

Race to the Top Progress Update Monthly Call

Directions: In preparation for monthly calls, a State must provide responses to the questions in Part A for their overall plan, and responses to the questions in Part B for *two* application sub-criterion.

Part A: *In preparation for monthly calls, States must provide information that addresses the three questions below on the implementation of all aspects of its approved scope of work. This may include a written response. If your State already has a state-specific system to report on its progress, please work with your program officer to determine the best method of providing this information for your State.*

1. What were the State's key accomplishments and challenges this past month?

Accomplishments:

- The overall evaluation program is moving in a positive direction. Program deliverables have been defined. More detail is provided in Part B of this report.
- Project schedules for all 54 MSDE projects have been updated/revised. Project managers will continue to update their schedules on an as needed basis each month.
- 2011-12 scopes of work (as part of the Master Plans) have been received from all LEAs. The review process will begin during the last week of October.
- An MOU with the National Foreign Language Center at the University of Maryland has been finalized enabling the development of an online STEM course for teachers of world languages.
- We have designed the first online follow-up module for the summer Educator Effectiveness Academies. The module will be recorded in November.
- As of October 20, we have reached agreement with UTeach to disseminate funds to support the development of the UTeach program at up to two universities in Maryland that will produce 160 secondary teachers in STEM.

2. Challenges:

- Our financial accounting needs have become significant during the first year of the grant. We are looking for available funds from current projects to assist us in hiring additional personnel to help in this regard.

Race to the Top Progress Update Sub-criterion A(2)

3. Is the State on track to meet the goals and timelines associated with the activities outlined in its approved scope of work? If not, what strategies is the State employing in order to meet its goals?

Overall, Maryland feels quite good about its current situation regarding goals and timelines associated with activities in our Scope of Work. Although our Scope of Work was not approved until April 8, 2011, we have been making great strides to catch up with those activities and timelines in our various projects. There is no way that we will be spending the money we anticipated in year 1 of the grant due to the late start, but those funds will be used in year 2 and beyond to help us meet our goals. We still have a way to go in catching up from the lost time in year 1, but we are very happy with the progress we have made so far. With project teams in place and project monitoring processes established and implemented, meeting project goals and timelines continues to be a top priority.

4. How can the Department help the State meet its goals?

Facilitate the quick turnaround of end-of-year amendments

Part B: *In preparation for monthly calls, States must submit written responses to the following questions for two application sub-criteria (e.g. (A)(2) and (D)(4)).¹ All responses in this section should be tailored to the goals and projects associated with this sub-criterion.*

Application sub-criterion: A(2): Building strong statewide capacity to implement, scale up, and sustain proposed plans

STATE's goals for this sub-criterion:

- Provide effective oversight of Race to the Top grant
- Ensure an effective program evaluation

Relevant projects:

- 1/78 Office of Academic Reform and Innovation
- 2/1 Program Evaluation

¹ On each monthly call, program officers and states should work together to select two sub-criteria for the following month.

1. What is the extent of the State's progress toward meeting the goals and performance measures and implementing the activities that are included in its approved scope of work for this sub-criterion?

Maryland is making good progress towards meeting goals in sub-criterion A(2).

Project 1/78 – Office of Academic Reform and Innovation

All key staff anticipated in the grant are in place. In addition, we have hired a technology program director because of the complexity of those projects. We have established proper fiscal controls, and we are constantly monitoring the expenditure of Race to the Top funds. We have established key processes for monitoring projects internally as well as projects in the LEAs. An organizational structure is in place and working extremely well. Project managers have created and are maintaining detailed project schedules which are reviewed with project directors and updated monthly. We will be providing USDE a minimum of semi-annual consolidated program schedules for the remaining three years of the grant. The finance office provides variance reports to the Office of Academic Reform and Innovation. These variance reports are reviewed and issues are discussed with project managers. We have a robust monthly overall status report that includes information on each project. It also allows for a discussion of risks and obstacles so that they can be addressed in a timely and proactive manner.

There is a high level of communication between and among project managers, project directors, executive sponsors, and the Core Team enabling modifications and adjustments to be made so that short-term and long-term goals and objectives are met. Deliverables and a budget have been agreed to for the overall program evaluation (see discussion below). The Assistant State Superintendent is responsible for convening the Core Team on a weekly basis. He also convenes the cross-divisional team on a monthly basis as a part of the State Superintendent's monthly Executive Team meeting. Internal as well as USDE reports are completed on time and with high quality. Project amendments are handled quickly and with proper care and attention to detail.

