

**Department of Education**  
**AMERICAN PRINTING HOUSE FOR THE BLIND**  
**Fiscal Year 2018 Budget Request**

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## AMERICAN PRINTING HOUSE FOR THE BLIND

For carrying out the Act to promote the Education of the Blind of March 3, 1879,<sup>1</sup>

\$25,383,000.

### NOTES

A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114–254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Each language provision that is followed by a footnote reference is explained in the Analysis of Language Provisions and Changes document, which follows the appropriation language.

**AMERICAN PRINTING HOUSE FOR THE BLIND**

**Analysis of Language Provisions and Changes**

Language Provision	Explanation
<u><sup>1</sup>...Act to promote the Education of the Blind March 3, 1879...</u>	The language provides the name of the Act that authorizes the program.

**AMERICAN PRINTING HOUSE FOR THE BLIND**

**Appropriation, Adjustments, and Transfers**  
(dollars in thousands)

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Appropriation/Adjustments/Transfers	2016	2017 Annualized CR	2018
<b>Discretionary:</b>			
Appropriation .....	\$25,431	\$25,383	\$25,383

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**AMERICAN PRINTING HOUSE FOR THE BLIND**

**Authorizing Legislation**  
(dollars in thousands)

Activity	2017 Authorized	2017 Annualized CR	2018 Authorized	2018 Request
American Printing House for the Blind (Act to promote the Education of the Blind of March 3, 1879 (20 U.S. C. 101 et. seq.))	<u>Indefinite</u>	<u>\$25,383</u>	<u>Indefinite</u>	<u>\$25,383</u>
Total annual appropriation		25,383		25,383

**AMERICAN PRINTING HOUSE FOR THE BLIND**

**Appropriations History**  
(dollars in thousands)

Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2009	\$21,616	\$22,697 <sup>1</sup>	\$22,500 <sup>1</sup>	\$22,599
2010	22,599	22,599	24,600 <sup>2</sup>	24,600
2011	24,600	24,600 <sup>3</sup>	24,600 <sup>2</sup>	24,600 <sup>4</sup>
2012	24,600	24,551 <sup>5</sup>	24,551 <sup>5</sup>	24,505
2013	24,505	24,505 <sup>6</sup>	24,508 <sup>6</sup>	23,223
2014	24,505	N/A <sup>7</sup>	24,456 <sup>2</sup>	24,456
2015	24,456	N/A <sup>7</sup>	25,000 <sup>8</sup>	24,931
2016	24,931	25,431	24,931	25,431 <sup>9</sup>
2017	25,431	25,431 <sup>10</sup>	25,431 <sup>10</sup>	25,431 <sup>10</sup>
2018	25,383			

<sup>1</sup> The levels for the House and Senate allowances reflect action on the regular annual 2009 appropriations bill, which proceeded in the 110th Congress only through the House Subcommittee and the Senate Committee.

<sup>2</sup> The levels for the Senate allowance reflect Committee action only.

<sup>3</sup> The levels for the House allowance reflect the House-passed full-year continuing resolution.

<sup>4</sup> The level for appropriation reflects the Department of Defense and Full-Year Continuing Appropriations Act, 2011 (P.L. 112-10).

<sup>5</sup> The level for the House allowance reflects an introduced bill and the level for the Senate allowance reflects Senate Committee action only.

<sup>6</sup> The level for the House and Senate allowances reflect action on the regular annual 2013 appropriations bill, which proceeded in the 112th Congress only through the House Subcommittee and the Senate Committee.

<sup>7</sup> The House allowance is shown as N/A because there was no Subcommittee action.

<sup>8</sup> The level for the Senate allowance reflects Senate Subcommittee action only.

<sup>9</sup> The levels for House and Senate allowances reflect action on the regular annual 2016 appropriation bill, which proceeded in the 114th Congress only through the House Committee and Senate Committee.

<sup>10</sup> The levels for House and Senate allowances reflect Committee action on the regular annual 2017 appropriation bill; the Appropriation reflects the Consolidated Appropriations Act, 2017.

