
**Science Advisory Council to the Environmental Management Commission Meeting
Building 5221
Camp Edwards, Massachusetts
September 26, 2019
5:30 p.m.**

Meeting Minutes

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Handouts Distributed at Meeting:

1. SAC Meeting Minutes for April 25, 2019
2. Environmental Officer Update
3. Massachusetts National Guard and Environmental and Readiness Center Update
4. Natural Resources Update
5. Hunt Camp Edwards
6. Massachusetts National Guard Multipurpose Machine Gun Range Update
7. Massachusetts National Guard Proposed Change for EPS 15.3.3 "Field Refueling"
8. Massachusetts Army National Guard Oil Spill Prevention and Contingency Plan (OSPCP) Mobile Fuel Tankers

Agenda Item 1. Chairperson's Comments – Paul Cavanagh, Science Advisory Council Chair

Mr. Cavanagh thanked everyone for attending the Science Advisory Council (SAC) meeting.

Agenda Item #2. Review of SAC Meeting Minutes - Science Advisory Council

Mr. Cavanagh asked if anyone had any comments on the April 25, 2019 SAC meeting minutes. There were corrections to the minutes. Mr. Schall moved to accept the April 25, 2019 meeting minutes and Mr. Duggan seconded the motion and all were in favor of the minutes as written with corrections.

SAC members discussed having the minutes in a summary format.

Agenda Item 3. Environmental Officer Update – Len Pinaud, EMC Environmental Officer

The base gate security for the SAC members attending the meeting was discussed and proposed JBCC base IDs to allow entry without issues.

There will be construction on Connery Avenue the 30 September to November for paving and to avoid the Bourne gate entry and utilize the Sandwich gate. There will still be accessibility through the Bourne gate. Also, the Falmouth gate will be closed for entry without a US government ID.

The Community Advisory Council (CAC) chair thanked the SAC for all that is done through Chapter 47 and CAC depends on the SAC for advice. The SAC knowledge is appreciated with critical issues on JBCC.

The next CAC meeting is scheduled for the 10 October at 5:30 p.m. and EMC meeting is scheduled for 24 October at 9:30 a.m. in Building 5221.

Mr. Pinaud gave an Environmental Officer update:

EMC Commissioner Roy, Department of Conservation and Recreation retired effective September 25 and Jim Montgomery, Department of Conservation and Recreation will be interim EMC Commissioner.

Commissioner Roy was thanked for participating in the EMC and all his support.

- Camp Edwards Upper Cape Water Supply Reserve photo outline was displayed for the EPS with the Division of Fisheries and Wildlife contract for the consent judgment against one of the Utilities Companies that was negotiated approximately 5-10 years ago with the prior Environmental Officer Mark Begley for 70,000 in an account for preventing trespassing which was transferred to the Division of Fisheries and Wildlife. There have been discussions on how best to use the funding. There is a digital perimeter of the Reserve on a map and Jason Zimmer the Director of Division of Fisheries and Wildlife has a contractor for signage and perimeter was posted in accordance to the Wildlife Management protocol.
- Photos of no trespassing signage are being installed that was approved by the EMC and Divisions of Fisheries and Wildlife and a tree signage that is 100 feet apart marked by paint. The signage installation will be completed by the end of October. There are three cameras that will be installed being delivered to Range Control for surveillance for trespassers that will be tied into other cameras on base for video access review.
- India Range photos were displayed of durablock designed to absorb the impact up to a 6.2 mm projectile. The durablock configuration was to put durablock within the bullet pockets to extend the usage. The durablock was developed for lead rounds and could take 3800 556 rounds and switch to copper 556 rounds. The durablocks are made of pressed rubber but the chemistry will be defined by the manufacturer.

Agenda Item 4: Ad Hoc Committee Update – Phil Gshwend, MIT Professor

Mr. Gschwend gave an update on the Ad Hoc Committee that met in mid-July:

Mr. Clauson's study at CRREL with explosives used at ground surface which are snow covered.

Discussions with assessment for local or bigger testing and mass balance. Perchlorate reactions and potassium Mass Balance Study.

Calculations using materials and how much antimony on the ground reviewed compatible with regulatory values threshold. Number on top of soil cause groundwater below to be at the 6 ppb or 2 ppb limit a different medium in the water.

