Alliance |
| Mr. Tom Besselman | RAB Member |
| Ms. Lisa MacCarrigan | RAB Member, NJ Pinelands Commission |
| Mr. Doug Pocze | US Environmental Protection Agency, Region II (EPA) |
| Ms. Carla Struble | US Environmental Protection Agency, Region II (EPA) |
| Mr. Haiyesh Shah | New Jersey Department of Environmental Protection (NJDEP) |
| Mr. Philip Cole | New Jersey Department of Environmental Protection (NJDEP) |
| Ms. Donna Gaffigan | New Jersey Department of Environmental Protection (NJDEP) |
| Mr. Ralph Rodrigues | New Jersey Department of Environmental Protection (NJDEP) |
| Mr. Joe Marchesani | New Jersey Department of Environmental Protection (NJDEP) |
| Mr. Greg Zalaskus | New Jersey Department of Environmental Protection (NJDEP) |
| Mr. Chris Archer | JB MDL, 87th CEG, Deputy Base Civil Engineer |
| Mr. Curtis Frye | JB MDL, AFCEC/CZO, Chief, Environmental Restoration Program |
| Ms. Nicole Brestle | JB MDL, AFCEC/CZO, Environmental Restoration Program |
| Mr. Michael Figura | JB MDL, AFCEC/CZO, Environmental Restoration Program |
| Mr. King Mak | JB MDL, AFCEC/CZO, Environmental Restoration Program |
| Mr. Jim Richman | JB MDL, On-Site Contractor, Environmental Restoration Program |
| Mr. Joseph Rhyner | JB MDL, 787 CES/CEIE, Chief Environmental Element |
| Maj Chris Bates | JB MDL, 87 AMDS/SGPB, Bioenvironmental Flight |
| TSgt Brian Skiba | JB MDL, 87 AMDS/SGPB, Bioenvironmental Flight |
| Mr. Cornell Long | Air Force Civil Engineer Center |
| Ms. Cindy Hood | Air Force Civil Engineer Center |
| Ms. Susan Trussell | US Army Corps of Engineers |
| Ms. Cynthia Khan | US Army Corps of Engineers |
| Mr. Alex Carnivale | Burlington County Resident |
| Ms. Denise Garner | Jackson Township Environmental Commission |
| Mr. Mike Bolen | Leidos |
| Mr. Tim Llewellyn | Arcadis |
| Ms. Heather Polinsky | Arcadis |
| Ms. Katrina Harris | Bridge Consulting Corp./Arcadis |

5) Handouts

- JB MDL Restoration Advisory Board, Meeting No. 53, 12 May 2016, Agenda
- JB MDL Restoration Advisory Board, Meeting No. 53, 12 May 2016, Presentation Slides
- JB MDL, List of Documents Provided to Mr. Tamn as of May 2016
- JB MDL, Community Involvement Plan, Draft, May 2016
- JB MDL, List of Acronyms and Abbreviations, February 2016
- Air Force Public Affairs Statement, Assessing Potential Perfluorinated Compounds
- NJ Department of Health Fact Sheet, Perfluorinated Chemicals in Private Wells
- ATSDR Fact Sheet on Perfluorinated Chemicals
- Newspaper Articles on Perfluorinated Compounds (two articles: Burlington County Times, May 1, 2016 and Associated Press, May 1, 2016; list of web site link for articles
- Recovered Chemical Materiel Directorate Fact Sheet, Explosive Destruction System Overview
- Maps (2) of Potential Perfluorinated Compounds Sites from the Final Preliminary Assessment Report for PFC Enterprise Wide Response at JB MDL, dated August 2015

6) Call to Order:

The meeting was called to order by Col Gregory McClure, 87th Civil Engineer Group Commander, JB MDL. Col McClure stated the purpose of the Restoration Advisory Board is to discuss sites being cleaned up under the Installation Restoration Program and the Military Munitions Response Program.

