
Reports on the Audit of Federal Award Programs in Accordance with OMB Uniform Guidance

**The Pennsylvania State University
Fiscal Year Ended June 30, 2018**

University Park, Pennsylvania

**THE PENNSYLVANIA STATE UNIVERSITY
REPORTS ON THE AUDIT OF FEDERAL AWARD PROGRAMS
IN ACCORDANCE WITH OMB UNIFORM GUIDANCE
FISCAL YEAR ENDED JUNE 30, 2018**

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PennState

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Joseph J. Doncsecz
Associate Vice President for Finance
and Corporate Controller

The Pennsylvania State University
408 Old Main
University Park, PA 16802-1505

March 11, 2019

Federal Audit Clearinghouse
1201 E. 10th Street
Jeffersonville, IN 47132

To Whom It May Concern:

The Pennsylvania State University's financial, internal control and compliance reports for the fiscal year ended June 30, 2018 are presented on the accompanying pages. The reports have been issued in accordance with the Office of Management and Budget (OMB) Title 2 U.S. Code of Federal Regulations (CFR) Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. Also enclosed is The Pennsylvania State University's schedule of findings and questioned costs.

Sincerely,

Joseph J. Doncsecz
Associate Vice President for Finance and Corporate Controller

JJD/kjm

Enclosures

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Audited Financial Statements

The Pennsylvania State University
Fiscal Year Ended June 30, 2018

**Deloitte & Touche LLP**

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INDEPENDENT AUDITORS' REPORT

To the Board of Trustees of
The Pennsylvania State University
University Park, Pennsylvania

Report on the Financial Statements

We have audited the accompanying consolidated financial statements of The Pennsylvania State University and its subsidiaries (the "University"), which comprise the consolidated statements of financial position as of June 30, 2018 and 2017, and the related consolidated statements of activities and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States.

The consolidated financial statements of the University include various subsidiaries as outlined in Note 1 to the consolidated financial statements. The Penn State Health subsidiaries, including Saint Joseph's Regional Health Network and Medical Group, Nittany Health, Inc., Penn State Community Medical Group, Central PA Health Network, and 4814 Development Assoc., Inc. and The Corporation for Penn State subsidiaries, including Penn State Recycling Markets Center, Research Park Management Corporation, The Pennsylvania State University Philanthropic Fund, Ben Franklin Technology Center of Central & Northern PA, Penn State Research Foundation, Research Park Hotel Corporation, and Nittany Insurance Company, are audited in accordance with generally accepted auditing standards, but were not audited in accordance with *Government Auditing Standards* and, accordingly, are not covered by our reports in accordance with *Government Auditing Standards*. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the

auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the University's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

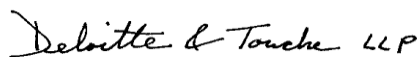
We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the University as of June 30, 2018 and 2017, and the changes in its net assets and its cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 23, 2018 on our consideration of the University's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal controls over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with the *Government Auditing Standards* in considering the University's internal control over financial reporting and compliance.

 Deloitte & Touche LLP

October 23, 2018

THE PENNSYLVANIA STATE UNIVERSITY
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
ASSETS
JUNE 30, 2018 AND 2017
(in thousands)

	<u>June 30, 2018</u>	<u>June 30, 2017</u>
Current assets:		
Cash and cash equivalents	\$ 2,089,105	\$ 1,761,703
Short-term investments	331,421	325,758
Deposits held by bond trustees	87,459	138,954
Deposits held for others	36,845	37,031
Accounts receivable, net of allowances of \$84,647 and \$88,731	568,924	542,603
Contributions receivable, net	62,318	60,893
Loans to students, net of allowances of \$639 and \$570	9,352	9,461
Inventories	48,721	48,152
Prepaid expenses and other assets	109,481	105,807
Total current assets	<u>3,343,626</u>	<u>3,030,362</u>
Noncurrent assets:		
Deposits held by bond trustees	15,200	40,000
Contributions receivable, net	134,167	140,165
Loans to students, net of allowances of \$2,804 and \$2,548	50,015	49,121
Total investment in plant, net	5,248,322	4,921,412
Beneficial interest in perpetual trusts	23,587	19,854
Investments	6,065,540	5,716,986
Other assets	136,815	112,391
Total noncurrent assets	<u>11,673,646</u>	<u>10,999,929</u>
 Total assets	 <u><u>\$15,017,272</u></u>	 <u><u>\$14,030,291</u></u>

See notes to consolidated financial statements.