The concern was the groundwater standard is the default standard for the generic site. More of a Method 3 site specific development of the number protecting groundwater where the perchlorate is depositing.

Soil column studies at CRREL for what other chemical components soil speciation move vertically through the system discussed.

Pyrotechnics proposed calculations 8 pds. study but use 23 6 pds.

Identified that three military data bases were incorrect.

Calculations from Mr. LeBlanc to evaluate where groundwater could be threatened.

Prior to meeting test at TTB 10,000 sf with three items smoke grenades, artillery simulator, and soil sampling in a box which was non detect for perchlorate in pre testing. Project note was approved.

Agenda Item 5. Camp Edwards Update – *Dr. Michael Ciaranca, E&RC, MAARNG*

Mr. Ciaranca reported for Camp Edwards:

COL Porter, Camp Commander, fulltime presence at Camp Edwards.

MCCC Meeting, 14 November 2019, 5:30 p.m. Building 1805.

Eversource update for Switching Station:

1 November 2019 install silk fencing. Army Corp of Engineer will transfer parcels over to easements for Eversource.

Soil Reuse: Tango and MPMG Ranges, 80,000 cubic yards of soil and utilize half for two range projects. Meetings with Natural Heritage and road routes identified to truck soil to Sierra Range and KD Range.

New Transmission Line ROW 342 starts at switching station come through Camp Edwards to Barnstable.

Utilizing existing line first and any natural resource disturbances minimal.

Maintain transmission lines with mowing and chemical spray. Multiple chemical treatments for resources available on line link will be forwarded to members.

Agenda Item 6: Natural Resources Update – *Mr. Jacob McCumber, Natural Resource Manager, MAARNG*

Mr. McCumber gave an update on Natural Resources activities:

Environmental review, mitigation and strategy for the Multi Purpose Machine Gun Range. Mitigation Bank developing with Mass Wildlife is including several other projects throughout the training site planned over next 8 years for additional range development and Cantonment water privatization plans.

Mass Wildlife Meeting August 2019 at Camp Edwards.

Formalizing box turtles reconstruction and construction supported land. Dog detection assisted box turtle surveys plan with Mass Wildlife effort per acre.

Moth monitoring impacting 13 different state listed moths with various projects in Pine Barrens impacting. Plans to work with moth experts to develop a specific monitoring plan for the moths. Mass Wildlife concerned white trapping is not effective for the moth species. Sensitive to time scales for 5 years instead of 20 years to adapt management of habitat.

The MPMG range and prescribed burning around the range to reduce fire hazards mechanical fuel management. Range management and mitigation perspective plan to burn approximately 5000 acres with ecological effects working with Mass Wildlife.

Combined Arms Exercise support developing tools for pyrotechnics and tracers uses.

Integrated Management Plan (INRMP) for Camp Edwards updated every 5 years contracted support. Internal stakeholder meeting went successfully with Camp Edwards stakeholders. Stakeholder meeting scheduling in October with US Division of Fisheries and Wildlife and Mass Wildlife.

INRMP SAC role inclusion is interested in attending meetings.

Walsh's Digger Bee species only record on the base east of Ohio and one Martha's Vineyard location.

The Walsh's Digger Bee is a Grassland field species between West Inner Road, West Outer Road, bumblebee survey for Rusty Patch Bumblebee in 2017 and Walsh's Digger Bee was found nesting. Massachusetts State Listed 2019. Focal Study for Walsh's Digger Bee. Observations 6 in 2017 survey and 60 sites. 12 confirmed nest sites and 20 potential nest sites.

Observations area was burned in fire refresher training in March 2019 with several nest sites. Followed a spring burn treatment that preceded fall. May intensive burn and observations were from previous eight months.

Bee species nest in ground and open habitat primarily nectar on Baptisia and indigo that is abundant.

Frosted Elfin survey 2019 findings in burn areas.

Whip-poor-willows continue to work with Mass Wildlife migration studies 3-7 with GPS tags 2018 captured Southern Mexico and Honduras fall and spring migration.

Lids on firing positions filling with sand to prevent traps
Meadow Jumping Mouse added to endangered species list.

Clam shrimp second mitigation puddle completed on Kendall Road.