Col McClure recognized Mr. Greg Zalaskus of New Jersey Department of Environmental Protection for his involvement with the JB MDL environmental programs, especially his results-oriented approaches to expediting site cleanup. Col McClure thanked Mr. Zalaskus for this support and congratulated him on his upcoming retirement. Mr. Zalaskus introduced his replacement Mr. Ralph Rodrigues and expressed his appreciation for the good working relationship with Mr. Curt Frye and Mr. Mike Figura.

7) Minutes of Previous Meeting and Review of Agenda Items:

Mr. Michael Tamn, RAB Co-Chair, asked for any comments on the minutes from the 4 February 2016 RAB meeting. There was a motion made to approve the minutes which was seconded and unanimously approved.

8) Community Involvement Plan and Web Site Update:

Ms. Katrina Harris from Bridge Consulting Corp. gave an update on the JB MDL Environmental Restoration Program Community Involvement Plan and Web Site.

- A draft of the updated Community Involvement Plan was distributed to RAB members with the meeting handouts. Comments are requested by 1 July 2016 to Mr. Curt Frye or Ms. Nicole Brestle.

- Key changes made to the Plan include conducting new community interviews with RAB members and intercept surveys with individuals who live and work on JB MDL, expanding the community profile section to add more county demographics, and adding county and township officials to the Elected and Officials list. The community involvement activities were revised to more clearly delineate activities required under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and optional activities JB MDL might undertake as

needed in the future or which are already being implemented.

- An environmental restoration program web site has been developed and has just gone live at: www.envirorestorejbmdl.com. More information will be added to the web site over the next few weeks, and then it will continue to be updated and maintained. As requested by community RAB members at a previous meeting, maps with information about each of the sites will be included on the web site.

9) Military Munition Response Program at Lakehurst Update:

Mr. Michael Figura, Military Munitions Program Manager, JBMDL, provided an update on the finding, assessment, and planned destruction of two chemical munitions found at Lakehurst in November and December 2015 during the Remedial Investigation of the Lakehurst Proving Grounds Parachute Jump Circle Bombing Targets. Mr. Figura noted he had given a detailed presentation at the February meeting and would just be doing a short update as follows:

- Once a suspected chemical munition is found the contractor (Parsons was the contractor performing this investigation) steps away and personnel from the Chemical Materials Activity (CMA) located at Aberdeen Proving Ground respond to the site and assess the item.

- The maximum fill of mustard for a 75 mm projectile is about a pound, and the item found at Lakehurst is about half full. The maximum fill for a Livens projectile is about 28 pounds, and the item found at Lakehurst is about 60 percent full.

- CMA personnel used Multiple Round Containers to safely secure each of the projectiles which prevent any leakage of liquid or vapor release. These containers are approved by the Department of Transportation for transporting across the highway if needed.

- CMA, in coordination with Idaho National Laboratory, has developed a Mobile Munitions Assessment System which includes a Portable Isotopic Neutron Spectroscopy System (PINS). The PINS produces a chemical signature which allows the determination of what kind of chemical fill is in the projectile. Other x-ray type equipment helps to determine how much fill is in the item and whether the fill is liquid or solid.

- An interim holding facility has been brought to Lakehurst to safely store the items until destruction. The steel building has a fire suppression system and other containment and security features; in addition, there is 24-hour security on the facility.

- The development of the notifications and documents needed to conduct the destruction in the summer timeframe is underway. Multiple documents have been distributed for review, including the destruction plan and Action Memo which were given to the regulators at this meeting. In addition, a document will also need to be submitted to notify the Chemical Weapons Treaty organization. A Site Specific Safety Plan is being routed to the Department of Defense Explosive Safety Board for review.

- One of the five portable Explosive Destruction Systems (EDS) will be used to destroy the two munitions. The systems have been used successfully to destroy a range of chemical munitions, including mustard and phosgene.