THE PENNSYLVANIA STATE UNIVERSITY
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
LIABILITIES AND NET ASSETS
JUNE 30, 2018 AND 2017
(in thousands)

	<u>June 30, 2018</u>	<u>June 30, 2017</u>
Current liabilities:		
Accounts payable and other accrued expenses	\$ 712,590	\$ 689,885
Deferred revenue	358,004	341,261
Long-term debt	57,164	49,432
Present value of annuities payable	6,781	6,574
Accrued postretirement benefits	61,286	56,466
Total current liabilities	<u>1,195,825</u>	<u>1,143,618</u>
Noncurrent liabilities:		
Deposits held in custody for others	28,031	32,724
Deferred revenue	783	1,218
Long-term debt	1,393,013	1,419,961
Present value of annuities payable	52,455	51,496
Accrued postretirement benefits	2,132,269	2,261,996
Refundable United States Government student loans	46,708	46,713
Other liabilities	243,794	230,067
Total noncurrent liabilities	<u>3,897,053</u>	<u>4,044,175</u>
Total liabilities	<u>5,092,878</u>	<u>5,187,793</u>
Net assets:		
Unrestricted -		
Undesignated	1,743	1,692
Designated for specific purposes	3,878,698	3,350,691
Net investment in plant	3,316,763	3,169,239
Total unrestricted - The Pennsylvania State University	<u>7,197,204</u>	<u>6,521,622</u>
Noncontrolling interest	223,647	4,609
Total unrestricted	7,420,851	6,526,231
Temporarily restricted	784,883	708,103
Permanently restricted	1,718,660	1,608,164
Total net assets	<u>9,924,394</u>	<u>8,842,498</u>
Total liabilities and net assets	<u><u>\$15,017,272</u></u>	<u><u>\$14,030,291</u></u>

See notes to consolidated financial statements.

THE PENNSYLVANIA STATE UNIVERSITY
CONSOLIDATED STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2018
(in thousands)

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Operating revenues and other support:				
Tuition and fees, net of discounts of \$214,774	\$ 1,820,971	\$ -	\$ -	\$ 1,820,971
Commonwealth of Pennsylvania -				
Appropriations	298,312	-	-	298,312
Special contracts	70,800	-	-	70,800
Department of General Services projects	47,809	-	-	47,809
United States Government grants and contracts	495,851	-	-	495,851
Private grants and contracts	222,350	-	-	222,350
Gifts and pledges	75,367	12,433	-	87,800
Endowment spending	105,183	-	-	105,183
Other investment income	154,092	1,598	-	155,690
Sales and services of educational activities	100,992	-	-	100,992
Recovery of indirect costs	179,879	-	-	179,879
Auxiliary enterprises	482,089	-	-	482,089
Health System revenue, net of provision for bad debts of \$50,660	2,276,366	-	-	2,276,366
Other sources	19,648	-	-	19,648
Net assets released from restrictions	4,318	(4,318)	-	-
Total operating revenues and other support	6,354,027	9,713	-	6,363,740
Operating expenses:				
Educational and general -				
Instruction	1,420,364	-	-	1,420,364
Research	857,786	-	-	857,786
Public service	101,470	-	-	101,470
Academic support	399,597	-	-	399,597
Student services	208,112	-	-	208,112
Institutional support	375,025	-	-	375,025
Total educational and general	3,362,354	-	-	3,362,354
Auxiliary enterprises	444,125	-	-	444,125
Health System expense	2,121,177	-	-	2,121,177
Total operating expenses	5,927,656	-	-	5,927,656
Increase in net assets from operating activities	426,371	9,713	-	436,084
Nonoperating activities:				
Gifts and pledges	-	-	99,039	99,039
Current year investment returns	94,495	69,206	13,543	177,244
Endowment appreciation utilized	(73,903)	-	-	(73,903)
Changes in funds held by others in perpetuity	-	-	3,732	3,732
Write-offs and disposals of assets	(14,887)	-	-	(14,887)
Nonperiodic change in postretirement benefit plan	243,506	-	-	243,506
Actuarial adjustment on annuities payable	-	(2,139)	(5,818)	(7,957)
Increase in net assets from nonoperating activities	249,211	67,067	110,496	426,774
Increase in net assets - The Pennsylvania State University	675,582	76,780	110,496	862,858
Noncontrolling interest:				
Capital contributions - Health System	200,000	-	-	200,000
Excess of revenues over expenses	19,038	-	-	19,038
Increase in net assets - noncontrolling interest	219,038	-	-	219,038
Increase in total net assets	894,620	76,780	110,496	1,081,896
Net assets at the beginning of the year	6,526,231	708,103	1,608,164	8,842,498
Net assets at the end of the year	\$ 7,420,851	\$ 784,883	\$ 1,718,660	\$ 9,924,394

See notes to consolidated financial statements.

