
**Environmental Management Commission
The Lighthouse (Building 56)
Cape Cod Air Force Station
Mid-Cape Connector
Bourne, MA
July 24, 2014
2:00 p.m.**

Meeting Minutes

Members:

Commissioner Mary Griffin	EMC/DFG	617-626-1550
Commissioner Jack Murray	EMC/DCR	617-626-1250
Commissioner David Cash	EMC/DEP	617-292-5856

Organization:

Telephone:

Environmental Officer:

Mark Begley, Executive Director

Organization:

EMC

Telephone:

508-968-5127

E-mail:

Mark.begley@state.ma.us

Attendees:

COL Frank Magurn	JBCC Ex.Dir. MANG	508-987-7020	Francis.b.magurn.mil@mail.mil
MAJ Jerrime Oliver	MA ARNG	508-968-5888	Jerrime.s.oliver.mail@mail.mil
CPT Alex McDonough	MA ARNG	774-286-1373	Alexander.v.mcdonough.mail@mail.mil
Lt. Col. David Anderson	6SWS	508-968-3277	David.anderson.1@us.af.mil
CPT Glen Kernusky	MA ARNG	508-598-2838	Glen.kernusky.mil@mail.mil
CPT John Medeiros	MA ARNG	508-968-5891	john.j.medeiros.mil@mail.mil
LTC Ed Gallagher	MA ARNG	508-968-5834	Edward.p.gallagher10.mil@mail.mil
Paul Nixon	E&RC/IAGWSP	508-968-5620	Paul.s.nixon4.nfg@mail.mil
Steve Mellin	6SWS	508-968-3213	Stephen.mellin.1@us.af.mil
Jacob McCumber	E&RC	508-968-5848	Jacob.c.mccumber.nfg@mail.mil
Dr. Mike Ciaranca	E&RC	508-968-5154	Michael.a.ciaranca.nfg@mail.mil
Sally Hartmann	E&RC	508-968-5145	Sally.a.hartmann.nfg@mail.mil
H. Carter Hunt	Mass Development	508-563-2785	chunt@massdevelopment.com
Daniel Sieger	Mass Development	617-292-5536	Daniel.sieger@state.ma.us
Lance Lambros	Senator Murray	508-746-9332	Lance.lambros@masenate.gov
Susan Rohrbach	Senator Dan Wolf	508-775-0162	srohrbach@senatorandwolf.com
Judith Underwood	CCCC		
Jason Zimmer	MA DFW		

Handouts Distributed at Meeting:

1. EMC Draft Meeting Minutes: October 9, 2013
2. MassDevelopment Unmanned Aircraft Systems Test Site Joint Base Cape Cod
3. MA Army National Guard Environmental & Readiness Center Update

Agenda Item #1. Welcome and Review of Meeting Minutes

Environmental Management Commission (EMC) Chair Mary Griffin convened the meeting at 2:00 p.m. and introduced the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP), David Cash.

Commissioner Cash stated that he is impressed by the collaboration across the different branches and state government at Joint Base Cape Cod (JBCC). He experienced an impressive tour at JBCC and the work over the past decade with various environmental issues and state and federal government has done really well; he is proud to be part of it, he said.

Lt. Col. Anderson, Commander of the 6th Space Warning Squadron, introduced himself. He thanked everyone for attending the meeting, and commented on the stewardship at JBCC and said that he is excited about the economical benefits and minimizing environmental impacts.

Commissioner Griffin noted that the agenda would be taken out of order, with Agenda item #3 next. The minutes will be approved when there's a quorum.

Agenda Item #3. Joint Base Cape Cod Executive Director Update – Colonel Francis Magurn, JBCC Executive Director

COL Magurn said that he succeeded Brigadier General George Keefe as the JBCC Executive Director. BG Keefe is now the State Executive Officer and Assistant Adjutant General for the Massachusetts National Guard. COL Magurn said that he looks forward to working with the EMC and the advisory councils.

Agenda Item #2. Advisory Council Report – Mark Harding, Community Advisory Council

Mr. Begley stated that Mr. Harding, Chairman of the Community Advisory Council (CAC), notified him that he may not be able to attend the meeting because of a schedule conflict.