The Office of Academic Reform and Innovation is working extremely well. However, we do see an emerging issue that will be discussed in # 5 below.

Project 2/1 – Program Evaluation

We are pleased to report that the overall program evaluation appears to be moving forward in a positive direction. We have expressed concerns in previous reports, but we believe those concerns are behind us due to a series of meetings and an agreement on what needs to be evaluated, how the evaluation will be done, the timeframe in which the evaluation will be done, and the responsible parties. There is now excellent cooperation between MSDE and CAIRE, and we are confident it will continue. The agreed upon deliverables that will keep Maryland on track with this project are as follows:

Program Evaluation Deliverables (10/19/11)

October 30, 2011

- Submission of overall plan for years 2, 3 and 4
- Submission of revised budget for year 2
- Submission of draft budgets for years 3 and 4
- Submission of draft year 1 report

November 30, 2011

- Submission of evaluation plans and budgets for FY 11 activities
- Submission of evaluation plan with measures and methods for Educator Effectiveness Academies
- Revision of year 1 report if necessary

December 31, 2011

- Submission of revised evaluation plan with measures and methods for Educator Effectiveness Academies (if necessary)
- Progress report on evaluation of Educator Effectiveness Academy transition plan analyses and participant surveys
- Progress report on FY 11 project milestone review
- Submission of evaluation plans and budgets for FY 12

January 15, 2012

- Preparation and submission of FY 11 milestone review report
- Submission of revised evaluation plans and budgets for FY 12 if necessary

Maryland, October 2011

- Progress report on Educator Effectiveness Academy transition plan analyses and participant surveys
- Report of other activities

February 15, 2012

- Preparation and submission of FY 12 Q1 milestone review report (assuming receipt of FY 12 Q1 milestones by January 15, 2012)
- Report of other activities
- Progress report on each ongoing evaluation
- Submission of draft mid-year report

March 15, 2012

- Submission of mid-year report of expenditures and evaluation efforts and findings
- Submission of draft end-of-grant and end-of-project evaluation plans
- Report of other activities
- Progress report on each ongoing evaluation

April 15, 2012

- Submission of report on the review of adequacy of financial controls
- Submission of a plan for evaluating the overall statewide achievement goals
- Report of other activities
- Progress report on each ongoing evaluation
- Submission of revised end-of-grant and end-of-project evaluation plans

May 15, 2012

- Preparation and submission of FY 12 Q2 milestone review report (assuming receipt of FY 12 Q2 milestones by April 15, 2012)
- Report of other activities
- Progress report on each ongoing evaluation
- Submission of draft evaluation plans and budgets FY 13 and 14 with proposed deliverables

June 15, 2012

- Submission of revised evaluation plans and budgets for FY 13 and 14
- Submission of specific deliverables for FY 13 and 14
- Report of other activities

Maryland, October 2011

- Progress report on each ongoing evaluation

July 15, 2012

- Review and report of performance measures provided by MSDE
- Report of other activities
- Progress report on each ongoing evaluation

August 15, 2012

- Preparation and submission of FY 12 Q3 milestone review report (assuming receipt of FY 12 Q 3 milestones by July 15, 2012)
- Report of other activities
- Progress report on each ongoing evaluation

September 15, 2012

- Report on the review of LEA annual visits as informed by monthly reports and LEA Monitoring Plan
- Report of other activities
- Progress report on each ongoing evaluation

Year 3 – FY 13

October 30, 2012

- Annual Report (Draft distributed approximately 15 days in advance)
- Report of other activities
- Progress report on each ongoing evaluation

November 15, 2012

- Preparation and submission of FY 12 Q4 milestone review report (assuming receipt of FY 12 Q 4 milestones by Oct. 15, 2012)
- Summary of meetings with Core team and project managers re project evaluation and monitoring issues
- Progress report on each ongoing evaluation

2. What is the extent of the State's progress toward meeting the goals and performance measures and implementing the activities that are included in its approved scope of work for this sub-criterion?

