Reactor Panel Feedback Summary

FCAT 2.0 Science, Biology 1 End-of-Course Assessment, and Geometry End-of-Course Assessment Standard Setting

On September 27-28, 2012, the Department convened a panel of Florida stakeholders (e.g., community/education organization leaders, state university leaders, business leaders, superintendents) to react to the Educator Panel's proposals and to modify the proposed cut scores, if necessary. While the Educator Panel made content-based judgments, the Reactor Panel was asked to focus on the impact of the proposed cut scores using impact data based on 2012 student performance and data from external assessments (NAEP, PSAT, SAT, PLAN, and ACT, in addition to FCAT 2.0 Reading and Mathematics and Algebra 1 EOC Assessment). The Reactor Panel discussed the cut scores and the judgment variation from the Educator Panel and then provided independent ratings for any modifications to the cut scores as their Round 1 judgments. The reactor panel was given the judgment variation score ranges, which are based on standard-setting best practices, as suggested boundaries for their recommendations. Next, the Reactor Panel reviewed the median cut scores from their Round 1 recommendations and impact data and was given an opportunity to model any changes to the cut scores. Before leaving, panelists completed a final survey to indicate their final judgments for the cut scores.

This summary provides all of the feedback from the Reactor Panel. More information about the standard-setting process is available at the FDOE Standard Setting website.

Exhibit 1. Reactor Panel Members

Panel Member Number	Name	Company/District/Employer	County Location
1	Lisa Chutjian	Take Stock in Children	Dade
2	Kamela Patton	Collier County Public Schools	Collier
3	Sasha Jarrell	Northwest Florida State College	Okaloosa
4	Paul Cottle	Florida State University	Leon
5	Nyleen Rodriquez	George Jenkins High School	Polk
6	Rosanne Arvin	Clay County District Schools	Clay
7	Ted Willard	National Science Teachers Association	Virginia
8	Mike Vitale	Daytona State College	Volusia
9	Joie Cadle	Orange County School Board	Orange
10	Lisa Kunze	St. Johns County School Board	St. Johns
11	Denisse R. Thompson	University of South Florida	Hillsborough
12	Allan Phipps	Florida Atlantic University Laboratory School District	Broward
13	Melissa Kicklighter	Parent of Duval County Public School Student	Duval
14	Morgan Pearson	2012 Graduate-Matanzas High School	Flagler
15	Pam Burtnett	Florida Education Association	Lake
16	Susan Moxley	Lake County Schools	Lake
17	Deborah Leach-Scampavia	The Scripps Research Institute	Palm Beach
18	Scott Southwell	Boeing Corporation	Brevard
19	David Arnold	Big Brothers Big Sisters Association of Florida	Hillsborough
20	Lynn Erickson	Gulf Power Company	Escambia

Exhibit 2. Reactor Panel Judgments for Round 1

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
1	175	190	205	221	185	202	208	223	369	389	413	428	377	398	423	434
2	185	200	215	225	185	201	215	226	369	403	423	434	380	403	423	434
3	185	200	215	225	185	201	215	225	369	395	413	428	377	398	423	436
4	185	200	215	225	185	200	215	226	369	389	413	428	380	403	423	434
5	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	436
6	185	200	215	225	185	200	215	225	369	389	413	428	370	393	419	431
7	185	200	215	225	185	200	215	225	369	389	413	428	380	403	423	434
8	185	200	215	225	185	200	215	225	369	389	413	425	377	398	423	436
9	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
10	185	200	215	225	185	202	215	225	369	395	413	429	380	403	423	436
11	185	200	215	225	185	200	215	225	369	400	413	428	380	403	423	434
12	185	200	215	225	185	201	215	225	369	395	413	429	377	398	423	436
13	180	200	215	225	172	200	215	226	370	395	410	425	380	400	415	430
14	185	194	210	226	182	197	215	226	369	395	414	430	380	396	420	434
15	185	200	215	225	185	202	215	225	369	389	413	428	370	393	419	431
16	185	200	215	225	185	200	215	226	369	392	413	428	377	398	423	434
17	185	200	215	225	200	201	215	225	369	394	411	429	380	403	420	430
18	180	195	215	221	180	195	215	223	365	390	413	428	377	396	423	434
19	182	200	213	225	182	200	215	226	369	395	413	428	377	398	423	436
20	175	200	215	225	185	200	215	226	369	395	413	428	380	396	423	436