Commissioner Griffin stated that she is aware that there are a number of members that need to be appointed to the Community Advisory Council. Mr. Begley noted that only one out of the four Upper Cape towns was active several months ago--since then additional individuals have been nominated. At the next advisory council meeting there should be increased representation from the towns.

Minutes Approval

Commissioner Cash made a motion to approve the minutes from the October 9, 2013 EMC meeting, and Commissioner Murray seconded the motion. The minutes were approved unanimously, as written.

Agenda Item #4. Briefing on the MA Unmanned Aircraft System Test Center and the FAA Test Site – Carter Hunt, MassDevelopment

Mr. Hunt gave a summary of the Unmanned Aircraft Systems (UAS) Test Center was started. In 2012, the FAA Modernization and Reform Act was passed. It directed the FAA to put together rules to integrate UAS into the airspace by 2017. The FAA determined that it would set up test sites. A Massachusetts team including the former JBCC Executive Director and Mr. Hunt and a New York team partnered together to form the Northeast UAS Airspace Integration Research Alliance (NUAIR), an organization of public organizations, private entities and academic institutions working together to establish FAA designated test sites for unmanned aircraft systems (UAS) in New York and Massachusetts to submit an application to be selected as a test site.

Mr. Hunt stated that the FAA selected six sites for unmanned aircraft research, one of which was New York's Griffiss International Airport. Mr. Hunt explained that under a continuing Teaming Agreement with Griffiss, NUAIR will act as Test Site Manager. NUAIR will be responsible, under FAA supervision, for operational control and project management for UAS testing at the Griffiss Test Site and test ranges in New York and Massachusetts. NUAIR is a not-for-profit corporation headquartered in Syracuse, New York, that is made up of an alliance of over 40 industry and academic partners led by the Center State Corporation for Economic Opportunity (Center State CEO) in Central New York, and the Massachusetts Development Finance Agency (MassDevelopment) in the Commonwealth of Massachusetts.

Mr. Hunt stated that the Massachusetts UAS Test Center Standard Operating Procedures requires: flight plan; risk management; range schedule, range safety brief, license agreement, insurance coverage, and frequency clearance.

Mr. Hunt explained that JBCC supports and conducts flight readiness validation for multiple platforms at the Massachusetts UAS Test Center test ranges. By May 2014, a plan will be developed for flight test and flight readiness validation of multiple UAS platforms at the Massachusetts UAS Test Center test range. This plan will be marketed to potential participants. The COA requirements will be determined for the Massachusetts Test Range on and around JBCC. Working agreements will be established with the Coast Guard and the Massachusetts National Guard for use of the training area, facilities and airfield at JBCC.

Mr. Hunt stated that the Test Range Initial Actions consist of revising the SOP, conforming to OTA, flight planning, risk management, flight readiness, COA requirements, develop data management parameters, privacy policy, and a public affairs plan.

Mr. Carter said that the requirements for the next 5 years are training area space, office/workbench space, hanger space, ramp space, runway use, spectrum expansion, installation access, and equipment/instrument locations.

Commissioner Griffin asked for clarification where the testing on JBCC will be in the Cantonment area. Mr. Carter noted that KD Range and other areas have been discussed for future testing.

Commissioner Griffin noted the issues with ATVs and trespassing and wondered if the use of unmanned aircraft systems could be used to deter the unauthorized use of ATVs. Mr. Carter replied that if there is an opportunity to use the aircraft systems in the unrestricted area--that is a possibility with coordination.

Commissioner Murray inquired about what is the difference in the unmanned aircraft systems compared to the commercial companies use of similar systems. Mr. Carter replied that they are not in the development business but the FAA would like the airspace monitored for safety, which is the critical element.

Mr. Begley noted that he recently heard Mr. Carter on National Public Radio about a medical application and asked for additional information. Mr. Carter said that at MIT the biomedical using unmanned aircraft to deliver vaccines is a new use. Also, there are agricultural scientific applications for use of unmanned aircraft scientific applications.