THE PENNSYLVANIA STATE UNIVERSITY
CONSOLIDATED STATEMENT OF ACTIVITIES
FOR THE YEAR ENDED JUNE 30, 2017
(in thousands)

	Unrestricted	Temporarily Restricted	Permanently Restricted	Total
Operating revenues and other support:				
Tuition and fees, net of discounts of \$205,002	\$ 1,786,430	\$ -	\$ -	\$ 1,786,430
Commonwealth of Pennsylvania -				
Appropriations	296,764	-	-	296,764
Special contracts	68,933	-	-	68,933
Department of General Services projects	47,500	-	-	47,500
United States Government grants and contracts	479,717	-	-	479,717
Private grants and contracts	216,596	-	-	216,596
Gifts and pledges	62,906	24,631	-	87,537
Endowment spending	98,521	-	-	98,521
Other investment income	140,235	1,046	-	141,281
Sales and services of educational activities	84,508	-	-	84,508
Recovery of indirect costs	171,442	-	-	171,442
Auxiliary enterprises	465,716	-	-	465,716
Health System revenue, net of provision for bad debts of \$46,251	2,073,496	-	-	2,073,496
Other sources	40,628	-	-	40,628
Net assets released from restrictions	2,859	(2,859)	-	-
Total operating revenues and other support	6,036,251	22,818	-	6,059,069
Operating expenses:				
Educational and general -				
Instruction	1,402,451	-	-	1,402,451
Research	810,985	-	-	810,985
Public service	100,573	-	-	100,573
Academic support	404,098	-	-	404,098
Student services	204,943	-	-	204,943
Institutional support	400,646	-	-	400,646
Total educational and general	3,323,696	-	-	3,323,696
Auxiliary enterprises	426,204	-	-	426,204
Health System expense	1,927,155	-	-	1,927,155
Total operating expenses	5,677,055	-	-	5,677,055
Increase in net assets from operating activities	359,196	22,818	-	382,014
Nonoperating activities:				
Gifts and pledges	-	-	83,529	83,529
Current year investment returns	160,882	136,561	9,056	306,499
Endowment appreciation utilized	(75,871)	-	-	(75,871)
Changes in funds held by others in perpetuity	-	-	5,204	5,204
Write-offs and disposals of assets	(4,815)	-	-	(4,815)
Nonperiodic change in postretirement benefit plan	(51,116)	-	-	(51,116)
Actuarial adjustment on annuities payable	-	(2,349)	(8,463)	(10,812)
Increase in net assets from nonoperating activities	29,080	134,212	89,326	252,618
Increase in net assets - The Pennsylvania State University	388,276	157,030	89,326	634,632
Noncontrolling interest:				
Excess of revenues over expenses	922	-	-	922
Increase in net assets - noncontrolling interest	922	-	-	922
Increase in total net assets	389,198	157,030	89,326	635,554
Net assets at the beginning of the year	6,137,033	551,073	1,518,838	8,206,944
Net assets at the end of the year	\$ 6,526,231	\$ 708,103	\$ 1,608,164	\$ 8,842,498

See notes to consolidated financial statements.

THE PENNSYLVANIA STATE UNIVERSITY
CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30, 2018 AND 2017
(in thousands)