2. What methods, tools, and processes is the State using to determine the progress toward the goals and performance measures and the quality of implementation of the activities described for this application sub-criterion?

Maryland is utilizing project management techniques for monitoring and controlling the program at the project/activity level and for determining progress towards milestones and goals. Microsoft Project Professional is being used to develop project level schedules. Project schedules have been detailed for projects with specific activities planned for year two. Project managers review their respective project schedule with their program director weekly, bi-weekly, or monthly to ensure that project activities, issues, risks, and concerns are discussed. Project managers are responsible for maintaining up-to-date project schedules as they relate to percentage of activities completed and changes in the duration for completing tasks. Monthly reports are also submitted by each project manager delineating accomplishments, program and/or budget issues. Technology projects also follow the State's Department of Information Technology (DoIT) software development life cycle (SDLC) process. Technology projects are also subject to additional quarterly reviews by DoIT. Communication, verbal and electronic, occurs on a regular basis between MSDE and its various vendors (e.g., MBRT, MPT).

3. What is the State's assessment of its quality of implementation to date?

The overall quality of implementation has been excellent. Key staff are in place. Key processes are in place. An organizational structure is in place and working extremely well. Project managers have created and are maintaining detailed project schedules which are reviewed and updated monthly. Regular variance reports are being reviewed, and we want to increase this activity significantly with the addition of new staff as mentioned in # 5 below. Risks and obstacles are identified immediately and have been addressed in a timely and proactive manner. There is a high level of communication between and among project managers, project directors, executive sponsors, and the Core Team enabling modifications and adjustments to be made so that short-term and long-term goals and objectives are met. Deliverables and a budget have been agreed to for the overall program evaluation (see Project 2/1 above).

4. If the State is not on track to meet the goals, performance measures, timelines and quality of implementation related to this sub-criterion as outlined in its approved scope of work, why not, and what strategies is the State employing in order to meet goals and performance measures?

We are on track to meet our goals because of the actions taken by project managers, program directors, and executive sponsors to address obstacles and modify project schedules through the amendment process. Project managers have been diligent in their efforts to modify program schedules when needed to accurately reflect when tasks/milestones will be achieved.

Amendments will be submitted for several projects to in November to reflect budget carryover, timeline, and task changes.

5. What are the obstacles and/or risks that could impact the State's ability to meet its goals and performance measures related to this sub-criterion?

Obstacles/risks have been mitigated by the actions taken by project managers and the Core Team to ensure that milestones, objectives, and goals are accomplished in a timely manner.

Evaluation: Based on the responses to the previous question, evaluate the State's performance and progress to date for this sub-criterion (choose one)

Red (1) Orange (2) Yellow (3) **Green (4)^{2***}**

² Red – requires urgent and decisive action; Orange – requires substantial attention, some aspects need urgent attention; Yellow – aspect(s) require substantial attention, some aspects good; Green – good, requires refinement and systematic implementation.

Race to the Top Progress Update Sub-criterion STEM

Part B: *In preparation for monthly calls, States must submit written responses to the following questions for two application sub-criteria (e.g. (A)(2) and (D)(4)).³ All responses in this section should be tailored to the goals and projects associated with this sub-criterion.*

Application sub-criterion: STEM: Competitive Preference Priority – Emphasis on Science, Technology, Engineering, and Mathematics (STEM)

STATE’s goals for this sub-criterion:

- STEM is found throughout the Maryland grant application and is woven through many of its goals.

Relevant projects:

- STEM Technology Education: 5/4
- STEM Technology - New Career and Technology Education (CTE) Program of Study in Construction Management and Design: 6/76
- STEM Project Lead The Way – Gateway To Technology - Career and Technology Education (CTE) Program: 51/71
- Expansion of MSDE Teacher Tool Kit: 15/7
- STEM Instructional and Career Support – STEM Innovation Network: 16/20
- Elementary STEM Teacher Certification: 35/26
- Secondary Stem Teacher Recruitment and Preparation: 36/75
- Develop On-Line PD on Educator Instructional Improvement Content: 22/6
- Curriculum and Formative Assessment Development: 4/3
- Educator Effectiveness Academies: 41/24
- Compensation Incentives for Teachers in Shortage Areas: 34/51)
- World Languages Pipeline: 7/5

1. What is the extent of the State’s progress toward meeting the goals and performance measures and implementing the activities that are included in its approved scope of work for this sub-criterion?