Exhibit 3. Reactor Panel Round 1: Rationale for Modifying Cut Scores Proposed by the Educator Panel

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
1					To improve diligence in teaching middle school science.								To encourage greater investment by teachers in teaching geometry and to encourage students to acquire skills directly related to logical thinking and analysis.			
2	Raise to high 70% not close to 3-10 Rdg/Math				Closer alignment to 5th and Bio				Closer alignment to 5th and 8th				I moved Level 2 to 380 – we should make gap wide for Level 1 & 2 as currently 45% sit in level 1 & it will give us hope for students (makes the test credible)			
3													My comments are general: 1) I do not necessarily feel the test is too hard, rather I feel it is too convoluted. We are burying the very skills we are trying to assess. I am very concerned for students who are not reading on grade level. 2) I feel the "just barely" skills for level 2 were not adequately represented with test items. It seems the test design should be revisited instead of having a reactor panel adjust content-influenced decisions based on impact data. I feel the exam does not have enough strata			

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
													when we are moving scores beyond the error bands of the academic committee. My first recommendation is to revisit test items. 3) I feel some of the "real world" intentions of some of the test items were missed.			
4	Raising the cut score will restore an emphasis on physical science.				Raising the cut score will restore the emphasis on physical science.								The Level 2 and 3 cuts are too close together to be credible. Lowering the Level 2 min restores test credibility.			
5	The rationale found after discussion is that we are still close to the mean for our level 3's, but we need to spread out the levels. Also, in order to keep/improve science courses in 5th and 8th grade, we agreed that we need to raise the levels to show the teachers that some changes need to be made.				Check previous rationale				Only 1 changed. We are trying to save upper level science courses that are suffering if bio is not passed.				The rationale is to keep scores close to the mean but still provide a spread out of the levels.			
6	Proposed passing rate was too out of proportion from external data.				See Gr. 5 note				See Gr. 5 note				See Gr. 5 note			
7	The 5th and 8th grade group did not (in my opinion) have a good set of differentials to work with, so I made recommendations based on				The 5th and 8th grade group did not (in my opinion) have a good set of differentials to work with, so I made recommendations based on				The geometry group did a good job so I left all as is				I think the Ed Panel in Geometry did a good job. I made a small change to the level 2 cut to create a greater spread, especially since the			

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
	the results of other FCAT tests.				the results of other FCAT tests.								spread between them was smaller than the standard deviation.			
8	There is a need to increase minimum need to achieve level 3 – wanted % more balanced				Raise standard for level 3				Not out of line – no high stakes with regard to college readiness				377 – so more into level 2 398 – higher percentage passing 436 – higher standard for highest level			
9	Need to continue raising bar – but we also want children to feel they can be proficient				Same rationale				Same rationale				Same rationale			
10	Elementary school teachers are limited in the amount of time teaching science & their training in science.				Students take 3 science course in MS that they must pass to be promoted. Teachers are trained. I feel that teachers need to be held accountable for their teaching. All 4 categories of science need to be taught – Nature, Life, Physical & Earth.				Slightly changed scores to lower the % scoring 3 or above.				We need for teachers to realize that they have to change their instruction.			
11	The original percent passing seemed too high in relation to national data.				The original percent passing seemed too high in relation to national data.				The percent of students in Level 3 originally seemed too high.				I suggested adjusting the 1/2 cut to adjust the percent of students to between Level 1 & Level 2.			
12	Need to consider national data and make the exam rigorous.				Students need a strong foundation in science before getting to college or even high school. With comparison to NAEP data and considering other national trends, we need				Need to consider college-readiness and help teachers realize how best to prepare students. Students need a strong foundation. We need to raise the bar.				Need more of a spread to help classify students in level 1, level 2, to help teachers identify where to target instruction.			