	June 30, 2018	June 30, 2017
Cash flows from operating activities:		
Increase in net assets	\$ 1,081,896	\$ 635,554
Adjustments to reconcile change in net assets to net cash provided by operating activities -		
Actuarial adjustment on annuities payable	7,957	10,812
Contributions restricted for long-term investment	(93,274)	(98,202)
Interest and dividends restricted for long-term investment	(89,759)	(78,598)
Net realized and unrealized (gains) losses on long-term investments	(258,722)	(408,457)
Capital contributions - Health System	(200,000)	-
Depreciation expense	371,570	350,531
Amortization expense	(194)	(52)
Loss on early extinguishment of debt	-	3,688
Write-offs and disposals of assets	15,905	5,126
Contributions of land, buildings and equipment	(6,625)	(2,960)
Contribution to government student loan funds	-	154
Provision for bad debts	62,616	63,136
Decrease (increase) in deposits held for others	186	(26,792)
Increase in receivables	(121,554)	(95,725)
Increase in inventories	(622)	(5,679)
Increase in prepaid expenses and other assets	(41,911)	(954)
(Decrease) increase in accounts payable and other accrued expenses	(7,423)	118,800
Increase in deferred revenue	16,309	26,319
(Decrease) increase in accrued postretirement benefits	(124,909)	169,939
Net cash provided by operating activities	<u>611,446</u>	<u>666,640</u>
Cash flows from investing activities:		
Purchase of land, buildings and equipment	(681,899)	(647,429)
Decrease (increase) in deposits held by bond trustees	76,295	(47,867)
Advances on student loans	(10,121)	(10,652)
Collections on student loans	8,490	10,900
Proceeds from sale of donated financial assets	-	236
Purchase of investments	(3,184,549)	(3,761,462)
Proceeds from sale of investments	3,156,165	3,720,543
Net cash used in investing activities	<u>(635,619)</u>	<u>(735,731)</u>
Cash flows from financing activities:		
Contributions restricted for long-term investment	93,274	98,202
Interest and dividends restricted for long-term investment	89,759	78,598
Capital contributions - Health System	200,000	-
Payments of annuity obligations	(6,810)	(6,602)
Proceeds from long-term debt	74,607	368,213
Principal payments on long-term debt	(99,675)	(103,303)
Proceeds related to government student loan funds, net of collection costs	420	172
Net cash provided by financing activities	<u>351,575</u>	<u>435,280</u>
Net increase in cash and cash equivalents	327,402	366,189
Cash and cash equivalents at the beginning of the year	<u>1,761,703</u>	<u>1,395,514</u>
Cash and cash equivalents at the end of the year	<u><u>\$ 2,089,105</u></u>	<u><u>\$ 1,761,703</u></u>

Supplemental disclosures of cash flow information (Note 2)

See notes to consolidated financial statements.

THE PENNSYLVANIA STATE UNIVERSITY
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2018 AND 2017

1. THE UNIVERSITY AND RELATED ENTITIES

The Pennsylvania State University ("the University"), which was created as an instrumentality of the Commonwealth of Pennsylvania ("the Commonwealth" or "Pennsylvania"), is organized as a non-profit corporation under the laws of the Commonwealth. As Pennsylvania's land grant university, the University is committed to improving the lives of the people of Pennsylvania, the nation and the world through its integrated, tri-part mission of high-quality teaching, research and outreach.

Basis of Presentation

The financial statements of the University include, on a consolidated basis, the consolidated financial statements of Penn State Health ("the Health System"), a Pennsylvania non-profit corporation, and its wholly owned subsidiaries, and the financial statements of The Corporation for Penn State and its subsidiaries ("the Corporation"). See Note 11 for additional information about the Health System. The Corporation is a non-profit member corporation organized in 1985 for the exclusive purpose of benefiting and promoting the interests of the University, the Corporation's sole member. The Corporation's financial statements consist primarily of the assets and revenues of The Pennsylvania College of Technology ("Penn College"), a wholly owned subsidiary of the Corporation. All transactions among the University, the Health System, and the Corporation have been eliminated.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting

The University's consolidated financial statements are prepared on the accrual basis of accounting in conformity with accounting principles generally accepted in the United States of America (GAAP). The Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) is the source of authoritative GAAP.

The University's consolidated financial statements include statements of financial position, activities and cash flows. In accordance with FASB ASC requirements, net assets and the changes in net assets are classified as permanently restricted, temporarily restricted or unrestricted.

Permanently restricted net assets consist primarily of the historical amounts of endowed gifts. Additionally, contributions receivable and remainder interests, which are required by donors to be permanently retained, are included at their estimated net present values.

Temporarily restricted net assets consist of contributions receivable and remainder interests whose ultimate use is not permanently restricted. In addition, the excess of current market value over the historical cost of permanently restricted endowments is classified as temporarily restricted net assets.