³ On each monthly call, program officers and states should work together to select two sub-criteria for the following month.

Governor Martin O'Malley convened a P – 20 STEM Task Force in September 2008 to discuss the state of STEM education in Maryland. He charged this Task Force with making recommendations aimed at establishing Maryland as a global leader in the development of its workforce of the future and its STEM-based research and economic development infrastructure. In August 2009, the STEM Task Force released their final report. In this report, the STEM Task Force made seven recommendations in response to the Governor's charge. These recommendations include:

1. Aligning P-12 STEM curriculum with college requirements and workplace expectations in order to prepare all students for postsecondary success.
2. Tripling the number of teachers in STEM shortage areas who are prepared in Maryland programs, increase their five-year retention rate from an estimated 50% to 75%, and enhance the STEM preparation and aptitudes for elementary and early childhood teachers.
3. Ensuring that all P-20 mathematics and science teachers have the knowledge and skills to help all students successfully complete the college- and career-ready curriculum.
4. Providing STEM internships, co-ops, or lab experiences for all interested high school and college students to jump-start their successful transition to the workplace.
5. Increase the number of STEM college graduates by 40% from the present level of 4,400 graduates by 2015.
6. Boosting Maryland's global competitiveness by supporting research and entrepreneurship.
7. Creating Maryland's STEM Innovation Network to make STEM resources available to all.

The P – 20 STEM Task force report recommendations were taken into consideration as Maryland (MSDE) compiled its application for Race to the Top grant funding. Maryland's Race to the Top, \$250 million, four year grant includes a variety of initiatives involving STEM education for students and teachers.

MSDE has awarded STEM grants through funding provided by the Science and Mathematics Initiative – Aid to Education R00A02.52 since 2007. \$ 1,321,230 will be awarded to Maryland School systems during FY12. The FY 12 STEM grant proposal is reflective of the seven recommendations made in the Governor's Task Force.

Race to the Top STEM related projects include:

1. *Project 5/4 - STEM Technology Education*

Each student in Maryland is required to complete one credit of technology education prior to graduation. This instructional project will make resources available to all local education agencies to implement highly rigorous, technology education programs aligned to the Common Core Standards. Instructional materials and model course guides are created by the International Technology and Engineering Educators Association (ITEEA) and are available through a consortium of states. MSDE and ITEEA staff have developed a standards aligned, resource rich curriculum guide with embedded just-in-time professional development for the Foundations of Technology (FoT) course. The curriculum guide includes ready to teach, educational resources such as presentations, design briefs, grading rubrics, student exemplars, formative assessment items as well as sample end-of-course assessment items and embedded videos. The guide is organized via a website, which can be viewed on a teacher's computer or mobile device. The guide is available to participating Maryland school systems at no cost. Further development of the curriculum guide will produce a student website and possibly a curriculum "app" which could be downloaded by students and/or teachers.

The FoT model course guide includes standards-based assessments administered in three parts; a pre-test (online), end-of-course assessment (online), and design challenge (hands-on & online). Results from both the pre-test and end-of-course assessment are used to measure gains in students' technological literacy, identify gaps within the curriculum guide and inform teacher professional development.

A new assessment system is currently being developed and will be piloted in the spring of 2012. Through the new assessment system teachers will be able to administer both formative and summative course assessments and produce instant data reports which will have an immediate impact on instruction.

Currently, 18 local school systems, 110 high schools, and over 275 teachers are voluntarily participating in this project. The annual membership fee (ITEEA) will be covered through the grant for four years and subsequently sustained by the state. Local education agencies using these resources will be expected to implement ITEEA's standards-based, end-of-course assessments to support instruction, assess students' technological literacy, and identify needs for teacher

professional development. Data reports will be created by ITEEA and distributed to the state, local education agencies, and individual teachers. Teacher professional development will be provided by ITEEA and aligned to the Maryland Professional Development Standards.