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
					to raise the bar.											
13	It is critical that we encourage increased emphasis on teaching science in the elementary school years, so we must increase cut scores over time.				A strong foundation in science is important to prepare for high school, so we must slowly increase rigor and cut scores over time.				Biology is one of the many important science classes for students to take to encourage them to consider STEM careers, so we need to increase the cut scores.				We must make sure the cut scores have a spread so that one student could take a test one time and get a three the next time.			
14	Believe that level 5 should only consist of top 10% of student. Overall the passing rate of students, Level 3 and above, should be about 55%.				Only 10% of students should be considered Level 5. Level 3 should consist of the most students and the passing rate should be around 50-55%				Level 5 should only consist of top 10% of students. Level 3 should contain the most students.				Level 4 should contain more students than Level 5 not about the same amount. It should be more challenging to receive a Level 5 than a Level 4. Level 3 should consist of the most students and the amount of students who receive lower than a 2 should not be that great (i.e. >20%).			
15	Score increased due to alignment with 8th				Aligned scores with 5 & Biology				Biology is a graduation requirement. After completing a course successfully, the cut score should be set with the expectation that at least 50% will achieve a satisfactory score to graduate from HS. The 2/3 cut point is not a metric that indicates college readiness.				This test is a gatekeeper for graduation. As a new test, a high number of students should not bear a burden of failure as testmakers. Adjust the test. And the metrics.			
16	We need to continue to raise the bar for student achievement. At the same time, we need to create a				Increase the rigor of instruction while preparing students to build science background for middle & high school EOCs.				Need to make sure the standard is realistic for a graduation standard and rigorous to be competitive in				Need to raise the bar to transition to PARCC and be realistic for the graduation requirement.			

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
	realistic transition for students.								the science area.							
17	Greater # level 2 to prompt educators about importance of middle school science. Grade 4 science proficiency relatively strong, leveling to higher Grade 5 % compared to Grade 8				Lower % passing for greater rigor/expectation for teachers to push student academics to level 3.				The concern for stronger math push in school relieved the rigor associated w/ Bio 1 score & less relevance for college entrance requirement.				An over-all lowering of cut scores is to push academic performance/expectation for all students in the level 2 & 3 scoring range. This is in anticipation of next assessment criteria.			
18	To decrease % passing, and raise the bar on Level 4/5.				To decrease % passing, and raise the bar on Level 4/5.				To close gap between 2/3, and slightly raise the passing bar.				To increase % passing, and lower expectations at lower levels.			
19	Grade 5 science will have 24% Level 4/5. Grade 8 science attempt in consistency with Grade 5 and increase. Biology will have 33% at Level 4/5 proficiency. Changed level 3 cutoff to more closely match FCAT level 4 and above. Geometry				See page 1 for brief statement				See page 1 for brief statement				See page 1 for brief statement			
20	Level 3, Level 4, Level 5 – sample test aligned closely w/ my classroom/student experiences so my expectation for passing was higher than recommended cut.				All Levels – classroom instruction for grades 6, 7, 8 provides much higher exposure to test material/content so expectations for passing should be higher at all levels.				Level 3 – reduced % passing from recommended in light of exposure o students to content.				Levels 3 & 4 – reduce the % of passing to 59% in light of student's exposure to content. Level 2 – reduced cut score below range based on % of passing newer content.			