## AMERICAN PRINTING HOUSE FOR THE BLIND

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### American Printing House for the Blind

(Act to Promote the Education of the Blind of March 3, 1879 (20 U.S.C. 101 et seq.))

(dollars in thousands)

FY 2018 Authorization: Indefinite

Budget Authority:

<u>2017</u> <u>Annualized CR</u>	<u>2017</u> <u>Appropriation</u>	<u>2018</u>	<u>Change from</u> <u>Annualized CR</u>
\$25,383	\$25,431	\$25,383	0

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### PROGRAM DESCRIPTION

The Act to Promote the Education of the Blind of March 3, 1879, (20 U.S. C. 101 et seq.) (the Act) authorizes an annual appropriation for the American Printing House for the Blind (APH) to produce and distribute educational materials adapted for students who are legally blind and enrolled in formal educational programs below the college level. The APH, located in Louisville, Kentucky, has received Federal support under this Act since 1879. Materials produced by APH include textbooks in braille and large type, educational tools such as braille typewriters and computer software and hardware, teaching aides, including tests and performance assessments, and other special supplies. APH materials are distributed to programs serving blind students through allotments of funds to the States. These allotments are based on an annual census (conducted by APH) of the number of legally blind students located in each State, and are provided in the form of credits. State educational agencies and programs serving persons who are blind may order materials free of charge up to the amount of funds allocated to each State under the Federal Quota Program. Approximately 75 percent of the appropriation is used to cover the cost of producing these educational materials. The APH uses the remainder of the appropriated funds to conduct research related to developing and improving products and to provide advisory services to professional and consumer organizations. The Federal Quota Program was initiated in 1879 by the Act, which authorized a per capita amount of money to be designated for the purchase of educational materials for each eligible registered student. Funds are appropriated annually by Congress and the annual allocations are maintained in accounts administered by the American Printing House for the Blind (APH).

The APH conducts research necessary to develop and improve educational materials in core curriculum areas such as science, mathematics, English language arts, and social studies and adapts testing materials related to these subject areas. APH manufactures instructional materials for a broad range of academic subjects and grade levels. APH also conducts research in product areas specific to unique needs of the visually impaired population, such as braille reading, orientation and mobility, and assistive technology. Special materials in areas such as early intervention and early childhood education, prevocational training, and the functional use of residual vision are also developed for use in teaching students who are blind or have additional disabilities. APH's education and technical research teams encompass a wealth of expert consultants in various fields, from elementary and post-secondary educational

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institutions to information technology architecture and program design. Major areas of research investigations for fiscal year 2018 will include assessment tools for visually impaired infants and preschoolers; tactile graphic learning materials, and the development of accessible mobile applications for educating the visually impaired.

Ex-Officio Trustees are superintendents of public and private institutions for the education of the blind (or a designee) and chief State school officers (or a designee) from every State and U.S. territories, that sit on the Board of Trustees of the APH. Trustees are responsible for the administration of the Federal accounts and may use the credits to order materials from APH. These materials are available for purchase by the trustees and the general public at <http://shop.aph.org>. APH materials are reviewed by a six-member Educational Products Advisory Committee. The purpose of this committee, made up of ex officio trustees, is to ensure that all educational materials produced and research undertaken by APH are effectively focused on meeting the needs of students who are blind. In addition, a second five-member advisory committee of ex officio trustees, the Educational Services Advisory Committee, provides oversight and accountability regarding APH's outreach and support services.

Materials provided through the APH appropriation supplement the various other resources available to the States to achieve this goal. For example, the Individuals with Disabilities Education Act (IDEA), requires States to provide a free appropriate public education, including appropriate related materials and supplies, to all students with disabilities. In order to meet their responsibilities under the IDEA, many States make additional purchases from APH and other suppliers of materials for students who are visually impaired.

In fiscal year 2016, Federal funding provided through the APH appropriation for educational materials represented approximately 63 percent of APH's total sales income, and approximately 72 percent of APH's total budget of \$34.8 million. Federal grants and contracts from agencies such as the National Library Service for the Blind, Social Security Administration, and the Department of Veterans Affairs represented 11 percent of APH's total budget. The remaining 16 percent of APH's budget came from nongovernmental contracts and revenue generated from the sale of unsubsidized product to State and local agencies, direct sales to individuals who are blind, private sector contract sales, corporate and individual donations from the private sector, and interest income from endowments and other investments.

