LEGISLATIVE EDUCATION STUDY COMMITTEE
BILL ANALYSIS

Bill Number: CS/HB 67 **51st Legislature, 1st Session, 2013**

Tracking Number: .192448.1

Short Title: Academic Content & Performance Standards

Sponsor(s): Representative Bill McCamley

Analyst: LaNysha Adams **Date: February 12, 2013**

HOUSE EDUCATION COMMITTEE SUBSTITUTE
FOR HOUSE BILL 67

Bill Summary:

CS/HB 67 amends the *Assessment and Accountability Act* in the *Public School Code* to require the Public Education Department (PED):

- by August 31, 2013, to adopt the Next Generation of Science Standards (NGSS) for grades 1-12; and
- by July 31, 2014, to:
  - develop an implementation plan for the NGSS;
  - adopt and promulgate rules for the NGSS; and
  - report the implementation plan of the NGSS to the Legislative Education Study Committee (LESC); and
- beginning with school year 2014-2015, require school districts and charter schools implement the NGSS.

Additional provisions of CS/HB 67 amend the *Math and Science Education Act* in the *Public School Code* to require the Mathematics and Science Advisory Council to:

- make recommendations to and advise the Mathematics and Science Bureau at PED and the Legislature on the best practices for PED's implementation of the NGSS pursuant to the *Assessment and Accountability Act*; and
- advise PED during implementation.

Fiscal Impact:

CS/HB 67 does not contain an appropriation.

According to the Legislative Finance Committee's (LFC) Fiscal Impact Report (FIR) of the original bill, HB 67, if enacted, would:

- affect $750,000 of school district operating budgets in FY 15, which is estimated based on the budget used for the current professional development for the Common Core State Standards for math and English language arts implementation; and

- require PED to:

    - support statewide implementation, including professional development for approximately 18,906 teachers and approximately 1,300 principals and administrators; and
    - beginning FY 15 or FY 16, potentially develop a new standards-based assessment in science.

Fiscal Issues:

According to the PED analysis, the original bill, if enacted, would:

- require extensive administrator and teacher professional development similar to that of the adoption of the Common Core State Standards for math and English language arts; and
- be problematic because there is no state funding in FY 15 to successfully adopt the NGSS.

Substantive Issues:

According to the PED analysis of the original bill:

- HB 67 proposes to adopt the NGSS for grades 1-12, but the NGSS framework includes grades K-12 (see "Background," below);
- the timeline for adoption and implementation as proposed by the bill does not allow sufficient time for thorough research, collaboration, and planning because the final draft of the NGSS will not be available until March 2013;
- the adoption and implementation of the NGSS will increase community involvement among the Science, Technology, Engineering, and Mathematics (STEM) stakeholders in the state;
- the NGSS integrates with the Common Core State Standards for math and English language arts and the NGSS:

    - complement the Common Core State Standards;
    - emphasize a real-world application of science, which has been shown to improve science comprehension; and
    - have the potential to increase the number of students prepared to enter STEM college programs or careers.

According to the FIR of the original bill:

- current provisions in the *Assessment and Accountability Act* grant PED the authority to adopt academic content and performance standards; and
- historically, those provisions have not mandated that PED adopt particular standards, such as NGSS, but have left it to PED to meet statutory and regulatory requirements in adopting standards.

Background:

New Mexico Science Content Standards, Benchmarks, and Performance Standards

The current science standards include science content standards, benchmarks, and performance standards, that:

- specify benchmarks for each of three grade bands (K-4, 5-8, and 9-12);
- articulate grade-specific performance standards, describing how students will demonstrate mastery of each benchmark at each grade; and
- are organized into three strands:

  - Strand 1: Scientific Thinking and Practice: to understand the processes of scientific investigations and use inquiry and scientific ways of observing, experimenting, predicting, and validating to think critically;
  - Strand 2: Content of Science for:

    - *Physical Science* to understand the structure and properties of matter, the characteristics of energy, and the interactions between matter and energy;
    - *Life Science* to understand the properties, structures, and processes of living things and the interdependence of living things and their environments; and
    - *Earth and Space Science* to understand the structure of Earth, the solar system, and the universe, the interconnections among them, and the processes and interactions of Earth's systems; and

  - Strand 3: Science and Society: to understand how scientific discoveries, inventions, practices, and knowledge influence, and are influenced by individuals and societies.

In 2005, the Thomas B. Fordham Institute published its annual *The State of State Science Standards*, a report that evaluated K-12 science standards nationwide, and gave each state's science standards a letter grade of A-F. In this report, New Mexico was one of seven states to receive an "A," an improvement from the "F" the state received in 2000.

In 2007, legislation was enacted to create the Math and Science Bureau in PED and a statewide Math and Science Advisory Council composed of 12 members appointed by the Secretary of Education for staggered terms of four years.

In 2011, legislation was enacted to temporarily suspend, for school year 2011-2012, the statutory requirements that:

- PED, school districts, charter schools, and state educational institutions administer certain student assessments; and
- students demonstrate competence through an exit test or portfolio in order to graduate.

According to the *New Mexico Standards-based Assessment 2011-2012 Technical Report*, the New Mexico Standards-based Assessment in science was administered to students in grades 4, 7, and 11 in the spring of 2012. The purpose of the standards-based assessment in science is to measure students' achievement as articulated by New Mexico Assessment Standards, which are a subset of the broader New Mexico Content Standards with Benchmarks and Performance

Standards. For school year 2011-2012, the PED website only posted standards-based assessment data for students in the subjects of reading and math.

Science Proficiency in New Mexico

Of the 25,156 fourth grade students tested statewide on the 2011 standards-based assessment in science, approximately 46.6 percent were at proficient or above, with 33 percent nearing proficiency.

Of the 23,203 seventh grade students tested statewide on the 2011 standards-based assessment in science, 39.3 percent were at proficient or above, with 35.4 percent nearing proficiency.

Of the 19,340 eleventh grade students tested statewide on the 2011 standards-based assessment in science, 38.9 percent were at proficient or above, with 42.4 percent nearing proficiency.

Next Generation Science Standards (NGSS)

The development of the NGSS is a collaborative effort between the National Research Council (NRC), the National Science Teachers Association, the American Association for the Advancement of Science, and several other organizations. NGSS are currently being revised and will be made available once they are completed in March 2013.

The NGSS Framework for K-12 Science Education includes three dimensions from the NRC Framework that are combined to form each standard:

1. Practices, which describe behaviors that scientists engage in as they investigate and build models and theories about the natural world and the key set of engineering practices that engineers use as they design and build models and systems;
2. Crosscutting Concepts, which have applications across all domains of science; and
3. Disciplinary Core Ideas, which are grouped in four domains (physical sciences; life sciences; earth and space sciences; and engineering, technology and applications of science) and focus K-12 science curriculum, instruction and assessments on the most important aspects of science.

Committee Referrals:

HEC/HAFC

Related Bills:

HB 111 *Education Dept. Pays for Standards Tests*
HB 167 *Teacher Licensure Content Knowledge* (Identical to SB 418)
HJM 30 *Study Uses of Standardized Test Scores*
SB 418 *Teacher Licensure Content Knowledge* (Identical to HB 167)
SJM 14 *Study New Approaches to Education Reform*