Exhibit 4. Reactor Panel Round 1: Median Cut Scores

	Grade 5 FCAT 2.0 Science	Grade 8 FCAT 2.0 Science	Biology 1 EOC Assessment	Geometry EOC Assessment
Level 1/2 Cut	185	185	369	377
Level 2/3 Cut	200	200	395	398
Level 3/4 Cut	215	215	413	423
Level 4/5 Cut	225	225	428	434

Exhibit 5. Reactor Panel Round 1 Comfort Level By Panelist

Panel Member Number	Grade 5 FCAT 2.0 Science	Grade 8 FCAT 2.0 Science	Biology 1 EOC Assessment	Geometry EOC Assessment
	How comfortable are you with the median cut scores?	How comfortable are you with the median cut scores?	How comfortable are you with the median cut scores?	How comfortable are you with the median cut scores?
1	Somewhat Uncomfortable	Somewhat Comfortable	Very Comfortable	Very Comfortable
2	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
3	Somewhat Comfortable	Somewhat Uncomfortable	Somewhat Comfortable	Somewhat Uncomfortable
4	Very Comfortable	Very Comfortable	Somewhat Uncomfortable	Somewhat Uncomfortable
5	Very Comfortable	Somewhat Comfortable	Very Comfortable	Very Comfortable
6	Somewhat Uncomfortable	Somewhat Uncomfortable	Very Comfortable	Somewhat Comfortable
7	Very Comfortable	Very Comfortable	Somewhat Comfortable	Somewhat Comfortable
8	Somewhat Comfortable	Somewhat Comfortable	Very Comfortable	Very Comfortable
9	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
10	Somewhat Comfortable	Very Uncomfortable	Somewhat Uncomfortable	Somewhat Uncomfortable
11	Very Comfortable	Very Comfortable	Very Comfortable	Somewhat Comfortable
12	Very Comfortable	Very Comfortable	Somewhat Comfortable	Somewhat Comfortable
13	Very Comfortable	Somewhat Comfortable	Very Comfortable	Very Comfortable
14	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
15	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
16	Very Comfortable	Very Comfortable	Somewhat Comfortable	Very Comfortable
17	Very Comfortable	Somewhat Comfortable	Somewhat Comfortable	Somewhat Comfortable
18	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
19	Very Comfortable	Very Comfortable	Very Comfortable	Very Comfortable
20	Very Comfortable	Very Comfortable	Very Comfortable	[blank]

