MEMORANDUM

To: Members of the Board of Education

From: Joshua P. Starr, Superintendent of Schools

Subject: Update on the After-school Civilian Marksmanship Program

This is an update to my February 15, 2013, memorandum, in which I discussed concerns that were raised about the after-school Civilian Marksmanship Program offered as an outgrowth of the Junior Reserve Officers’ Training Corps (JROTC) Program (Attachment A). This extracurricular activity is offered at John F. Kennedy, Paint Branch, and Seneca Valley high schools. It was initially reported that Gaithersburg High School offered the program. I subsequently learned the program was offered a few years ago; however, it is not offered this year. The school reports that it plans to offer the program next year.

Community member Ms. Susan Kerin first raised issues regarding the program during a Community Safety forum hosted by Lt. Governor Anthony G. Brown on February 6, 2013. Ms. Kerin then hand delivered a letter to the President of the Board of Education Christopher S. Barclay the next day. On February 13, 2013, Ms. Kerin’s letter to the editor was published in GazettNet.com. As a follow-up to the concern regarding the general safety of the students, the Department of School Safety and Security sent cluster security coordinators to all three high schools to review the programs from the perspective of student and staff member safety. The coordinators found that the programs were highly regimented and managed with a high degree of safety.

Ms. Kerin also raised a specific concern related to lead pellets and air quality. Dr. Erick J. Lang, associate superintendent, Office of Curriculum and Instructional Programs, requested that staff in the Division of Maintenance’s Environmental Services/Indoor Air Quality Team review the concern of lead exposure resulting from student participation in the program. Based on the assessment, there is no scientific evidence that firing lead projectiles in the target air guns used by our students generates any detectable airborne lead. In his email message to Ms. Kerin, dated March 15, 2013, Dr. Lang provided information on the safety review and the air quality assessment (Attachment B). Ms. Kerin has made a subsequent request for a copy of the assessment provided by the Environmental Services/Indoor Air Quality Team (Attachment C). Furthermore, Ms. Kerin has indicated that she is working with a “committee” to review concerns related to JROTC programs. If we become aware of additional concerns related to the program, those concerns will be shared with Board members.
The safety of our students and staff members is of paramount importance. I believe that we have taken the appropriate and necessary steps to be responsive to concerns raised by a member of our community. If you have questions, please contact Dr. Lang at 301-279-3411.

JPS:ld

Attachments

Copy to:
  Executive Staff
  Ms. Brown
  Mr. Cohen
  Mrs. Dixon
  Dr. Floyd
  Dr. Handy-Collins
  Dr. Minus
MEMORANDUM

To: Members of the Board of Education

From: Joshua P. Starr, Superintendent of Schools

Subject: After-school Civilian Marksmanship Program

In a letter to the editor on February 13, 2013, in GazetteNet.com, a community member raised concerns about an extracurricular activity, the Civilian Marksmanship Program, that is offered at Gaithersburg, John F. Kennedy, Paint Branch, and Seneca Valley high schools in the district. The writer described the program as providing Grades 9–12 students with training on “the mechanics of gun safety and marksmanship...in firing ranges housed in classrooms in the school.”

The Civilian Marksmanship Program, an extracurricular voluntary activity, only is available to students enrolled in the Junior Reserve Officers’ Training Corps (JROTC) program. On average, 12 students choose to participate each year at each of the four schools. According to Captain James Kelley, Jr., United States Navy (Retired), senior Naval JROTC (NJROTC) officer at Gaithersburg High School, the NJROTC Program authorizes every unit in the United States to administer an air rifle program. All air rifle instructors are certified initially and must be recertified regularly at annual training sessions.

Prior to trying out for an air rifle team, a cadet must have written permission from a parent or guardian. Cadets are required to attend and pass a six-hour introductory course covering safety, equipment, clothing, range instructions, rifle operation, and shooting positions. All NJROTC teams use a Daisy model 883 or 888 air rifle—one is operated by compressed air and the other is operated by a CO₂ cartridge. Both types of air rifles use a small lead pellet.

NJROTC teams shoot at a heavy-duty backstop constructed with 2 x 4 studs and 1/4 inch plywood. The targets are fitted onto cardboard sheets that are fitted inside the backstop. At the bottom of the backstop, a drainage gutter catches the pellet after it hits the target. The cadets shoot 33 feet from the backstop. Cadets wear safety glasses, a shooting glove, and lie on gym mats when in a prone position.
The cadets obey a strict series of commands when operating the air rifles. When the cadets finish using the air rifles, they do not leave the firing line until the instructor checks the safety, bolt, and barrel of each rifle. Instructors lock the rifles in a locker in the classroom and collect and dispose of the spent pellets at a recycling facility.

The Department of School Safety and Security has sent cluster security coordinators to the JROTC schools that participate in the Civilian Marksmanship Program. They have reported that the program is a highly regimented, contained, and supervised program that is conducted with a high level of safety. Areas that are utilized for the supervised target practice are thoroughly surveyed and secured before any practice is conducted. All air rifles are kept in a secure location when not in use.

If you have any questions, please contact Dr. Erick J. Lang, associate superintendent, Office of Curriculum and Instructional Programs, at 301-279-3411.