- The typical EDS exterior consists of a large tent/environmental enclosure placed over the EDS with continuous air monitoring throughout the facility. The enclosure is under negative pressure with a dual carbon filtration system for redundancy.

- The munition will be loaded into the EDS, and a small explosives charge placed on the item;

the intent is not to detonate the item but just to break the item open. The item will be slid into the chamber, and the door will be closed and sealed. Testing will be conducted to ensure the item is securely sealed in the chamber, and then personnel will leave the immediate vicinity and remotely detonate the charge. Chemicals will then be added through ports on the EDS to neutralize the munitions. The item can be heated or spun so the neutralization liquid comes in contact with all the chemical in the item. Ports will also allow for liquid and vapor samples to be collected. Sampling will be conducted throughout the destruction process. The liquid will be drained into drums for proper disposal, and the remaining material will be metal scrap.

- The current schedule is for the destruction to occur in late July or early August of this year.
- The EDS was on display at JB MDL's Earth Day event for tours and information on the system. Set-up will begin in mid-June and tours can be conducted for regulators, community members, and press before pre-operational survey. Mr. Figura said the EDS will be set-up at the Lakehurst Parachute Jump Circle.
- A list of documents and the schedule for the documents was provided.

Ms. Lisa MacCarrigan asked what would occur if there was severe adverse weather conditions at the time of the planned destruction. Mr. Figura responded the tent structure is made to withstand strong winds and adverse weather conditions; however, if the weather conditions are not suitable for the safe destruction of the items, the destruction will be postponed.

A member of the general public asked what kind of impact the destruction would have on the surrounding community. Mr. Figura said the impact would not be felt even 10 feet from the item. He reiterated the charge placed on the item is very small and only intended to open the item.

Mr. Doug Pocze asked if there would be monitoring of the ambient air outside the tent. Mr. Figura responded there would be multiple air monitoring locations inside the tent and on the stack.

10) <u>Perfluorinated Compounds:</u>

Mr. Frye advised the next presentation would provide information on perfluorinated compounds (PFCs). He stated this class of chemicals is a component of certain firefighting foams. Mr. Frye said some preliminary information was provided to the RAB about a year earlier on the Air Force process for addressing these PFC issues across the United States. He advised there were a number of handouts on the back table including an Agency for Toxic Substances and Disease Registry (ATSDR) fact sheet, a NJ Department of Health fact sheet, and some recent local newspaper articles about how the Joint Base is addressing PFCs in firefighting foam. Mr. Frye introduced Mr. Cornell Long from the Air Force Civil Engineer Center in San Antonio, an environmental chemist and subject matter expert for the Air Force on these issues.

Mr. Long reviewed his presentation agenda which included background on PFCs and the Air Force's involvement with PFCs, regulations, and planned activities at JB MDL.

- PFCs are an emerging contaminant which is a contaminant that has a reasonably possible pathway to enter the environment, presents a potential unacceptable human health or environmental risk, and does not have regulatory standards based on peer-reviewed science or the regulatory standards are evolving due to new science, detection capabilities, or pathways.
- Perchlorate was the first emerging contaminant dealt with by the Department of Defense which resulted in the current policy. The current policy calls for a determination if there has been an

emerging contaminant release, an assessment of risks to people and the environment, and taking necessary response actions to protect human health and the environment.

- The Air Force program complements the Department of Defense program and policy by evaluating and assessing chemicals that may be unregulated. There are currently about 30 chemicals of potential concern to the Department of Defense, and 10 chemicals that likely impact the Air Force's Environmental Restoration Program which have been narrowed down to two—1,4 dioxane and PFCs.

- PFCs were developed in the 1940s and have multiple uses in a variety of products including metal plating and cleaning, coating formulations, firefighting foam, polyurethane production, inks, varnishes and lubricants. PFCs are man-made compounds with unique chemical properties. PFCs are persistent in the environment and difficult to breakdown, having the shortest and strongest bond in nature. Other properties include being lipid and water repellant and bioaccumulation.