Unrestricted net assets are all the remaining net assets of the University. Net unrealized losses on permanently restricted endowment funds for which historical cost exceeds market value are recorded as a reduction to unrestricted net assets.

Revenue from temporarily restricted sources is reclassified as unrestricted revenue when the circumstances of the restriction have been fulfilled. Donor-restricted revenues whose restrictions are met within the same fiscal year are reported as unrestricted income.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts on the financial statements and the disclosure of contingencies and commitments. Actual results could differ from those estimates.

Revenue Recognition

Tuition revenue is recognized in the fiscal year in which the substantial portion of the educational term occurs. Institutional financial aid provided by the University for tuition and fees is reflected as a reduction of tuition and fee revenue. Revenues for auxiliary enterprises are recognized as the related goods and services are delivered and rendered. Grant revenues are recognized as the eligible grant activities are conducted. Payments received in advance for tuition, goods and services are deferred.

Unconditional promises to give are recognized as revenues and receivables in the year made and consist of written or oral promises to contribute to the University in the future. Contributions receivable are recorded with the revenue assigned to the appropriate category of restriction. The amounts are present valued based on timing of expected collections.

The Health System has agreements with third-party payors that provide for payments to its subsidiaries at amounts different from their established rates. Payment arrangements include prospectively determined rates per discharge, reimbursed costs, discounted charges and per diem payments. Net patient service revenue is reported at the estimated net realizable amounts from patients, third-party payors and others for services rendered, including estimated retroactive adjustments under reimbursement agreements with third-party payors. In addition, net patient service revenue is net of provision for bad debts of \$50.7 million and \$46.3 million for the years ended June 30, 2018 and 2017, respectively. Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as final settlements are determined or such estimates change.

The subsidiaries of the Health System provide care to patients who meet certain criteria under its charity care policy without charge or at amounts less than established rates. The Health System does not pursue collection of amounts determined to qualify as charity care; these amounts are not reported as net patient service revenue. The amounts of direct and indirect costs for services and supplies furnished under the Health System's charity care policy totaled approximately \$26.0 million and \$27.4 million for the years ended June 30, 2018 and 2017, respectively, and is based on a ratio of the Health System's operational costs to its gross charges. The amount of charges foregone for services and supplies furnished under the Health System's charity policy totaled approximately \$53.2 million during 2018 and 2017, respectively.

Fair Value of Financial Instruments

The University has provided fair value estimates for certain financial instruments. Fair value information presented in the financial statements is based on information available at June 30, 2018 and 2017. The carrying amounts of cash and cash equivalents, accounts receivable and accounts payable and other accrued expenses approximate fair value because of the terms and relatively short maturity of these financial instruments. The carrying values of the University's loans to students are also reasonable estimates of their fair value, as the total outstanding loans to students as of June 30, 2018 and 2017 have been made at the rates available to students for similar loans at such times. Investments are reported at fair value as disclosed in Note 3. The fair value of the University's bonds payable is disclosed in Note 7. See Note 5 for further discussion of fair value measurements.

Cash Flows

The following items are included as supplemental disclosure to the statements of cash flows for the years ended June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Interest paid	\$ 51,533	\$ 42,826
Non-cash acquisitions of land, buildings and equipment	12,426	33,010

Capitalized costs accrued related to construction are \$88.7 million and \$73.6 million as of June 30, 2018 and 2017, respectively. Taxes paid for 2018 and 2017 are considered immaterial. Cash and cash equivalents include certain investments in highly liquid instruments with initial maturities of 90 days or less, except for such assets held by the University's investment managers as part of their long-term investment strategies. Short-term investments include other current investments held for general operating purposes with maturities greater than 3 months but less than 12 months.

Accounts Receivable

Accounts receivable, net at June 30 consists of the following:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Grants and contracts, net of allowance of \$2,267 and \$2,214	\$ 181,641	\$ 187,903
Patient accounts receivable, net of allowance of \$61,634 and \$61,448	250,789	197,613
Student receivables, net of allowance of \$13,840 and \$18,500	49,102	54,162
Investment and interest receivable	7,990	47,197
Other, net of allowance of \$6,906 and \$6,569	79,402	55,728
Total accounts receivable, net	<u>\$ 568,924</u>	<u>\$ 542,603</u>

The University maintains allowances for doubtful accounts to reflect management's best estimate of probable losses inherent in receivable balances. Management determines the allowances for doubtful accounts based on known factors, historical experience, and other currently available evidence. Receivables are written off when management determines they will not be collected.