JPS:dlr

Copy to:
Executive Staff
Ms. Brown
Dr. Floyd
Dear Ms. Kerin:

Thank you for your letter to Mr. Christopher S. Barclay, president, Montgomery County Board of Education, regarding the Civilian Marksmanship Program in Montgomery County Public Schools. I am responding to your letter on his behalf. The Civilian Marksmanship Program, an extracurricular voluntary activity, only is available to students enrolled in the Junior Reserve Officers’ Training Corps (JROTC) Program. On average, 12 students choose to participate each year at each of the four schools. The JROTC Program authorizes every unit in the United States to administer an air rifle program. All air rifle instructors are certified initially and must be recertified regularly at annual training sessions.

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The Montgomery County Public Schools Environmental Services/Indoor Air Quality Office also reviewed the concern of lead exposure resulting from student participation in the Civilian Marksmanship Program. Based on their assessment, they found no scientific evidence that firing lead projectiles in target air guns with velocities of less than 600 fps generates any detectable airborne lead.

As a result of the program review, staff members found no reason to request a change in, or modification to, the Civilian Marksmanship Program. We appreciate the concern you raised on behalf of our staff members and students and the opportunity to review the program to ensure the safety of the participants.

Erick Lang, Ph.D.
Associate Superintendent
Office of Curriculum and Instructional Programs
Environmental Health & Safety Assessment
Navy Junior Reserve Officers' Training Corps (JROTC) - Civil Marksmanship Program at MCPS

This assessment was performed in response to “lead exposure” concerns raised in an article published by the Gazette on 2/13/13. The article states that the Civilian Marksmanship Program (CMP) operates within a number of MCPS schools where indoor firing ranges are housed in classrooms. Referencing a report from the National Academy of Sciences (NAS), the article suggests that “lead exposure standards in these indoor firing ranges are inadequate and have physical health risk”.

From my research, the Civilian Marksmanship Program is offered in only three schools at MCPS (Kennedy High School, Paint Branch High School and Seneca Valley High School). As noted in the superintendent’s letter, designated areas used for supervised target practice are thoroughly surveyed and secured before training begins.

With regard to the NAS report, the Department of Defense (DOD) asked the National Research Council (NRC) to evaluate the potential health risks of lead exposure to DOD firing range personnel on Army, Navy and Air Force firing ranges. Given the larger caliber ammunition used and higher frequency of shooting in a U.S. Military firing-range environment, the magnitude of lead exposure in this study would far exceed that exposure from a Civilian Marksmanship Program.

In a study published by the National Institutes for Occupational Safety & Health (NIOSH), approximately 90% of the ammunition used in law enforcement indoor firing ranges was .38 caliber, which weigh up to 210 grams. In the CMP, participants use .177 caliber pellets, which weigh about 0.5 grams. In the military and in law enforcement, firing range workers typically spend 40 hours per week in the indoor firing range, whereas in the CMP, students typically spend about four hours per week in the designated indoor range area.

In the summary section of the report, the NRC specifically states that the OSHA standard provides inadequate protection for DOD firing range personnel and for any other worker populations covered by the general industry standard. In other words, the study addresses occupational (worker) exposure as opposed to non-occupational exposure.

There have been several medical evaluations during the last 20 years to determine whether individuals who practice regular air rifle target shooting are exposed to any real health hazards as a result of their handling lead pellets or being present on ranges during the firing of air rifles. The shooters who are in the resident athlete program at the U.S. Olympic Training Center in Colorado Springs train on a daily basis with air rifles and air pistols. To determine the level of exposure, the U.S. Olympic Committee (USOC) routinely conducted blood lead-level testing. This extensive testing has never detected a single case of elevated lead levels among any athletes in this program, even though they regularly complete several hours of range training every day, five or six days per week throughout the entire year.

This testing by the USOC demonstrated that even individuals who are engaged in air rifle firing on a daily basis for several hours each day are not exposed to lead that in any way endangers or even affects their health. In addition, colleges, like the University of West Virginia and University of Kentucky, whose NCAA rifle team members also do extensive daily training with air rifles and small-bore rifles, have mandated blood lead-level testing for their rifle team members. Their tests produced negative results similar to those from the USOC tests. Participants in youth marksmanship programs typically have exposures that are much less than these Olympic and collegiate athletes.
Environmental Health & Safety Assessment
Navy Junior Reserve Officers’ Training Corps (JROTC) - Civil Marksmanship Program at MCPS

Eye and Hearing Protection
Navy JROTC regulations require the wearing of eye protection for air rifle shooting because of the remote possibility that a piece of a lead pellet could bounce back from a backstop. Some shooters elect to wear hearing protection (ear plugs or earmuffs) while shooting air rifles, although this is normally done by individuals who wish to reduce the effects of noise in the range to improve their ability to concentrate. Air rifles do not generate enough sound to cause hearing loss.

Conclusions (based on best available scientific and professional testing and best practices for safe air gun range management)
- There is no scientific evidence that firing lead projectiles in target air guns with velocities of less than 600 fps. generates any detectable airborne lead.
- All available medical testing shows that air rifle target shooting participants do not develop elevated lead levels as a result of this activity.
- Anyone who handles lead pellets during air rifle or air pistol shooting can effectively minimize their lead exposure by washing their hands after firing and by not consuming food or beverages on the range.
- Lead residues are deposited on the floors of air gun ranges in the area between the firing line and the target, but the proper management of downrange movement by range officials and shooters and the employment of proper range cleaning procedures effectively minimize any health risks associated with these lead residues.
- Pellet traps that do the best job of capturing and holding spent pellets and pellet fragments must be used. Only adult supervisors who take proper precautions should handle lead pellet residues that are collected in pellet traps after firing.
- Target shooting with air rifles and small-bore rifles does not create real health risks for shooting sports participants.

Sean Yarup, MPH
Environmental Team Leader