Advisory services provided by the APH include support a variety of direct and indirect activities necessary to support the mission of APH. The term advisory services refer to the informational, educational, consultative and administrative services provided by APH staff to support the Ex Officio Trustees in their administration of the Federal Quota program. The APH Advisory services include conducting the annual census of student who are blind and visually impaired; consultation and collaboration with Ex Officio Trustees who administer the Act on the local level; the administration of Louis Database of Accessible Materials, Electronic File Repository and Expert Database; facilitating National Instructional Partnership activities; and the production of catalogs, brochures, videos, and a wide variety of web-based information. APH also convenes expert advisory committees and focus groups to address specific issues, as necessary.

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Funding levels for the past 5 fiscal years were:

Fiscal Year	(dollars in thousands)
2013 .....	\$23,223
2014 .....	24,456
2015 .....	24,931
2016 .....	25,431
2017 .....	25,431

### FY 2018 BUDGET REQUEST

The Administration requests \$25,383 million for activities to be conducted by the American Printing House (APH) for the Blind in fiscal year 2018. The request would maintain funding for APH at the fiscal year 2017 Annualized CR level of \$25,383 million. The Department of Education Appropriations Act, 2017, provided \$25,431 million for this program. APH provides crucial educational aids at no cost to students who are visually impaired. The materials that are developed, manufactured, and distributed by the APH offer States an additional resource to help provide a free appropriate public education to visually impaired students, as required by the Individuals with Disabilities Education Act (IDEA). Federal support of the APH also helps ensure that students who are visually impaired receive the accessible educational materials they need to succeed in school and prepare for college and careers. The Administration believes the request provides sufficient resources to support an adequate level of service in each of the three program areas: educational materials, advisory services, and research.

Educational Materials. The Administration's request includes \$19 million for educational materials, the same as the fiscal year 2017 Annualized CR level. The requested funding level provides an estimated \$300 per eligible student. In fiscal year 2015, 1,020 distinct educational products were available for purchase with Federal Quota funds. The timely delivery of textbooks in accessible media formats for braille-reading students is crucial to ensuring that children who are visually impaired have the same access to a free appropriate public education as children without disabilities. In order to address this need, each year APH produces thousands of braille and large print textbooks on demand, including instructional materials featuring tactile graphics. APH issues industry standards for tactile graphics, manufactures and distributes graphics to students across the country, and maintains a Tactile Graphic Image Library in order to increase the variety and lower the cost of pictures and graphics included in accessible educational materials. Tactile graphics are essential for teaching subjects such as geography and geometry. The funds requested for educational materials support APH's production of teaching modules and associated instructional materials in these subjects.

Advisory Services. The Administration requests \$1.5 million for advisory services for fiscal year 2018, the same as the fiscal year 2017 Annualized CR level. APH advisory services include a variety of activities that support the administration of the educational materials program. These funds provide for such things as the annual meeting of the ex-officio trustees; advisory group panels; the annual census of students who are visually impaired; printing and distribution of catalogs of available materials; and field services such as consultation, in-service training, webinars, and workshops. Advisory services support the provision of ongoing consumer

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information and technical support to customers and help to establish and maintain communication with APH's network of ex-officio trustees. APH also provides support and information to staff and teachers at schools around the country. In order to maximize the availability of ongoing training and technical assistance activities, APH frequently conducts training through the Internet. These Web-based training sessions have given APH the ability to reach a wide audience in an efficient, low-cost manner.

Projects that would continue to be funded in fiscal year 2018 include:

- the National Instructional Partnerships program, Webcast product training series (see: <http://www.aph.org/videos/> ),
- APH Research Library (see: <http://miguel.aph.org/catalog/CategoryInfo.aspx?cid=152> ),
- APH Accessible Media Producers Database (see: <http://louis.aph.org/catalog/CategoryInfo.aspx?cid=152&master=AMP> ), and the
- National Instructional Partnership with Teacher Training Programs (see: <http://www.aph.org/advisory/initiatives/#nip> ).