- Some of the products which have used PFCs are Teflon, Scotchguard, and until recently, French fry bags had a PFC coating.

- Air Force Standard Operating Procedures (SOPs) for sampling PFCs define what the Air Force can and cannot use out in the field and were discussed to highlight the wide range of products with PFCs and the sensitivity of the sampling techniques. For example, sampling technicians cannot use a Post-It Note or aluminum foil in the field because of coatings that may have been used in the process of making those products.

- The three chemicals of primary interest are PFOA, PFOS and PFNA, all of which are PFCs. Other terms are PFAS, PFAA, and PFAC.

- Perfluorinated means all carbons are fully fluorinated which creates a powerful bond that makes it difficult for anything to get in and react. These characteristics are important in how we see these chemicals in the environment and their properties.

- PFC's are important to the Air Force because it is a component of Aqueous Film Forming Foam (AFFF) which is the most effective product to combat hydrocarbon fires. AFFF was specifically designed by the Navy in the 1960s to fight hydrocarbon fires by decreasing surface tension and preventing any ignition source from getting to the fuel. AFFF is widely used with the Federal Aviation Administration requiring its use at municipal airports. AFFF was produced by 3M until 2002 when it became known that PFCs were appearing in animal tissue around the world. The Air Force has about 100,000 gallons of AFFF in stock which is used for training, emergency response, hangar fires and suppression systems. There are other non-PFOS based formulations also used that meet military specifications which were finalized in 1969. The key parameter in the military specifications was that the compound needed to put out a fire of some dimension in a certain amount of time; it also needs to be compatible with the 3M product so a tank can be topped off. A third parameter is the fluorine content. Available PFC-free foams do not meet the military specifications.

- An applicable Federal regulation is the Toxic Substances Control Act; in 2010 manufacturers collaborated with EPA to phase out PFOA production. Some uses are still grandfathered, including the use of AFFF. Industry is transitioning to a more environmentally friendly product which does not bioaccumulate; the Air Force is looking to transition to a 6 carbon-chain (6C) product. PFCs are not a regulated waste under the Resource Conservation and Control Act (RCRA). PFCs are considered a pollutant or contaminant under CERCLA. In 2009, EPA's Office of Water issued a Provisional Health Advisory for PFOA in water; it is not currently

regulated by the Safe Drinking Water Act. New Jersey has issued an interim groundwater standard for PFNA.

- EPA monitored certain public drinking water systems between 2013 and 2015 and found PFOS and PFOA do not appear to be a risk as there were minimal detections and the concentrations detected were very low. At JB MDL, sampling of the Dix main drinking water system in 2013 and 2014 did not find any detections.

- PFCs are not generally retained in soil; more likely to be retained if the soil type is clay. PFCs have a relatively high solubility and can move with groundwater. Some treatment technologies can alter the PFC composition at a site, and change the number of compounds present at a site so it is important to understand the distribution of PFCs at a site before treatment is administered.

- The studies which have looked at the non-cancer health effects of PFCs on humans are difficult to interpret and inconsistent. There is no conclusive evidence that they cause cancer in humans as stated in the ATSDR draft 2015 Toxicological Profile.

- Many conventional treatment technologies are not effective for PFCs in water. The most effective technology currently available is granular activated carbon; reverse osmosis can also be effective for higher concentration industrial waste streams. The Air Force and Department of Defense continue to fund research and demonstration projects to evaluate technologies.

- In 2012, the Air Force published their interim guidance on PFCs, including a plan to conduct Preliminary Assessments and Site Inspections, to delineate, and to mitigate if there are completed exposure pathways. The Air Force provided technical information for analysis and risk assessment and also discussed sampling at non-fire training areas.

- In 2016, the Air Force Civil Engineer Center Public Affairs Office released guidance which is characterized by identifying where suspected releases may have occurred, responding where releases have occurred, and preventing future releases.