Box Turtles with Combined Arms Exercises incidents raising awareness. Dog assisted box turtle surveys with transmitters Charlie 14 by Demo 2 Timber Harvest burning. Areas untreated harvested and burned. Transition into MPMG range construction survey.

Camp Edwards Hunt commences with Youth Deer Hunt Saturday, September 28. Flyers available with dates.

Restoration mitigation plan Wheelock Overlook harvest and BP24 restoration and for the MPMG range.

Mitigation plan includes harvesting moths cannot be covered in habitat and opening up.
Upcoming forest relief projects at BP20 and NBC area.

Infrastructure concerns:

- Higher frequency extreme rain events (erosions)

Fire:

- Fuel monitoring and assessment and GIS software to study fuel treatments and fire breaks required to safely manage.

Spring 570 acres burned

Fall targeting 130

Hosting RX410: Smoke Management Techniques course

Combined Arms Exercise

- Mr. Ciaranca and MAJ McDonough gave an update on Combined Arms Exercise conducted July 27-August 10 with approximately 900 soldiers support chemical exercise and fueling operations.
- Training areas utilized Demo 2 (new name suggested no longer a demolition area), BA-6, TTB Kelley and Dig Site 3.

Non-Standard Training Request:

- Use of CS (Tear Gas) no issues
- Tactical Refueling
- Sierra Range for non standard training

Training Simulators:

- Notice of Nonconformance: 230 items identified for use only 197 items were used. Three booby trap trip flairs whistles same volume of perchlorate as the ground burst simulator not authorized was reported as a violation to EMC/EO.

MAJ McDonough displayed tactical refueling photos and stated Range Officer Warrant Officer (WOI) Christopher Corbett attending Range School and Chief Warrant Officer (WO4) Justine Smith will be standing in.

Tactical Refueling primary site prepared and SOP verified. Inspection for proper spill kits no holes or tears in floor. JP 8 Diesel fuel is used in refueling.

Mr. Gschwend requested for the material information in the black tarp containment for refueling.
(Action)

Collective range primary training actions shoot, move and communicate to prepare for combat.

Training Simulators used smoke grenades and groundburst simulators were useful in training with a whistle noise and loud explosion. Smoke grenades for signaling. CS grenades used to ensure took the signal gas seriously and wore protective masks.

SOPS and range control will verify before training simulators being utilized for authorized live fire range use.

Systems in check at State, ASP level and final check at range control level.

Mr. Duggan asked for the fuel accounting procedures information.
MAJ McDonough stated that the fuelers were given a limit and tracked by unit distribution by gallon throughout exercise 1500 gallons limit. .

Videos of Ground Burst Simulators were displayed.
Mr. Gschwend asked for the metals list.

Smalls Arms Ranges:

Juliet and Kilo Ranges:

- STAPP will be dismantled upon availability of funding

Tango Range:

- Design for rebuilding as a copper zeroing range is nearly complete, 95%. Mr. Pinaud involved with input extending to 32 lanes from 15 lanes. Mr. McCumber working on mitigation and Natural Heritage concerns
- Tango Range Coordination for use of Eversource Soil ongoing.

Agenda Item 7: MPMG Design Status and MEPA Review – Mr. Ciaranca, E&RC, MAARNG

Mr. Ciaranca gave a Multi Purpose Machine Gun Range (MPMG) update:

- Used to train and test soldiers on the skills necessary to zero, detect, identify, engage and defeat various targets on 800 meter range.
- Military Construction (MILCON, FY 2020): \$11.5 Million Project includes targetry.
- 8 firing lanes
- All targets are fully automated with computer driven scenarios that provide immediate performance feedback.
- Primary Weapons (Copper Only): M240B Machine Gun (7.62mm), M249 Squad Automatic Weapon (5.56mm)

Environmental Review:

- Environmental Review began May 2018
- Anticipated Contract Award: March 2020
- Project Midpoint: March 2021
- Project Completion: March 2022

National Environmental Policy Act (NEPA: 32 CFR Part 651)

- Draft EA and Draft FNSI (external review) sent for external review 7 August 2019
- Complete Environmental Assessment
- 30 day Public Comment Period on Environmental Assessment and NEPA process

Massachusetts Environmental Policy Act (MEPA: 301 CMR 11.00)

- MEPA review (#5834)
 - Addressed in: 2006 NPC, 2007 P2 Plan, and 2012 SEIR (Location is different).
 - Prefilling Site Visit 8 August 2019
 - MEPA, NHESP, EMC, and MAARNG
 - Prefill Meeting: 26 August 2019

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- MEPA, NHESP, EMC and MAARNG
 - Submit Notice of Project Change
 - Complete SEIR
 - Complete 30 Day Public Comment Period

Habitat protections continue with Natural Resources.