Commissioner Murray stated that the role of the FAA test site is the certification of the safety of the aircraft. Mr. Carter noted that there are a lot of opportunities for test sites.

Commissioner Griffin asked, for example, could WHOI contact for operation of the unmanned aircraft systems and be certified by a third party. Mr. Carter replied that operation is being done off shore and within the restricted area. There will be an opportunity to become trained, but not certified by the FAA.

Agenda Item #5: Massachusetts Army National Guard Updates – Dr. Mike Ciaranca, Environmental & Readiness Center

Dr. Ciaranca, Deputy Director of the Environmental & Readiness Center (E&RC), reported that the new Range Control officer is CPT Alex McDonough; the new Range Control Non-Commissioned Officer (NCO) is MSG Brendan Bowen.

Dr. Ciaranca discussed the Annual *State of the Reservation Report*. The format and content are under review and changes will be made to both. Dr. Ciaranca noted the Monument Beach Sportsman's Club's Range issues. Coordination for range safety and restrictions is needed. Picatinny Arsenal is redoing safety danger zone calculations with mitigation considerations, i.e., baffles and larger mounds for protection. Grassland Bird Tours were held on June 28 and July 12. Other events included an Emergency Responder Training in May; Operation Mercy lift on 3 June on Nantucket. Finally, Dr. Ciaranca said he is participating in the Cape Cod Area 208 Water Quality Planning Upper Cape West and South Working Group. Finally, the Cape Cod Commission submitted a proposal for an MOU between the Massachusetts National Guard, 102nd Intelligence Wing, and MassDevelopment.

Dr. Ciaranca gave an update on the consultation with the Mashpee Wampanoag and Joint Memorandum of Understanding, which is in draft. He and other staff will be meeting with Ms. Peters and other members of the tribe to reestablish relationships between the Guard and Mashpee Wampanoag.

Mr. Mellin said that two wind turbines were installed by the Air Force in the Reserve at Battle Position 18. The installation was coordinated with the MANG and EMC.

Mr. Mellin explained that construction is complete on the two turbines and they began operation on March 21, 2014. They are GE 1.68 MW turbines, and, as of July 17, had produced 3,706 MWh with a net metering credit of \$536K.

Mr. Mellin said that on December 2, 2013, there was a release of gear oil from one of the turbines. The contractor notified the Air Force, and the Air Force made notification to MassDEP and JBCC agencies. Clean Harbors was hired to begin immediate clean up actions, and GE provided a specialty contractor to clean the nacelle and tower. The leak was determined to be a bad gasket on the oil pump. There was a total release of approximately 53 gallons of gear oil. The response action outcome statement to MassDEP was made on 31 January 2014-actions accomplished to a level of No Significant Risk.

Dr. Ciaranca said that Camp Edwards is pursuing upgrades through Cape Light Compact; materials were ordered and the final schedule is pending. Also, the Army Energy Initiatives Task Force is exploring the potentials for a fifth turbine in Reserve and solar arrays of 10 to 15 megawatts on Camp Edwards.

Mr. McCumber said that a new position was added for a Land Rehabilitation and Maintenance/Training Requirements Integration Coordinator, who will be a project manager and planner for training area restoration and improvement. They are also in the process of hiring a lead field technician.

Mr. McCumber said that to date, 47 acres were burned in the Cantonment area grasslands on October 22 and 133 acres were burned on BA-7 North on October 28.

Commissioner Cash asked who conducts the fire management. Mr. McCumber replied that in coordination with the Nature Conservancy Fire Program.

Commissioner Griffin asked what the different colors signify on the map of the Planned Burns. Mr. McCumber replied that the grayed out area has been treated in 2013. The lines of gray and green are the

planned areas for 2014. Red is the legacy prescribed burns, and the target areas for Camp Edwards burn units are in non colored areas.