2. Project 6/76 - STEM Technology - New Career and Technology Education (CTE) Program of Study in Construction Management and Design

Maryland will engage representatives from business and industry, higher education, non-profit organizations, secondary education, and professional organizations in the Southern Regional Education Board's multi-state consortium to develop curricula, assessments, instructional materials, and teacher professional development to provide more students with relevant and challenging CTE/STEM programs of study. Engaging various stakeholder groups throughout the State will be critical in getting buy-in for effective implementation. Through the involvement of representatives from business and industry, higher education as well as teachers, school and central office administrators, Maryland will use the Common Core Standards to provide educators with an academically enhanced CTE curricular framework.

MSDE will partner with SREB to develop a new Career and Technology Education (CTE) Program of Study in Construction Management and Design. MSDE is in the process of establishing a three-year contractual agreement with MCCEI at Towson University to support the development of the Construction Design and Management CTE Program of Study. A curriculum writer from the community college system has been identified. The writer will work with MCCEI to development the content for four high school courses. The last course in the series will enable students to attain college credit.

Maryland is also working with the University of Maryland College Park and the University of Maryland Eastern Shore. We have been meeting with the curriculum design consultant to review potential resources to support hybrid (i.e. online and in-class) curriculum development process requirements. The focus in year 2 will be the development of the first two courses in the series. In addition, during August we also met with a representative from AutoDesk regarding materials used in the AutoDesk Design Academy. Through this partnership, teachers will have an opportunity to participate in workshops/training on the use of updated software and curricular support materials.

3. Project 51/71 - STEM Project Lead The Way – Gateway To Technology - Career and Technology Education (CTE) Program

The Project Lead The Way (PLTW) middle school program, Gateway To Technology (GTT), is an activities-oriented program designed to help students in grades six through eight see the connections among math, science, and technology through hands-on projects. It gives students the foundational knowledge and skills needed to be successful in the high school PLTW Engineering program. GTT is comprised of six independent units: Design and Modeling, Automation and Robotics, the Magic of Electrons, the Science of Technology, Flight and Space, and Energy and the Environment. Maryland has identified the persistently lowest-achieving schools, ten of which are middle schools. Grants will be provided to the local school systems to implement STEM curriculum provided by Project Lead The Way using the Gateway To Technology (GTT) modules as one of many intervention models used to transform the school and increase student achievement in mathematics and science. The GTT modules are designed to actively engage students in rigorous problem solving through project-based learning.

4. Project 15/7 - Expansion of MSDE Teacher Tool Kit

Data regarding student achievement is only useful if teachers can access a rich bank of instructional resources that allows them to differentiate classroom strategies to match student needs. MSDE will procure a consultant to identify multi-media, instructional resources to expand the instructional toolkit, meta-tag items, and manage the on-line portal for the Instructional Improvement System. MSDE staff will also gather best practices—lesson seeds, project ideas, simulations, print and video resources—from classroom teachers throughout Maryland as well as from public domain sources, to include in this new instructional toolkit. MSDE will also collaborate with Maryland Public Television to catalog, aggregate, articulate, and conduct technical correlations for adolescent literacy, STEM and Algebra II from local, regional, national, and international sources. These resources would become part of the instructional toolkit.

5. Project 16/20 - STEM Instructional and Career Support – STEM Innovation Network

MSDE will establish a partnership with the Maryland Business Roundtable (MBRT) to support educator effectiveness and student engagement in delivering STEM instruction. STEMnet a one-stop-shop of resource for teachers and students is being developed. The first component supports teachers and principals by establishing a STEM support hub that links industry experts and the resources of their workplace to STEM instructional objectives. This support hub allows teachers to easily identify experts who can advise them on best practices, visit classes to share their

authentic work, and potentially open up their workplace for student visits. The second component promotes student engagement in STEM careers through the creation of an on-line system that allows students to communicate with STEM experts directly, and to view STEM workplace experience opportunities.

6. Project 35/26 - Elementary STEM Teacher Certification

Maryland has committed to be the first State to develop Elementary STEM teacher preparation programs standards and a corresponding Elementary STEM Teacher Certificate (Endorsement). Both initiatives will align to the PreK-12 STEM standards to be developed under the leadership of the Maryland State Department of Education STEM office. The program design reflects a problem based approach to teaching an integrated STEM curriculum to elementary students – a pedagogical strategy identified through research to increase student achievement at all levels. Maryland’s Professional Development School (PDS) Network will provide an ideal base for piloting field experiences to train prospective Elementary STEM teachers and practicing teachers who wish to expand their expertise. Professional Development Schools are learning communities focused on student growth, including both initial teacher preparation and continuing teacher professional development.