The APH website offers the public convenient access to products, manuals, downloadable catalogs and newsletters, information on training events, online surveys, and online reference services such as the Louis Accessible Materials Database and APH file repository. In recent years, APH has integrated these unique databases and online tools to make them cross-searchable and to enhance user-friendliness. The APH website provides a unique, comprehensive source of specialized information and resources on accessible instructional materials for individuals who are visually impaired. The request provides sufficient funds to cover advisory services planned in fiscal year 2018.

Research and Product Development. The Administration's request for research in fiscal year 2018 is \$4.8 million, the same amount that would be allocated for research at the fiscal year 2017 Annualized CR level. APH undertakes applied and developmental research with the goal of developing innovative educational products for students who are visually impaired. Major research initiatives include the *APH SMART Braille by Perkins*, which is an electronic braille that provides the user immediate feedback through text-to-speech, and a screen that displays SimBraille and large print of what is brailled. There is an audio and visual component that provides access to non-braille users. APH has also partnered with Orbit Research® and Texas Instruments® to create the *Orion TI-84 Plus Talking Graphing Calculator*. The modified TI-84 Plus has attachments that add accessibility controls allowing the student to participate fully in STEM-related academics. A calculator to assist younger students is currently in development. These new products represent major improvements over existing tools and technologies. APH also continues to invest in the development of the file formats, software, hardware, and production infrastructure necessary to produce and deliver braille books through electronic files and e-readers rather than through paper books. (see: <http://www.aph.org/research/> )

The Administration recognizes the need for APH to conduct developmental and applied research, so that it can continue to meet the changing needs of students who are visually impaired, particularly as the technologies for producing accessible educational materials evolve rapidly. The request will provide funds for APH to conduct more than 350 research projects in a wide range of content areas, including development of new products for use with infants, toddlers, and preschoolers who are visually impaired, materials for students who are visually

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impaired with secondary disabilities, equipment to assist students with low vision, materials for braille literacy, classroom learning aids, tactile graphics, and tools to aid in the transition from school to postsecondary educational or job settings.

Product development activities planned for fiscal year 2018 are categorized into 12 content areas: Adult Life, Braille, Core Curriculum, Cortical Visual Impairment, Early Childhood, Emergent Literacy, Low Vision, Multiple Disabilities, STEM (Science, Technology, Engineering and Math), Tactile Graphics, Technology, and Tests and Assessments.

The Administration's request also includes funding for APH's Accessible Tests Department initiative. (see: <http://www.aph.org/tests-and-textbooks/>) The goals of this initiative are to:

- Provide tests, practice tests, examination administration manuals, and other assessment related materials, including full-color large print assessments, in high quality accessible media.
- Promote the inclusion of visually impaired individuals during the development of assessments.
- Enhance the test performance of visually impaired individuals through research, education, and communication.

### PROGRAM OUTPUT MEASURES

(dollars in thousands)

<u>Output Measures</u>	<u>2016</u>	<u>2017 Annualized CR</u>	<u>2018</u>
<b>Distribution of funding:</b>			
Educational materials	\$19,006	\$18,970	\$18,970
Advisory services	1,550	1,547	1,547
Research and product development	<u>4,875</u>	<u>4,866</u>	<u>4,866</u>
Total	25,431	25,383	25,383
Number of eligible students	63,357	63,357	63,357
Average per student allotment (whole dollars)	\$300	\$299	\$299
<b>Number of services and products provided:</b>			
Products available with Federal funds	1,005	1,000	1,000
Advisory committee meetings	5	5	5
State educational agencies visited by	12	12	12
Residential programs visited by	10	12	14
Rehabilitation programs visited by	9	10	12
In-service training programs and webcasts	25	25	25
Product training presentations and exhibits	115	125	125
		2017	
<u>Output Measures</u>	<u>2016</u>	<u>Annualized CR</u>	<u>2018</u>
<b>Number of services and products provided:</b>			
Visits to Ex Officio Trustees	20	20	25
Total employees (full-time equiv.)	313	305	305

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### PROGRAM PERFORMANCE INFORMATION

#### Performance Measures

This section presents selected program performance information, for example, GPRA goals, objectives, measures, performance targets; and an assessment of the progress made toward achieving program results. Achievement of program results is based on the cumulative effect of the resources provided in previous years, those requested in fiscal year 2018 and future years, as well as the resources and efforts invested by those served by this program.