Mr. McCumber discussed Fiscal Year (FY) 14 fire planning and interagency initiatives for the MAARNG including the Impact Area buffer, the land navigation lane, and interagency fire training. The US Fish and Wildlife Service and the Massachusetts Division of Fisheries and Wildlife are improving the New England Cottontail habitat using vegetation management and prescribed fire; approximately 76 acres were completed. There's a Joint Legacy (DOD) Grant Proposal being submitted for \$502,000: directed to potential New England cottontail conservation. DOD legacy was established to reduce impacts on military training from where there are endangered species and other environmental constraints. The core of the fire planning is managed by MA-DFW with USFWS and the MAARNG. There would be prescribed burn planning, mechanical treatment, and fire FY15-19.

Commissioner Griffin asked if the target areas are also grasslands. Mr. McCumber said that the Cantonment area is directed towards the grasslands, approximately 114 acres of grasslands burns.

Mr. McCumber stated that the ecological monitoring consists of New England Cottontail research/monitoring: 10 rabbits were caught, and two are still being tracked. There's ongoing habitat research based on telemetry results. The program is conducting fire response monitoring including rabbit vegetation protocol before and after burns. The program conducted surveys on Whip-poor-wills, Ruffed Grouse and the Northern Bobwhite surveys. The program also conducts vernal pool monitoring, and bird monitoring along a standard route and in the grasslands. The rare plant surveys, conducted in August, were constrained by range firing from the Monument Beach Sportsman's Club; nine of 22 sites were in the closed area.

Mr. McCumber stated that the ITAM Assessments consist of assessing the land navigation areas for restoration and rehabilitation needs. The maneuver trails will be assessed for vegetation and erosion condition. The battle positions and bivouacs will be assessed for condition and rehabilitation needs. The Soldier Validation Lanes will also be assessed.

Mr. McCumber said that there were five hunts in the fall for deer: paraplegic, archery, military (new), shotgun, and primitive. There were 1,126 hunters-days, with 60 deer taken. There were 93 hunters-days during the spring turkey hunt, and 13 turkeys harvested. There were some changes in the hunting program changes and a questionnaire distributed by the Natural Resource Program showed that the changes were well received. The changes included improved safety buffers, increased hunting opportunity with a single-day military hunt and designated drive-free zones. Mr. McCumber reported that the grassland bird tours were held on June 28 and July 12, with 45 participants total.

Mr. McCumber discussed the expected Federal Endangered Species Act (ESA) listing of the Northern Long-eared Bat (*myotis septentrionalis*). There has been a 99% population decline due to white-nose syndrome. The current Federal status of the bat is: proposed endangered (the current state status is endangered). The full listing (endangered) is expected in September 2014. The potential impacts on Camp Edwards are: review ongoing actions and initiate "informal conference" training, conservation implementation, and on the cleanup programs. There's an uncertain impact on cleanup actions, alternative energy projects, and future range development. There was little to no impact expected for ongoing training. There's potentially substantial impact on conservation projects including seasonal restrictions, ESA consultation on the INRMP, and pre-project bat surveys raising cost and time. There's much that's uncertain at this time, Mr. McCumber said, and updates will continue.

Commissioner Griffin stated that the Otis Fish and Game MOU needs to be finalized. Dr. Ciaranca replied that there will be an update on the specific status.

Mr. McCumber discussed the Integrated Natural Resources Management Plan (INRMP) five-year review. He will be scheduling a meeting with the Sikes Act partners, potentially in mid July to review and discuss updates and a timeline. Critical update components are: the endangered species management

component, including management assurances for USFWS for the Northern Long-eared bat and New England Cottontail; prescribed fire strategy including conservation, risk mitigation, military training needs, situational constraints, and partner interests; invasive species management strategy, including prioritization, targeted season and methods; and management focused long-term monitoring plan (fire effects, New England cottontail response, military training). There are measurable objectives; for example, the wind turbines construction and the effect on the habitat.

Mr. Zimmer, MA DFW, gave a brief update on hunting at JBCC. The Massachusetts Division of Fisheries and Wildlife works with JBCC to coordinate the annual controlled deer and turkey hunts within the JBCC boundary. The goal is slightly above average harvest for deer hunting over the past few years. There have been no negative impacts, only lime disease risk.