7. Project 36/75 - Secondary Stem Teacher Recruitment and Preparation

This project will fund a replication of the successful UTeach program at the University of Texas at Austin. The funding allocated through RTTT for this project (\$1.3million) is being supplemented by an additional \$2.7 million in external funding to support the replication in two Maryland universities. This program will produce 160 secondary teachers in the science, technology, engineering and mathematics (STEM) areas of certification prepared specifically and intensely to serve Maryland students with the result being higher test scores and stronger college and career-ready graduates. Partner institutions will recruit 20 candidates, usually as freshmen or sophomores, for entry into a STEM-specific teacher education program. All content and education courses will be developed exclusively to support the teaching of STEM with the institution, and field experiences will take advantage of the extensive Professional Development Network of schools, particularly in Prince George’s County and Baltimore City, if possible. Coursework will be co-designed under the direction of the UTeach Institute and will require strong and mandatory collaboration between the colleges of arts and sciences in which the content

department resides and the colleges of education where STEM-specific pedagogical courses reside.

8. Project 4/3 - Curriculum and Formative Assessment Development

During the critical transition to the Common Core Standards and Assessments, Maryland will hire professional educators on a contractual basis to assist with development and/or revision of curriculum in mathematics, English language arts, STEM interdisciplinary curriculum and exemplar STEM lesson ideas related on-line instructional tools and resources, and formative assessments as well as assist with the planning and implementation of professional development. Maryland's current curriculum documents are enhanced through a variety of electronic resources linked to the on-line curriculum documents. To provide equal access for all Maryland students, regardless of geographic location, size, or capacity of the local high school, Maryland will contract out the development or purchase of online STEM courses for students.

9. Project 41/24 - Educator Effectiveness Academies

Educator Effectiveness Academies will provide high quality professional development for administrators and tenured teachers in teams (one coach or teacher leader in each content area of reading/English language arts, mathematics and STEM) from each of the 1,400 schools to participate in Educator Common Core Academies. Principals will receive similar but differentiated training as appropriate. Master teachers will be recruited and contracted to deliver instruction each year in the face-to-face academies. Academies will occur in seven regions throughout the state to minimize teacher travel during the summer and follow up sessions.

10. Project 43/21 - Develop On-Line PD on Educator Instructional Improvement Content

This project will provide for the development of an on-line model to deliver content from the Educator Effectiveness Academies regarding Common Core Curriculum, Assessments, and effective use of the Instructional Improvement System in future years. A total of 12 courses must be developed: Elementary reading, math, and STEM, middle school reading, math, and STEM, Algebra I and II, English 10 and 11, and 2 high school STEM courses.

11. Project 34/51 - Compensation Incentives for Teachers in Shortage Areas

In order to increase the equitable distribution of teachers and principals in high-poverty, high minority and hard to staff schools, Maryland will provide an incentive program for highly effective STEM, special education, and ELL teachers to teach in low-achieving, high-minority,

high-poverty schools. Maryland is establishing programs to reward highly effective STEM teachers and teachers of English Language Learners (ELL) and students with disabilities who choose to work in low achieving, high-minority, high-poverty schools.

12. Project 7/5 - World Languages Pipeline

Maryland's competitive edge depends on the preparation of graduates who are highly skilled in STEM and proficient in languages other than English as measured on internationally benchmarked assessments. MSDE is collaborating with LEAs to plan and implement new Arabic, and Chinese K-5 programs and Spanish dual-language programs. The first set of four LEA start-up grants have been awarded; one Chinese elementary program is being implemented in school year 2011-12 and one Chinese, one Arabic, and one dual immersion Spanish elementary program are being planned for school year 2012-13. In July 2011, teacher committees were convened to write and translate STEM curriculum modules that can be utilized statewide. In September, an MOU was signed with the National Foreign Language Center at the University of Maryland to consult with the STEM curriculum modules writing project and to guide the development of online courses in STEM content for elementary world language teachers. In November, the new LEA sub-grant application will be distributed to LEAs; four additional new programs will be selected for funding.

2. What methods, tools, and processes is the State using to determine the progress toward the goals and performance measures and the quality of implementation of the activities described for this application sub-criterion?