Related to patient accounts receivable associated with services provided to patients who have third-party coverage, management analyzes contractually due amounts and provides an allowance for doubtful accounts (for example, for expected uncollectible deductibles and copayments or for payors who are known to be having financial difficulties that make the realization of amounts due unlikely). For receivables from self-pay patients, the subsidiaries of the Health System record a provision for bad debts in the period of service on the basis of past experience, which indicates that many patients are unable or unwilling to pay the portion of their bill for which they are financially responsible. In estimating the allowance for doubtful accounts, account age is taken into consideration. The difference between the standard rates (or the discounted rates if negotiated) and the amounts actually collected after all reasonable collection efforts have been exhausted is charged off against the allowance for doubtful accounts.

Loans to Students

Loans to students are disbursed to qualified students based on need and include loans granted by the University from institutional resources and under federal government loan programs. Students have a grace period until repayment is required based upon the earlier of graduation or no longer achieving at least half-time enrollment status. The grace period varies depending on the type of loan. Loans accrue interest after the grace period and are repaid directly to the University. Loans to students are uncollateralized and carry default risk. At June 30, 2018 and 2017, student loans represent 0.4% of total assets, respectively.

The availability of funds for loans under federal government revolving loan programs is dependent on reimbursements to the pool from repayments of outstanding loans. Funds advanced by the federal government of \$46.7 million at June 30, 2018 and 2017, are ultimately refundable to the government and are classified as liabilities in the consolidated statements of financial position. Outstanding loans cancelled under the program result in a reduction of the funds available to loan and a decrease in the liability to the federal government.

Loans to students consisted of the following at June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Loans to students:		
Federal government loan programs:		
Perkins loan program	\$ 42,720	\$ 42,772
Health Professions Student Loans and Loans for Disadvantaged Students	<u>20</u>	<u>39</u>
Federal government loan programs	42,740	42,811
Institutional loan programs	<u>20,070</u>	<u>18,889</u>
	62,810	61,700
Less allowance for doubtful accounts:		
Balance, beginning of year	(3,118)	(2,526)
Provision for doubtful accounts	<u>(325)</u>	<u>(592)</u>
Balance, end of year	<u>(3,443)</u>	<u>(3,118)</u>
Loans to students, net	<u>\$ 59,367</u>	<u>\$ 58,582</u>

Allowances for doubtful accounts are established based on prior collection experience and current economic factors which, in management's judgment, could influence the ability of loan recipients to repay the amounts according to the terms of the loan. Further, the University does not evaluate credit quality of student loans receivable after the initial approval of the loan. Loans to students are considered past due when payment is not received by the due date, and interest continues to accrue until the loan is paid in full or written off. When loans to students are deemed uncollectible, an allowance for doubtful accounts is established.

The University considers the age of the amounts outstanding in determining the collectability of loans to students. The aging of the loans to students based on days delinquent and the related allowance for doubtful accounts at June 30 are as follows:

	(in thousands of dollars)				
	45 days or less	46-75 days	76-105 days	Over 105 days	Total
<u>2018</u>					
Loans to students:					
Federal government loan programs	\$ 36,928	\$ 37	\$ 43	\$ 5,732	\$ 42,740
Institutional loan programs	<u>17,272</u>	<u>22</u>	<u>19</u>	<u>2,757</u>	<u>20,070</u>
Total loans to students	<u>54,200</u>	<u>59</u>	<u>62</u>	<u>8,489</u>	<u>62,810</u>
Allowance for doubtful accounts:					
Federal government loan programs					(594)
Institutional loan programs					<u>(2,849)</u>
Total allowance for doubtful accounts					<u>(3,443)</u>
Total loans to students, net					<u>\$ 59,367</u>

	(in thousands of dollars)				
	45 days or less	46-75 days	76-105 days	Over 105 days	Total
<u>2017</u>					
Loans to students:					
Federal government loan programs	\$ 36,638	\$ 31	\$ 37	\$ 6,105	\$ 42,811
Institutional loan programs	<u>16,056</u>	<u>21</u>	<u>16</u>	<u>2,796</u>	<u>18,889</u>
Total loans to students	<u>52,694</u>	<u>52</u>	<u>53</u>	<u>8,901</u>	<u>61,700</u>
Allowance for doubtful accounts:					
Federal government loan programs					(457)
Institutional loan programs					<u>(2,661)</u>
Total allowance for doubtful accounts					<u>(3,118)</u>
Total loans to students, net					<u>\$ 58,582</u>

Inventories

Inventories are stated at the lower of cost or net realizable value on the first-in, first-out basis.