The Administration and the APH worked together to develop 10 performance measures for the activities carried out through the Act. Four of the indicators are customer satisfaction measures; two are efficiency measures; and four indicators measure the aspects of product quality.

**Goal: Pre-college level blind students will receive appropriate educational materials that result in improved educational outcomes.**

***Objective:** Appropriate, timely, high-quality educational materials are provided to pre-college level visually impaired students to allow them to benefit more fully from their educational programs.*

**Measure:** The percentage of American Printing House for the Blind trustees, advisory committee members, consumers, and teachers who agree that the educational materials provided through the Act are appropriate, timely, and high quality.

*Trustees - Percentage who agree:*

Year	Target	Actual Extremely Mostly Somewhat	Extremely Satisfied	Mostly Satisfied	Detail Somewhat Satisfied	Not too Satisfied	Not at all Satisfied
2013	98	99	56	39	6	0	0
2014	98	98	61	35	2	0	0
2015	98	99	61	34	4	0	0
2016	98	98	75	20	3	2	0
2017	98						
2018	98						

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*Advisory Committee Members - Percentage who agree:*

Year	Target	Actual Extremely Mostly Somewhat	Extremely Satisfied	Mostly Satisfied	Detail Somewhat Satisfied	Not too Satisfied	Not at all Satisfied
2013	100	100	57	43	0	0	0
2014	100	100	63	33	3	0	0
2015	100	100	66	33	0	0	0
2016	100	100	91	9	0	0	0
2017	100						
2018	100						

*Consumers - Percentage who agree:*

Year	Target	Actual Extremely Mostly Somewhat	Extremely Satisfied	Mostly Satisfied	Detail Somewhat Satisfied	Not too Satisfied	Not at all Satisfied
2013	96	98	50	43	6	2	0
2014	96	99	61	33	2	1	0
2015	96	98	50	41	7	0	0
2016	96	100	45	55	0	0	0
2017	96						
2018	96						

*Teachers - Percentage who agree:*

Year	Target	Actual Extremely Mostly Somewhat	Extremely Satisfied	Mostly Satisfied	Detail Somewhat Satisfied	Not too Satisfied	Not at all Satisfied
2013	97	98	53	40	6	1	0
2014	97	99	56	37	6	1	0
2015	97	99	57	38	5	0	0
2016	97	97	58	36	3	1	0
2017	97						
2018	97						

**Additional Information:** In 2016, data were collected using a survey instrument designed to measure the levels of consumer satisfaction specified in the objective. The individual factors were each rated on a separate 5-point Likert scale, with 5 representing the highest level of satisfaction. APH conducted surveys of the four groups of constituencies cited in the APH GPRA plan for 2015. These groups are: (1) Ex Officio Trustees of APH who are professionals in the field of blindness; (2) APH advisory committees; (3) other consumers of APH products; and (4) teachers of students who are visually impaired.

The percentages shown for each measure are composed of the respondents from each group that were “Extremely satisfied,” “Mostly satisfied,” or “Somewhat satisfied” with all three dimensions of product satisfaction (quality, timeliness, and appropriateness for targeted audience).

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The survey instrument was distributed electronically to 143 current Ex Officio Trustees of APH, advisory committee members, teachers, and consumers. In addition, the survey was available on the APH website. This made it easily available for response by individuals who were not on a specific mailing list, but who were encouraged to respond through invitations on list serves and in various newsletters and announcements. The web-based format also provides accessibility to visually impaired individuals who require alternate media.

There were 204 valid respondents to the 2016 survey. The subsets of that total are: (1) 43 Ex Officio Trustees; (2) 10 advisory committee members; (3) 125 teachers; and (4) 26 other consumers.