Exhibit 6. Reactor Panel Round 1 Comfort Level Summary

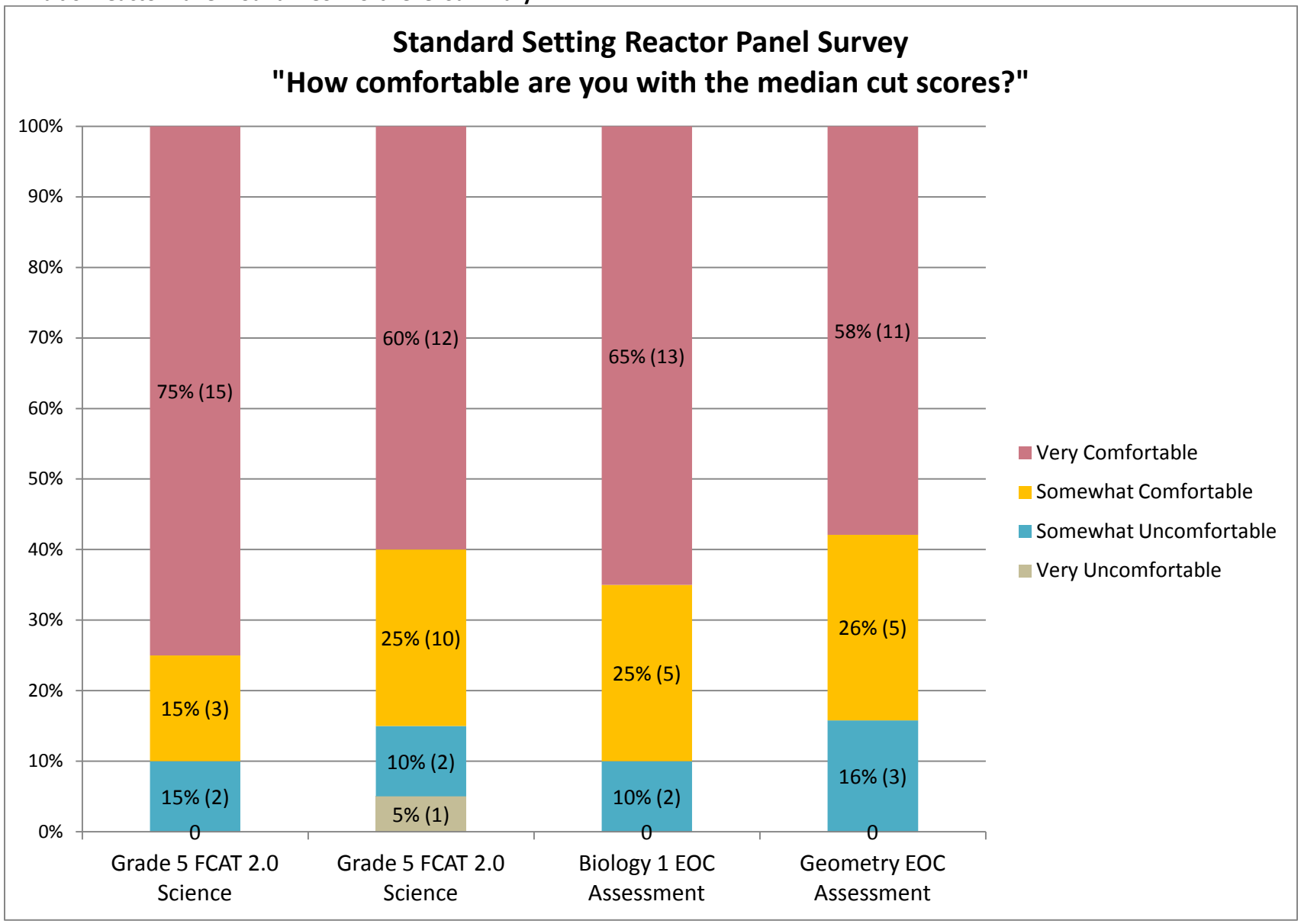

Exhibit 7: Reactor Panel Round 2 Ratings: Changes Recommended to Median Scores from Round 1 (Changes highlighted)

Panel Member Number	Grade 5 FCAT 2.0 Science				Grade 8 FCAT 2.0 Science				Biology 1 EOC Assessment				Geometry EOC Assessment			
	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut	Level 1/2 Cut	Level 2/3 Cut	Level 3/4 Cut	Level 4/5 Cut
1	**175**	**195**	215	225	185	200	215	225	369	395	413	428	377	398	423	434
2	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
3	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
4	185	200	215	225	185	200	215	225	369	**389**	413	428	377	**403**	423	434
5	185	200	215	225	185	**195**	215	225	369	395	413	428	377	398	423	434
6	185	**196**	215	225	185	**196**	215	225	369	395	413	428	377	**393**	**415**	434
7	185	200	215	225	185	200	215	225	369	395	413	428	**380**	398	423	434
8	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
9	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
10	**187**	**202**	215	225	**187**	**203**	215	225	369	395	413	428	377	398	423	434
11	185	200	215	225	185	200	215	225	369	395	413	428	377	**400**	423	434
12	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
13	185	200	215	225	185	**195**	215	225	369	395	413	428	377	398	423	434
14	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
15	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
16	185	200	215	225	185	200	215	225	369	**392**	413	428	377	398	423	434
17	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
18	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434
19	185	200	215	225	**182**	200	215	225	369	395	413	428	377	398	423	434
20	185	200	215	225	185	200	215	225	369	395	413	428	377	398	423	434