Mr. Gschwend asked what is in the copper alloy and Mr. Ciaranca will forward information. (*Action*)

Agenda Item 8: Proposed Environmental Performance Standard 15.3.3 Revision – Mr. Ciaranca, E&RC, MAARNG

MAJ Alex McDonough presented information relating to the MAARNG’s request to modify Environmental Performance Standard 15.3.3, Fueling in the Reserve.

Science Advisory Council members asked questions and discussed the information.

Will the fuel trucks engage in training scenarios (i.e. battle scenario)? Will there be a “range” for fueling already set up to capture any spill?

- The MAARNG replied that typically the units the MAARNG has are not in that situation, they are behind the offensive line.

Is fuel accounted for in the field? In terms of spill response, knowing what is in the truck to begin with is helpful.

- The fueler is limited to the amount they can bring in the field; the fueler itself has a counter and the soldier keeps a running log. The unit tracks distribution by the gallon.
- The soldiers know the amount in the fueler by the gallon. They have a clipboard with the start and end amount in the fueler, which is tracked through the exercise.
- Fuel tracking is a critical task for fuelers. It is reported in combat situation all the way up to the Support Operations officer, who is tracking it throughout entire battlefield for logistical reasons.
- In terms of spill response, timing is everything and that information would be after those safety things are taken care of, high on list to have that.

Fuel accounting is something that would go into the Standard Operating Procedure (SOP)

- As part of any spill response, the fueler reports what was expended, and would provide that to Range Control and MassDEP as the spill response goes on.

Accidents are a concern. There should be an escort for commercial fuelers coming on base.

- No commercial fuelers are allowed in the training area, except for IAGWSP, which uses a Canal Fuel truck, but they are escorted.
- A security team escorts every commercial fueler from the JBCC gate to the gas station, and they are escorted out of JBCC.

The SAC has never seen the decision-making process used to determine the fuelers approved routes to the training areas. The map shows the approved fueling locations; what are the criteria used to identify them?

- Items considered to identify fueling locations were: receptors, distances to wetlands, level areas; locations of bivouacs, and areas away from wetlands and water supply areas.

Are travel routes identified?

- Yes, the SOP requires fuelers to use the most direct travel route; Range Control will also have an updated overlay (of the best routes)
- No secondary trails are authorized; fuelers are not allowed to go just driving around; they must use a hardball route
- The MAARNG did a road recon, removed many potential fueling locations from the ranges, applied common sense excluding criteria away from buffers, and only chose sites that meet military mission requirements

While traveling the route, is there any engagement by the fueler with opposing forces?

- The MAARNG replied it's just not meant for that and they don't think the fuelers would be put in an active engagement

How will the EMC EO be notified prior to refueling in the Reserve?

Included in the Range bulletin

Courtesy notification by Range Control or MAJ McDonough.

Mr. Gschwend feels that many sites are near water supply wells; some spots should be rethought based on where the water supply wells are.

- This would severely limit sites
- MAARNG looked at the Upper Cape water supply wells, and the Zone 2s for those, and stayed out of those areas;
- Mr. Duggan said that a release will not necessarily result in impact. Gasoline releases, when fixed quickly, have a good cleanup record. It depends on how far away the well receptor is.
 - Groundwater wells are a few miles away
 - Spills are not traveling that far even with water soluble leading-edge components
 - Part of the MAARNG's refueling operation is the response to any releases
 - In the event of a catastrophic release (ex. the fueler blows up) and the containment system is overwhelmed, that's what the environmental response is for.
 - During the truck soil spill incident, within a ½ hour Matt McKay was on site coordinating with MassDEP. The response was set and the situation was being handled. The SOP within Army Environmental guidelines is to take any action necessary to remediate the situation. Fuelers are MOS trained; they have to report it.
 - Diesel range products are much less mobile than gasoline products

What are the additives in JP8?

The MAARNG will provide the constituents of JP8.