**Objective:** *To improve the quality of APH research and product usefulness.*

**Measure:** The percentage of APH product sales revenue that is from new products.

Year	Target	Actual
2013	22	45
2014	22	40
2015	22	18
2016	22	16
2017	22	
2018	22	

**Additional Information:** This measure was developed to help determine the efficacy of new products developed by APH. The purpose of the measure is to evaluate the reaction of consumers to new products created by the research department, which is determined by measuring the extent to which sales of new products surpass a minimum level of products sold. For fiscal year 2016, a total of \$3.1 million new products (defined as products introduced in fiscal years 2014 and 2015) were sold. Total product Sales for fiscal year 2016 was \$19.2 million. New products included the new version of the Refreshabrilie, Joy Player, and Orion TI-30XS calculator. Through a review of sales figures it is apparent that the success of three products, The VizioBook, TI-84 talking graphing calculator, and the Smartbrailier, introduced in 2013-14 has continued to represent the majority of Quota and Non-Quota product sales. This indicates that these products have met a need for the field as sales records continue to peak. These three items are more expensive items which limit the number of items agencies can purchase through the Quota system, and thus impacts the percentage of revenue generated from new products.

**Measure:** The average rating, according to approved criteria on relevance, for a sample of new American Printing House for the Blind products evaluated by an independent panel of qualified experts or individuals with appropriate expertise related to the target audience.

Year	Target	Actual
2013	4	5.0
2014	4	5.5
2015	4	5.8
2016	4	6.0
2017	4	
2018	4	

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**Additional Information:** To determine the average relevance rating, a panel of experts, who are proposed by APH and approved by the Department, reviews a random sample of new products developed each year by the Printing House to assess whether: (1) there is evidence of need for the product; (2) there is evidence that APH sought the opinions of knowledgeable individuals on the need for the product; (3) APH made the decision to produce the product based on a standardized process for product selection; (4) the product addresses an identified need for individuals who are visually impaired; and (5) the product is fully accessible for the intended population. The products are rated using a 7-point rating scale, where 1 equals “does not meet criteria, 4 equals “meets criteria,” and 7 equals “exceeds criteria.” The average of the scores is the number reported in the actual column. In fiscal 2016, the panel’s average rating increased from the prior year and continued to exceed the “meets criteria” rating. The small variations in the average score from year to year may reflect the changing composition of the expert review panel and the sample of the products rated.

Panel members reviewed and rated 8 new APH products during the on-site March 2016 expert panel meeting, including: (1) labeling, Marking, and Organization (2) Tactile Clothing Tape; (3) CVI Matchsticks; (4) Nemeth Tutorial; (5) PAIVI; (6) Quick and Easy ECC; (7) The Joy Player; and (8) TI-30XS Talking Scientific Calculator. These products - representing the variety of products produced by APH - were purposefully selected by APH for review by the expert panel.

During the on-site March 2016 expert panel meeting, panel members found the inclusion of short 1-2 minute videos about the product helpful during their initial reviews. It was particularly important for those products a panel member might not yet have seen or experienced in person as it helps provide some perspective on the reports they were reading. Panel members determined that these APH products met the criteria defined for relevance; that is, these products were relevant and addressed the needs of consumers who are blind and visually impaired.

**Measure:** The average rating, according to approved criteria on quality of research, for a sample of new American Printing House for the Blind products evaluated by an independent panel of qualified experts or individuals with appropriate expertise related to the target audience.

Year	Target	Actual
<b>2013</b>	4	4.4
<b>2014</b>	4	5.3
<b>2015</b>	4	5.4
<b>2016</b>	4	5.6
<b>2017</b>	4	
<b>2018</b>	4	

**Additional Information:** The panel of experts annually reviews a purposefully selected sample of new products developed each year by APH to assess whether: (1) appropriate research methodologies are being used consistent with the type of product being developed; (2) sufficient supporting information and evidence is collected by research data methods; (3) data are gathered from a geographically diverse U.S. population and a variety of potential user groups; (4) evaluation data are gathered from appropriately qualified individuals; (5) research data are

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gathered from an adequate number of sources; (6) development demonstrates use of field-reviewed data for modification to the product prior to final development; and (7) data are gathered on student and consumer outcomes related to the use of the proposed product. The products are rated using a 7-point rating scale, where 1 equals “does not meet criteria, 4 equals “meets criteria,” and 7 equals “exceeds criteria.” The mean of the scores is the number reported.