Dr. Ciaranca stated that there were two visits by the owner and investor of the STAPP company to the small arms ranges where the STAPP system was installed to check issues and rectify, also to expand business in the US. He said that the Operations, Maintenance and Monitoring plan for Juliet, Kilo and Tango ranges have been updated in coordination with the Small Arms Range Working Group. The primary updates included timelines and notifications, an expanded description, inspection and metric for the toe berm box, and monitoring of pH, and when necessary, maintaining the soil pH to minimize corrosion, dissolution, and mobility of metals in the environment.

Dr. Ciaranca updated the EMC on Lima Range, which is a 40mm Practice Grenade Launcher Training range. Drainage, grading, and planting, detailed inspection, further containment: range control will replace hay bales and silt fence with backstop netting to catch the rounds. Sierra and India Ranges: Copper only and there is bullet packet maintenance. There is a hand Grenade qualification course on the range. Operation, Maintenance, and Monitoring Plan completed and recently submitted for EMC approval. Echo design: Combat pistol qualification range and test range. There is a Request for Design award out for bidding.

Agenda Item #6. Massachusetts Army National Guard Requests on Small Arms Ranges – Dr. Mike Ciaranca, Environmental & Readiness Center

Commissioner Cash asked what is the rubber source for the STAPP system. Dr. Ciaranca replied there is a top cover, then 18 inches of rubber granules made up of ground up recycled rubber material similar to what you see in children's playgrounds.

Dr. Ciaranca discussed the goals of the pilot period, which were to identify any issues not initially apparent in the bullet containment system plans or range operating procedures prior to start-up, as well as an opportunity to revise plans or approvals associated with the bullet containment system. It was a time period to refine operations manuals, inspection checklists and range O&M procedures based on firsthand experience. It also would verify that the STAPP system will contain the vast majority of the bullets fired on the STAPP Ranges; contain any water, and make sure it has no inherent design or construction flaws. The pilot period was also intended to ensure that the system can be operated and maintained according to the approved plan protecting the ground water resources of the Camp Edwards Training Area/Upper Cape Water Supply Reserve.

Dr. Ciaranca explained that prior to the STAPP system authorization, Tango Range had been used to support rifle, pistol, and shotgun marksmanship training. Active use of Tango Range, approved by the EMC and the US Environmental Protection Agency (EPA), commenced under a Pilot Period in 2007 using the STAPP Bullet Catcher System. Use of Juliet and Kilo Ranges began under a Pilot Period in 2009 using the STAPP system.

Dr. Ciaranca gave a brief summary of the environmental monitoring done under the OMMP. There's been no exceedence of soil or groundwater action levels. For pore water, there was an exceedence of

Antimony at J and K ranges. The Lysimeter pore water action levels are not at State or Federal standards, but are specific to the OMMPs. The action level is 6 ppb and is the drinking water standard. The exceedances ranged from 6.9 ppb to 43 ppb. The use of legacy soils from ranges where lead-antimony bullets had been fired was used in constructing the J and K STAPP ranges. Mactite™ (phosphate) was used to immobilize the lead in legacy soils during the 1998 berm treatment process for stabilizing lead in soil. Phosphate can cause antimony to become more mobile in soil. Monitoring will be ongoing to ensure protection of the Upper Cape Water Supply Reserve.

Commissioner Cash asked if there are test wells near the sites. Dr. Ciaranca replied the test wells are chosen based upon receiving any potential materials. Commissioner Cash asked how many bullets are entering into the STAPP system. Dr. Ciaranca replied that Tango Range is at approximately ½ million total. Commissioner Cash asked how long the STAPP would have holes in it. Dr. Ciaranca replied not for long it would be rare.

Dr. Ciaranca stated that the lessons learned are incorporated into OMMP. The first OMMP called for continuous review and improvement – there have been five revisions and one consolidation.

Commissioner Griffin asked if there is a life expectancy of the STAPP system built into the OMMP. Dr. Ciaranca replied that originally there was a three year life expectancy or 100,000 bullets fired. There have been changes and material can be recycled or removed by bulk. Mr. Begley commented that on Tango Range the material has been removed but is not necessary on Juliet and Kilo Ranges yet.

Dr. Ciaranca stated that based on a requirement on Tango Range, material was removed for a mass balance.

