



Lillian M. Lowery, Ed.D.  
State Superintendent of Schools

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**TO:** Members of the State Board of Education  
**FROM:** Lillian M. Lowery, Ed.D. *Lillian M. Lowery*  
**DATE:** December 16, 2014  
**SUBJECT:** COMAR 13A.04.09 Program in Science  
(ADOPTION)

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**PURPOSE:**

The purpose of this action is to seek adoption of the proposed regulations that govern the science program in Maryland (Attachment I)

**HISTORICAL BACKGROUND:**

In June 2013 members of the Maryland State Board of Education adopted the Maryland College- and Career-Ready Next Generation Standards. In response to the changes to the science standards, the Code of Maryland Administration Regulations (COMAR) governing science has been modified to reflect the language of the Maryland College- and Career-Ready Standards Next Generation Science Standards. In August 2014, the State Board of Education granted permission to publish the modified COMAR for public comment. No comments have been received.

**SUMMARY:**

The language in the amended COMAR 13A.04.09 reflect the following changes:

- Skills and Processes is replaced by Scientific and Engineering Practices
- Environmental Science is integrated into Life Science including Biology
- Chemistry and Physics are combined into Physical Sciences

**ACTION:**

I request that you approve for adoption as a final regulation 13A.04.09.

Attachment



(3) Reimburse procured services based on fair and customary rates and standards; and

(4) Reimburse for housing adaptations and barrier removals referenced in Regulation .07A(8) of this chapter including the cost of the physical adaptation and associated costs for installation; and].

[(5)] C. [Deny] *The agency that administers the Program shall deny funding if the [provider]:*

- (1) *Applicant does not meet eligibility criteria;*
- (2) *Service or item requested is not permitted by this chapter;*

or

(3) *Provider of the service does not meet the requirements of this chapter.*

**.11 Implementation Date.**

*This chapter shall be implemented July 1, 2014.*

JOSHUA M. SHARPSTEIN, M.D.  
Secretary of Health and Mental Hygiene

## Title 13A STATE BOARD OF EDUCATION

### Subtitle 04 SPECIFIC SUBJECTS

#### 13A.04.09 Program in Science

Authority: Education Article, §2-205(h), Annotated Code of Maryland

**Notice of Proposed Action**

[14-304-P]

The Maryland State Board of Education proposes to amend Regulation .01 under COMAR 13A.04.09 Program in Science. This action was considered at the Maryland State Board of Education meeting on August 26, 2014.

**Statement of Purpose**

The purpose of this action is to align regulations with the Maryland College- and Career-Ready Standards Next General Science Standards.

**Comparison to Federal Standards**

There is no corresponding federal standard to this proposed action.

**Estimate of Economic Impact**

**I. Summary of Economic Impact.** Curriculum development and curriculum resources aligned to the new standards will need to be developed by local school systems and the Maryland State Department of Education. The curriculum team at the Maryland State Department of Education will incorporate this into their current work. New science assessments for grades 5, 8, and the High School Assessments will need to be developed when the science standards are fully implemented in 2017—2018.

II. Types of Economic Impact.	Revenue (R+/R-) Expenditure (E+/E-) )	Magnitude
A. On issuing agency:	(E+)	11.5 million
B. On other State agencies:	NONE	
C. On local governments:		
Local school systems	NONE	NONE

Benefit (+)  
Cost (-)

Magnitude

D. On regulated industries or trade groups: NONE

E. On other industries or trade groups: NONE

F. Direct and indirect effects on public: NONE

**III. Assumptions. (Identified by Impact Letter and Number from Section II.)**

**A. Assessments:**

- \$4 million/year for MSA, grades 5 and 8
- \$7.5 million/year for HSA Biology

C. Local school systems will update their curriculum documents and resources using the same procedures as they have used with other curriculum updates.

**Economic Impact on Small Businesses**

The proposed action has minimal or no economic impact on small businesses.

**Impact on Individuals with Disabilities**

The proposed action has no impact on individuals with disabilities.

**Opportunity for Public Comment**

Comments may be sent to Judy Jenkins, Director of Curriculum, Maryland State Department of Education, Division of Curriculum, Assessment and Accountability, 200 West Baltimore Street, Baltimore, Maryland 21201, or call 410-767-0348 (TTY 410-333-6442), or email to [judith.jenkins@maryland.gov](mailto:judith.jenkins@maryland.gov), or fax to 410-333-2369. Comments will be accepted through November 17, 2014. A public hearing has not been scheduled.

**Open Meeting**

Final action on the proposal will be considered by the Maryland State Board of Education during a public meeting to be held on December 16, 2014, 9 a.m., at 200 West Baltimore Street, Baltimore, Maryland 21201.

**.01 Science Instructional Programs for Grades Prekindergarten — 12.**

**A. (text unchanged)**

**B. Maryland Science Program.** The comprehensive instructional program shall provide for the diversity of student needs, abilities, and interests at the early, middle, and high school learning years, and shall include the [Maryland Science Content Standards] *Maryland College- and Career-Ready Next Generation Science Standards (NGSS)* set forth in §§C—[H] G of this regulation.