Exhibit 8. Reactor Panel Round 2 Comments: Rationale Provided for Modifying the Median Cut Scores from Round 1

Panel Member Number	Comments (Subject/Grade included if specified)
1	Grade 5 FCAT 2.0 Science: I believe the cuts at Levels 2 and 3 should be lowered. Instruction at this time has not caught up with achievement; a heavy concentration on literacy and mathematics will not allow for a stringent pursuit of science education. In middle school, however, science becomes increasingly important and 8th grade scoring should require improved performance to enable our students to acquire skills, knowledge and interest in pursuing the sciences as a gateway to focusing college preparation in STEM fields we need as a state, nation, and society.
2	None
3	Geometry EOC Assessment: I believe the level 2 cut score should be moved up to fall in line with the educator's panel recommendation. OR I believe the test items should be reviewed to include additional items in the level 1 - 2 range.
4	Biology 1 EOC Assessment: Raising the graduation requirement (Level 3 cut) in biology will accelerate the redirection of physical science instruction resources to biology remediation. Geometry EOC Assessment: The Level 3 cut score can be seen as an intermediate step on the way to the Common Core geometry standards and the PARCC assessment. Selecting a Level 3 cut score of 398 would leave too big a jump to PARCC.
5	Grade 8 FCAT 2.0 Science: After reviewing the FCAT Science 8th grade, I believe the test is very hard in terms of the reading content. By lowering the cut score, I believe there will be a chance at helping those low scorers to hopefully achieve.
6	Grade 5 FCAT 2.0 Science: Level 1/2 %age is currently too high – needs to be lower. Level 3 %age is currently too low, should be about 35%. Same notes for Grade 8. Geometry EOC Assessment: Level 1/2 %age should be about 41%; increase Level 3 cut so there are 30%.
7	Biology 1 and Geometry EOC Assessment: Saw no reason to deviate from the educator recommendations.
8	Biology 1 EOC Assessment: I don't believe there can be a "college ready" level established until a cohort is followed into college and their success level documented. Geometry EOC Assessment: The justification for lowering the L2 score was to put more students below level 3 into the level 2 category. The belief is that students in level 2 would see a realistic chance to achieve level 3 but a level 1 would feel that chance of success is very low. The college level designation needs to be correlated with PERT and future college successes.
9	Grade 8 FCAT 2.0 Science: Science 8 – is higher % because of the need to focus on the need for basic understanding to move to testing in higher science and math EOC.
10	Grade 5 FCAT 2.0 Science: Science needs to be emphasized more to prepare students for secondary level. Grade 8 FCAT 2.0 Science: Students take 3 yrs of science. I feel that we need to expect more. Biology and Chemistry or Physics is now required for graduation. We must put emphasis on MS science to provide the background needed for HS. Geometry EOC Assessment: I feel that we should follow the educator panel. The teachers are saying more should be expected of the students than we are. If we want to improve instruction & prepare students for upper level math courses we must place importance on this exam.

Panel Member Number	Comments (Subject/Grade included if specified)
11	Geometry EOC Assessment: Given the complexity of geometry and the importance of success in geometry for further success in school mathematics, students should reach a somewhat higher level of success. The revised scores are more in line with recommendations of the educator panel who had an opportunity to review content alignment.
12	None
13	Biology 1 EOC Assessment: I do not believe that the jump in cut score from level 2 to 3 is appropriate for the teachers and students to bring the level of instruction and achievement up to pass, especially without more specific data regarding FCAT 2.0 results from 2012.
14	None
15	None
16	Biology 1 EOC Assessment: This assessment acts as the indicator for meeting the graduation requirement for science. Level 3 indicates satisfactory level of performance for all students to graduate and are on the road to being college ready. My recommendation is based on this philosophy. It is important to keep rigor and a realistic graduation requirement in balance since it is for all students. More discussion is needed to really determine what is the performance level for college ready and how does that predict success in college.
17	None
18	None
19	None
20	None