Panel members reviewed and rated 8 new APH products during the on-site March 2016 expert panel meeting, including: (1) Labeling, Marking, and Organization (2) Tactile Clothing Tape; (3) CVI Matchsticks; (4) Nemeth Tutorial; (5) PAIVI; (6) Quick and Easy ECC; (7) The Joy Player; and (8) TI-30XS Talking Scientific Calculator. These products - representing the variety of products produced by APH - were purposefully selected by APH for review by the expert panel. Panel members were complimentary about the effort in the area of research in the vast majority of the reports. Use of the template by project leaders for creating the reports was helpful to the panel since data related to each of the three factors were easy to find. The panel recognized the dedication and passion of the project leaders and the quality of work being conducted. At the same time, panel members stated that APH needs to continue its efforts to collect relevant and useful data on the links between products and student learning outcomes.

**Measure:** The average rating, according to approved criteria on utility, for a sample of new American Printing House for the Blind products evaluated by an independent panel of qualified experts or individuals with appropriate expertise related to the target audience.

Year	Target	Actual
2013	4	5.2
2014	4	5.5
2015	4	6.0
2016	4	6.1
2017	4	
2018	4	

**Additional Information:** For this measure, the panel of experts annually reviews a purposefully selected sample of new products developed each year by APH to assess whether: (1) sales of the new products indicate demand; (2) new product indicators, such as field evaluations and other feedback, substantiate that the new product is meeting a need; and (3) the products are considered highly useful for individuals with visual impairments. The products are rated using a 7-point rating scale, where 1 equals “does not meet criteria, 4 equals “meets criteria,” and 7 equals “exceeds criteria.” In fiscal 2016, the average rating continued to increase and the target “meets criteria” rating was once again exceeded. Panel members stated that updates on specific products provided by the project leaders during the on-site presentations, along with hands-on demonstration and videos, were helpful in determining the utility of APH products for this category.

### Efficiency Measures

The Department worked closely with the Printing House to develop appropriate efficiency measures for the Federal program at APH.

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**Measure:** The cost (in cents) per page to produce color large type textbooks.

Year	Target	Actual
2013	11.5¢	9.3¢
2014	12.0	8.2
2015	10.0	8.9
2016	10.0	7.6
2017	10.0	
2018	10.0	

**Additional Information:**

There are three variables used in calculating the cost per page for both the production of color large type and braille textbooks. These three variables are: (1) the actual cost of manufacturing the pages; (2) the total number of pages produced annually; and (3) the average number of pages per volume. Factors that can affect these variables include the costs of raw materials and equipment, demand for products, and efficiency of operations.

In fiscal year 2016, the total number of large type color pages increased by 447 thousand or 5.8 percent and the number of volumes increased by 34,000 or 19.8 percent when compared to fiscal year 2015. Total production expenses decreased by \$2,000 or 2 percent. As a result, the cost per page decreased by 1.3 cents to 7.6 cents per page, which is still under the target of 10 cents per page. (APH printed 8.2 million pages of color large print type textbooks at a cost of \$1.2 million in 2015.)

**Measure:** The cost (in cents) per page to produce braille textbooks.

Year	Target	Actual
2013	11.0¢	15.2¢
2014	10.7	17.1
2015	15.0	15.1
2016	15.0	13.9
2017	15.0	
2018	15.0	

**Additional Information:** In fiscal year 2016, the total number of braille textbook pages increased by 1.1 million or 14.5 percent and the number of volumes increased by 18,000 or 14.5 percent, compared to fiscal year 2015. Total production expenses increased by \$47,000 or 4.1 percent. As a result, the total cost to produce braille textbooks decreased by 1.2 cents or 7.6 percent to 13.9 cents per page, almost meeting the target of 15 cents per page. (APH printed 8.7 million pages of braille textbooks at a cost of \$1.2 million in fiscal year 2016.)