- To better understand whether releases may have occurred outside of fire training areas, a study was conducted by the Air Force in 2015 at 10 bases where samples were collected from four locations on each base. JB MDL was selected as one of the bases. The four locations at McGuire were the Old Fire Station, Building 1837 (3-Bay Hangar), Buildings 2251 and 2201 (C-17 Hangar), and Buildings 3335/3336 and AFFF diversion pond (ANG). The results showed PFOS, PFOA, and PFNA was detected in groundwater at all four locations ranging up to a high of 580 micrograms per liter. PFOS and PFOA were detected in surface water and sediment at the AFFF diversion pond.

- In 2015, a Preliminary Assessment was conducted at JB MDL, following EPA guidance for a Preliminary Assessment, at all potential locations where AFFF might have been released. Records were reviewed and interviews were conducted. Fifty-one areas were initially identified where there might have been a release, and it was determined that 34 of them needed further study—10 fire training areas, 10 hangars/buildings, 7 emergency response locations, and 7 waste management locations. The next step was to initiate the Site Inspection which is the current phase of investigation.

- The purpose of the Site Inspection is to confirm the Preliminary Assessment findings, evaluate potential exposure pathways, and expand the investigation, if necessary, to confirm off-site migration.

- The draft work plan from the Air Force's contractor was received this week. Once the Air

Force's comments are incorporated, the Air Force will have a meeting with the regulators and then prepare a final work plan. Field work is anticipated to begin in September. A draft Site Inspection report is scheduled for March 2017. The next steps will be to identify sites needing additional work.

Mr. Tamn expressed concern that the Burlington County Times reported in March that the Air Force has spent millions of dollars on the PFC issue, and the RAB did not receive any information. He stated the RAB should have been informed as information was available. He stated local volunteer fire companies used to come to the base on Sunday mornings and use AFFF and excess AFFF was also given to local fire companies. Mr. Frye responded that he was not familiar with the March article, but it could have been about Willow Grove (a DoD facility in Pennsylvania). He encouraged RAB members to reach out to him if they ever have questions as it is not possible to give full briefings on all the environmental restoration work underway at JB MDL. Mr. Frye also stated the Preliminary Assessment was given to the RAB in November 2015.

Ms. Lettman asked how PFCs got to the land application area. Mr. Frye responded that the waste water treatment plant operator at Dix was interviewed during the Preliminary Assessment, and he advised he noticed what appeared to be AFFF at the treatment plant over a number of events; the waste water treatment plant discharges to those land application areas so the areas were included for sampling during the Site Inspection.

Mr. Tom Besselman asked if the interviews found any incidents of disease or cancer among those who worked with AFFF. Mr. Long responded that was not the focus of the interviews; personnel were only asked about uses and releases.

Mr. Tamn asked about the natural attenuation of PFCs. Mr. Long said PFCs do not naturally attenuate. Mr. Tamn suggested including landfills as possible locations as many of the PFC containers were disposed of in the landfills.

Col McClure said the Air Force will work methodically in investigating PFCs to see where the compounds have moved to and will take appropriate action to protect public safety and health.

11) Arcadis Performance-Based Contract Field Work Update:

Mr. Tim Llewellyn of Arcadis provided an update on the current field work being conducted under the basewide performance-based contract.

- For the McGuire National Priority List (NPL) Sites, the dispute between the Air Force and EPA has been resolved, and work is proceeding on the contract modifications to incorporate the Pinelands Standards into the contract. Arcadis expects the contract modification to be finalized in a few weeks which will allow the remaining National Priorities List site documents to move forward with incorporation of the Pinelands Standards. If there are changes due to the lower standards, a remedy re-evaluation will be performed in coordination with EPA and NJDEP. The site which prompted the dispute was Operable Unit (OU) 3, and the OU3 Feasibility Study has been revised to incorporate Pinelands Standards. A major sampling event will occur this summer to collect updated data as it has been some time since some of the wells have been sampled. The new data will be compared to Pinelands Standards. At OU2, a pilot test of Multi-Phase Extraction (a possible technology to address the solvent plume at SS036) began a few months ago. Drilling volatilized the solvents and elevated concentrations were detected in the air at the work site; the vapors dissipated quickly, within tens of feet from the drill rig. Work was stopped and will be resumed in May or June with protective breathing equipment for the workers. At OU4, a pilot test for bioventing as a possible technology was conducted in April;