Commissioner Griffin stated that it is not a set number of years but based on evaluation and condition of the STAPP system. Mr. Begley stated that there are three triggers: the number of rounds, the condition of the cover, or the length of time. The condition of the cover is where the SARWG, EPA and MassDEP have come to the same conclusions that there is no need to replace the STAPP cover yet because it is still functioning.

Dr. Ciaranca said that the lessons learned for water were that water collected in the system at a greater rate than expected. Covering the STAPP systems with tarps precludes most water build up. There's less pumping, sampling, and disposal, therefore there's a reduced operational cost.

Commissioner Cash asked how the water collects. Dr. Ciaranca replied that in Sweden and the Netherlands there are 127 STAPP systems and 6-11 gallons of water total collected. At Camp Edwards, there have been approximately 15,000 gallons of water collected and pumped. A tarp has been put over the system and reduced the water collected and pumped. The tarp is removed before shooting, Mr. Begley said.

Dr. Ciaranca discussed lessons learned for CLP (cleaning/lubricating/preservative compound) Spill Prevention and overshot and undershot. Dr. Ciaranca said that the initial design of toe berm boxes work well at Tango Range, however, the toe berm boxes at J and K Ranges were not built to same specification. Some have failed allowing bullets to pass through the box. The temporary fix is to fill failed boxes with sand bags. The long term fix is to build the toe berm boxes to Tango Range specifications.

Dr. Ciaranca stated that Tango Range berm had soil erosion undermine the STAPP liner. The STAPP system was rebuilt on Tango Range. A QA/QC manual was then required for J and K berm construction. Liner perforations were found at lanes 6 and 7 on Tango Range. Perforations were from 7.62 machine

gun fire and caused differential settling of rubber granules within STAPP system. Machine gun use is now approved on a case by case basis for training need with limited sustained burst.

Mr. Begley noted that the perforations were half way up the slope not where the water accumulates.

Dr. Ciaranca stated that the top cover seams failed – likely a significant source of water in the system. The wrong glue was used and they were installed incorrectly. The solution was to redo the seams correctly as identified and during general maintenance.

Dr. Ciaranca stated that administrative lessons learned were with changing personnel, continuity and internal communication is needed. Funding also was problematic.

Dr. Ciaranca said that the EMC has a number of options, including: disapproving the system; requiring more information, modifications, or extending the pilot; or approving the range/bullet trap system operating in accordance with the Operations, Maintenance, and Monitoring Plan (OMMP).

Commissioner Cash asked how monitoring will change from the last two years as opposed to concluding the Pilot Period now moving forward. Dr. Ciaranca replied that nothing will change; the monitoring will remain the same. If any monitoring would change based on the data there would be a request. Commissioner Cash asked what the effect would be ending the Pilot Period. Dr. Ciaranca replied that ending the Pilot Period would mean that there would still be a constant oversight while allowing the ranges to operate in accordance with the approved Operation, Maintenance and Monitoring Plans and not to continuously have to come back asking for pilot period extensions.

Commissioner Griffin stated that she was comfortable ending the Pilot Period but could updates be included in the State of the Reservation Report. Dr. Ciaranca replied that is a requirement of the OMMP.

Dr. Ciaranca said the CAC and SAC unanimously supported ending the Pilot Period for Juliet, Kilo, and Tango Ranges.

Dr. Ciaranca said that the MANG requests that the EMC authorize their Executive Director (Mark Begley) to issue an approval to conclude the Pilot Period for Juliet, Kilo, and Tango Ranges and allow the MANG to continue to operate the ranges in accordance with the EPSs and the Operations, Maintenance, and Monitoring Plan for these ranges.

Commissioner Murray moved to authorize the EMC Executive Director (Mark Begley) to issue an approval to conclude the Pilot Period for Juliet, Kilo, and Tango Ranges and allow the MANG to continue to operate the ranges in accordance with the EPSs and the Operations, Maintenance, and Monitoring Plan for these ranges. Commissioner Cash seconded the motion and all were in favor of the motion.

Agenda Item #7. Public Comment

There was no public comment.

Agenda Item #8. Adjourn

The meeting adjourned at 4:00 p.m.