Maryland is utilizing project management techniques for monitoring and controlling the program at the project/activity level and for determining progress towards milestones and goals. Microsoft Project Professional is being used to develop project level schedules. Project schedules have been detailed for projects with specific activities planned for year two. Project managers review their respective project schedule with their program director weekly, bi-weekly, or monthly to ensure that project activities, issues, risks, and concerns are discussed. Project managers are responsible for maintaining up-to-date project schedules as they relate to percentage of activities completed and changes in the duration for completing tasks. Monthly reports are also submitted by each project manager delineating accomplishments, program and/or budget issues.

Technology projects also follow the State's Department of Information Technology (DoIT)

software development life cycle (SDLC) process. Technology projects are also subject to additional quarterly reviews by DoIT. Communication, verbal and electronic, occurs on a regular basis between MSDE and its various vendors (e.g., MBRT, MPT). On October 13, 2011, we initiated the first quarterly meeting of project managers of the 12 projects in which STEM is a primary or secondary focus of the project enabling the project managers to see the connections among and between their projects. The agenda for that meeting was as follows:

**STEM Projects
October 13, 2011
2:00 p.m. to 3:30 p.m.
8th Floor Conference Room 2**

2:00	Welcome and Introductions
2:05	Project Descriptions/Accomplishments
2:45	STEM Standards (Donna Clem)
3:15	Discussion
	* Which project(s) directly impact your project?
	* What is the best way to maintain contact/receive information about the progress of these projects?
	* What should be included on the agenda when we meet in January?
	* What dates/times work best for you?
3:30	Adjourn

The first draft of Maryland's STEM standards was shared at this meeting. However, after much discussion, it was determined that the standards need to be reviewed by a number of internal and external stakeholder groups before they are ready for distribution. Finally, the quality of implementation of the activities will be determined by our overall program evaluation that has been built into the grant. The formative and summative evaluation tools to be developed by USM for each project will enable us to assess the degree to which we met goals and objectives established for each project.

3. What is the State's assessment of its quality of implementation to date?

The overall quality of implementation has been excellent. Key staff are in place. Key processes are in place. An organizational structure is in place and working extremely well. Project managers have created and are maintaining detailed project schedules which are reviewed and updated monthly. Regular variance reports are being reviewed, and we want to increase this activity significantly with the addition of new staff as mentioned in # 5 below. Risks and obstacles are identified immediately and have been addressed in a timely and proactive manner. There is a high level of communication between and among project managers, project directors, executive sponsors, and the Core Team enabling modifications and adjustments to be made so that short-term and long-term goals and objectives are met. Deliverables and a budget have been agreed to for the overall program evaluation (see Project 2/1 above).

4. If the State is not on track to meet the goals, performance measures, timelines and quality of implementation related to this sub-criterion as outlined in its approved scope of work, why not, and what strategies is the State employing in order to meet goals and performance measures?

We are on track to meet our goals because of the actions taken by project managers, program directors, and executive sponsors to address obstacles and modify project schedules through the amendment process. Project managers have been diligent in their efforts to modify program schedules when needed to accurately reflect when tasks/milestones will be achieved. Amendments will be submitted for several projects to in November to reflect budget carryover, timeline, and task changes.

5. What are the obstacles and/or risks that could impact the State's ability to meet its goals and performance measures related to this sub-criterion?

Obstacles/risks have been mitigated by the actions taken by project managers and the Core Team to ensure that milestones, objectives, and goals are accomplished in a timely manner.

Evaluation: Based on the responses to the previous question, evaluate the State's performance and progress to date for this sub-criterion (choose one)

Maryland, October 2011

Red (1) Orange (2) Yellow (3) Green (4)⁴

⁴ Red – requires urgent and decisive action; Orange – requires substantial attention, some aspects need urgent attention; Yellow – aspect(s) require substantial attention, some aspects good; Green – good, requires refinement and systematic implementation.

Maryland, October 2011

Paperwork Reduction Act Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. Public reporting burden for this collection of information is estimated to average 74 hours (annually) per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit (34 CFR 75.720, 75.730-732; 34 CFR 80.40 and 80.41). Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20210-4537 or email ICDocketMgr@ed.gov and reference the OMB Control Number 1894-0011.