low permeability indicates alternative technology is required. At OU6, monitored natural attenuation is being considered as a possible remediation path; quarterly groundwater sampling is being collected in order to have a comprehensive data set. The initial data seems to indicate declining trends.

- For the 13 McGuire State-Led Compliance Sites (former petroleum storage areas), there is an approved remedial action report from NJDEP which will move those sites forward to final remedial action. The final remedies will be installed during 2016 which include air sparge/soil vapor extraction systems, soil removal actions, monitored natural attenuation for some groundwater plumes, and potentially oxidant injections. An air sparge/soil vapor extraction system has been installed at Storage Site TU013 and is just awaiting electric connection and approval of the air permit before starting operation. Air will be injected into the contaminated groundwater, volatile compounds will be stripped out in the vapor zone, and extraction wells will take the vapor to a treatment plant at the surface. At Storage Site TU018, one round of chemical oxidant injection has been completed which will accelerate the natural breakdown of that compound.

- At BOMARC, a second internal draft of the Feasibility Study was submitted to the Air Force and it is expected to be sent to the State later this month or in early June, with a final Feasibility Study targeted for this summer. A Proposed Plan, public meeting and 30-day public comment period is estimated for December 2016, followed by a Record of Decision in mid-2017, and the remedial action constructed in late 2017/early 2018.

- At the 0900 Area on Dix, a large former military housing area, pesticides were historically used for termite control and remain in the soil. A pilot test for soil mixing has been conducted. A Feasibility Study was submitted to NJDEP and was approved by the State. A Proposed Plan and public meeting is targeted for the fall of 2016.

- At three former fuel storage sites at Dix (TU019a, TU970, and NW044), the construction of three air sparge/soil vapor extraction systems was completed and are now operating. Data trends will be shared with the RAB when they are available.

- At Dix SA018 and LF016, a Proposed Plan public meeting was held prior to the RAB meeting tonight and a 30-day public comment runs through May 31.

- At Dix Site TU026 (New Egypt Armory), 3,254 tons of PCB-contaminated soils and materials were removed in November/December 2015 and properly disposed of at the Middlesex County Landfill, a permitted landfill for these types of waste. In response to a question from a member of the general public about why this Landfill was used, Mr. Llewellyn noted the Landfill was permitted to accept this type of waste. The site was returned to residential standards and released for unrestricted use with one exception. The soil under the 20 foot by 20 foot building could not be removed; the building slab will act as a cap over the landfill. The Remedial Action Report will be submitted to NJDEP this month.

- The spring sampling event for sites already in remedy at Dix was completed. The draft Annual Installation Maintenance and Monitoring Report was submitted to NJDEP, and NJDEP is reviewing the report. The next sampling event will be in the fall.

- At Lakehurst, the Areas A, B, and C plume stability study data collected so far indicates three of the sites will not reach the goals in Arcadis' contract; the three sites have been removed from the plume stability study and active remedies are being designed. Some pre-design work is underway to gather data for more substantial pilot tests this summer.

12) Public Comments:

Mr. Tamn invited public comments and none were offered. Mr. Tamn asked for any suggestion for the agenda for the next meeting.

13) Meeting Adjourned:

Mr. Tamn asked for a motion to adjourn the meeting. A motion was made, seconded and unanimously passed to adjourn the meeting at 8:09 PM.

The next RAB is scheduled for 4 August 2016. Potential topics can be emailed to Mr. Curt Frye or Ms. Nicole Brestle.