**C. [Skills and Processes.] Science and Engineering Practices.** Students shall demonstrate [the thinking and acting inherent in the practice of science] *an understanding by engaging in scientific investigation that requires not only skill but also knowledge that is specific to each practice.*

**D. Earth/Space Science.** Students shall [use scientific skills and processes to explain the chemical and physical interactions, that is, natural forces and cycles and transfer of energy, of the environment, Earth, and the universe that occur over time] *demonstrate an understanding of the processes that operate on Earth and address its place in the solar system and galaxy.*

**E. Life Science including Biology and Environmental Science.** Students shall [use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time] *demonstrate an*

*understanding of the key concepts that make sense of the life sciences which focus on patterns, processes, and relationships of living organisms.*

F. [Chemistry] *Physical Science*. Students shall [use scientific skills and processes to explain the composition, structure, and interactions of matter in order to support the predictability of structure and energy transformations] *demonstrate an understanding that there are mechanisms of cause and effect in all systems and processes that can be understood through a common set of physical and chemical principles.*

G. [Physics] *Engineering, Technology, and Applications of Science*. Students shall [use scientific skills and processes to explain the interactions of matter and energy and the energy transformations that occur] *demonstrate an understanding by engaging in solving complex problems that include issues of social and global significance with an emphasis on identifying the best solution to a problem, which often involves researching how others have solved it before in complex problems.*

H. *Environmental Science*. Students shall use scientific skills and processes to explain the interactions of environmental factors, living and nonliving, and analyze their impact from a local to a global perspective.]

[I.] *H. Curriculum Documents*. Consistent with Education Article, [§4-110] §4-111, Annotated Code of Maryland, each local system shall provide science curriculum documents for the elementary and secondary schools under its jurisdiction that:

(1) Include the [content standards] *Maryland College- and Career-Ready Next Generation Science Standards (NGSS)* set forth in §§C—[H] G of this regulation; and

(2) Are aligned with the [State Curriculum] *Maryland College- and Career-Ready Next Generation Science Standards (NGSS)*, as developed by the Maryland State Department of Education in collaboration with local school systems.

[J.] *I. Student Participation*. Each student shall [have the opportunity to] participate in the comprehensive science program required by this chapter.

LILLIAN M. LOWERY, Ed.D.  
State Superintendent of Schools

## Title 14

# INDEPENDENT AGENCIES

## Subtitle 25 MARYLAND STADIUM AUTHORITY

### Notice of Proposed Action [14-303-P]

The Maryland Stadium Authority proposes to:

(1) Amend Regulation .01 under COMAR 14.25.01 General;  
(2) Amend Regulations .01, .04, .08, .13, .15, and .18, repeal existing Regulation .11, and adopt new Regulation .11 under COMAR 14.25.02 Prohibited Activities; and

(3) Amend Regulations .01 and .02, repeal existing Regulations .03—.05, and adopt new Regulations .03 and .04 under COMAR 14.25.03 Free Speech Activities.

This action was considered by the Maryland Stadium Authority at a public meeting held on August 12, 2014.

#### Statement of Purpose

The purpose of this action is to modify the regulations that:

(1) Govern or otherwise may have an impact on free speech activities at an Authority facility;

(2) May have an impact on individuals with a disability, particularly in connection with the use and training of service animals;

(3) Pertain to bicycles at an Authority facility, particularly with respect to how the Authority may treat a bicycle that is secured to or left unattended at any part of an Authority facility other than designated bicycle racks; and

(4) Pertain to trespass, particularly trespass on the playing field at an Authority facility.

#### Comparison to Federal Standards

There is no corresponding federal standard to this proposed action.

#### Estimate of Economic Impact

The proposed action has no economic impact.

#### Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

#### Impact on Individuals with Disabilities

The proposed action has an impact on individuals with disabilities as follows:

Regulation .04 under COMAR 14.25.02 Prohibited Activities is being revised to clarify that wheelchairs and similar means of personal mobility are permitted on the sidewalks of Authority facilities. Regulation .11 under COMAR 14.25.02 Prohibited Activities is being revised to ensure that the full range of service animals and their handlers, as recognized under applicable federal and State laws, are permitted at Authority facilities.

#### Opportunity for Public Comment

Comments may be sent to Michael J. Frenz, Executive Director, Maryland Stadium Authority, 333 West Camden Street, Suite 500, Baltimore, Maryland 21201, or call 410-333-1560, or email to [mjfrenz@mdstad.com](mailto:mjfrenz@mdstad.com), or fax to 410-333-1888. Comments will be accepted through November 17, 2014. A public hearing has not been scheduled.

#### Open Meeting

Final action on the proposal will be considered by the Maryland Stadium Authority during a public meeting to be held on December 2, 2014, at 3 p.m., at the Maryland Stadium Authority's Executive Conference Room on the fifth floor of the Warehouse at Camden Yards, 333 W. Camden Street, Baltimore, MD 21201.

### 14.25.01 General

Authority: Economic Development Article, §§10-604, 10-613(a)(4) and (10), and 10-616(b), Annotated Code of Maryland

#### .01 Definitions.

A. (text unchanged)

B. Terms Defined.

(1) — (2) (text unchanged)

(3) "Camden Station" means the building known as Camden Station located within the Camden Yards Sports Complex, but does not include the grounds and walkways surrounding it.

(4) "Demonstration" means a person or gathering of persons at an Authority facility for the purpose of expressing an opinion to observers through use of their speech, signs, or express conduct, excluding any expression or conduct prohibited under COMAR 14.25.02.

[(3)] (5) "Director of Facilities Management" means the director of a particular Authority facility.

(6) "Director of Security Management" means the director of security management for the Authority.

[(4)] (7) (text unchanged)