Is this compatible military training? If there is a spill, does it get contained, does it get to a well, and does it get to some other sensitive receptor, like a wetland? If it is not going to get to groundwater with the procedures put in place that is compatible.

Mr. Pinaud said:

- The map was scrubbed of locations adjacent to wetlands; any release won't immediately go into a wetland.
- In general, responses to releases on JBCC have been very quick and good. The cleanups are done in a short period of time. A fuel oil spill, if cleaned quickly, is not going to travel to groundwater.
- The modification to EPS 15.3.3 was modeled after EP 19 (Small Arms Ranges), where you build a range for certain performance standards but the details are in the SOP, which is a living document. A lot of the detail, such as escort, training conflict and spill response are all designed to be in the SOP.

How many refueling sites would be in use at any one time?

- One, maybe two. The MAARNG has a distribution company with two fuelers, and Army Aviation generally doesn't go into the training area. The odds of them going at the same time in the training area are extremely low. During the CAX exercise, one fueller was in Demo 2 and one was at Tactical Training Base Kelley.

What is the upper limit for gallons carried by the refueler.

- 1,500 gallons is the limit set that will be set in the SOP. (Not in EPS 15.3.3)
- The SOP will cover many things: tactical engagement, escort, how many HMTTS in the Reserve at one time, etc. The SOP can be changed depending on how well it is going or not. That gives the Environmental Officer more control.

It would have been useful to see the process "scrubbing" the map. .

- MAARNG will change the map to show the sensitive receptors, groundwater flow, etc.

Mr. Gschwend suggested a permanent containment area be constructed at refueling locations: "a backup plan behind the backup plan."

- Driving into a permanent fixture will not provide soldiers the training they need.
 - Mr. Gschwend suggested an underlying foundation under the soil could be constructed: "tertiary containment"
 - Refueling pads in the TTB have failed, becoming more of an issue with residues left on the concrete.

The SAC cannot hold a binding vote on the EPS 15.3.3 modification, but can do an informal motion of support. It was suggested to hold off on an informal vote until there's more information available and it

is considered a little more, looking at contingencies. A motion of support can be held in the future, when there is a better comfort level.

MAJ McDonough asked SAC members where they stand on modifying EPS 15.3.3.

- Mr. Gschwend abstained.
- Mr. Cavanagh relies on the three groundwater experts on the SAC; when Mr. Gschwend expresses a concern and feels additional information would help, Mr. Cavanagh listens to that. If Mr. Gschwend comes back and says he has considered that additional information and everything looks fine, Mr. Cavanagh's comfort level goes way up.
- Mr. Schall would like to see a larger picture of where the wells and wetlands are and how the fueling sites were selected.

Mr. Duggan stated for the record:

- If the locations have been identified to be protective of sensitive receptors like wetlands and other sorts of localized locations, and if the public water supplies are in the order of miles (away) and if in the emergency spill response SOPs under substance spilled and amount, it specifies based on the fuelers log on site then I would be support of the change. The caveat is that there aren't any individual constituents that present a public healthy safety issue / and that mobility is different than the JP8.

Mr. Cavanagh said that given the information presented, it may be appropriate to modify EPS 15.3.3, but more information is needed. There was deliberation, a lot of discussion, and although the SAC supports much of what is being proposed, there is not complete a sense of comfort that we have done due diligence.

The MAARNG will provide the following information to the SAC: a revision of the map with overlays of all the exclusion criteria and which sites were removed; the constituents in JP8; and a general statement of what is in commercial diesel.

Agenda Item 9. Public Comment – *Paul Cavanagh, SAC Chair*

There was no public comment.

Agenda Item 10: Adjourn

The meeting was adjourned at 9:00 p.m.

Action Items

- Mike Howard will check if dielectric fluids were used at the proposed switching station. Dr. Duggan said the type of dielectric fluids (PCBs). Dr. Gshwend added “What kinds of materials were used in electronic devices, transformers, etc. and what were they?”
- Mike Howard will provide Len Pinaud with the Phase 1 site history, completed by GE Environmental.
- Mike Ciaranca will provide a copy of the video of the testing conducted on snow at Fort Devens.
- Mike Ciaranca will calculate the amount of perchlorate that could be in the soil as a result of using the simulators during the CAX.
- Film the testing and make note of the weather.