Investments

The University's noncurrent investments represent the University's endowment and other investments held for general operating purposes. The University's investments are reported at fair value in the accompanying financial statements. Investments in equity securities with readily determinable fair values and all investments in debt securities are reported at fair values with gains and losses included in the consolidated statements of activities. In the management of investments, the University authorizes certain investment managers to purchase derivative securities to attain a desired market position; and the University may directly invest in derivative securities to attain a desired market position. The University does not trade or issue derivative financial instruments other than through the investment management practices noted above. The University

records derivative securities at fair value with gains and losses reflected in the consolidated statements of activities.

The estimated fair value amounts for marketable debt, equity and fixed income securities held by the University have been determined using available market information as supplied by the various financial institutions that act as trustees or custodians for the University. For non-liquid holdings, generally limited partnership investments in private real estate, venture capital, private equity, natural resources, and private debt, estimated fair value is determined based upon financial information provided by the general partner. This financial information includes assumptions and methods that were reviewed by University management. The University believes that the estimated fair value is a reasonable estimate of market value as of June 30, 2018 and 2017. Because the limited partnerships are not readily marketable, the estimated value is subject to uncertainty and, therefore, may differ from the value that would have been used had a ready market existed, and such differences could be material.

Income on operating investments and income used for the annual distribution under the annual spending policy for endowments are reported in operating revenues within the consolidated statement of activities.

Beneficial Interest in Perpetual Trusts

The University is the beneficiary of certain perpetual trusts held and administered by outside trustees. The fair value of these trust assets has been recorded as permanently restricted net assets and related beneficial interest in perpetual trusts in the consolidated financial statements.

Investment in Plant

Total investment in plant as of June 30 is comprised of the following:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Land	\$ 149,603	\$ 134,153
Buildings	7,218,469	6,771,677
Improvements other than buildings	706,585	678,049
Equipment	<u>1,612,938</u>	<u>1,497,053</u>
Total plant	9,687,595	9,080,932
Less accumulated depreciation	<u>(4,439,273)</u>	<u>(4,159,520)</u>
Total investment in plant, net	<u>\$ 5,248,322</u>	<u>\$ 4,921,412</u>

The value of land, buildings, and equipment is recorded at cost or, if received as gifts, at fair value at date of gift commitment. The University does not capitalize the cost of library books. Depreciation is computed over the estimated useful lives of the assets using the straight-line method. Useful lives range from 4 to 50 years for buildings, 10 to 20 years for improvements other than buildings, and 1 to 20 years for equipment. Depreciation expense was \$371.6 million and \$350.5 million for the fiscal years ended June 30, 2018 and 2017, respectively. The University has certain building and equipment lease agreements in effect which are considered capital leases that are included as long-term debt in the statements of financial position. These leases have been capitalized at the lower of fair market value or net present value of the minimum lease payments. Buildings and equipment held under capital leases are amortized on a straight-line basis over the shorter of the lease terms or the estimated useful lives of the assets. The capitalized cost and accumulated depreciation of the leases at June 30, 2018 and 2017 were \$131.2 million and \$68.6 million, and \$188.0 million and \$85.4 million, respectively.

Accounts Payable and Other Accrued Expenses

Accounts payable and other accrued expenses at June 30 consist of the following:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Accounts payable (non-Health System)	\$ 299,611	\$ 265,025
Health System accounts payable and other accrued expenses	283,700	262,722
Accrued payroll and other related liabilities	108,782	143,546
Accrued bond interest	17,594	15,705
Student deposits	<u>2,903</u>	<u>2,887</u>
Total accounts payable and other accrued expenses	<u>\$ 712,590</u>	<u>\$ 689,885</u>

Impairment of Long-Lived Assets

Long-lived assets, which include investment in plant and definite-lived intangible assets, are assessed for impairment whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. An impairment loss is recognized in change in net assets in the period that the impairment occurs.

Asset Retirement Obligations

The University has recognized liabilities for asset retirement obligations. The University has identified asbestos abatement and the decommissioning of the Breazeale Nuclear Reactor as conditional asset retirement obligations. These obligations are reported as part of other noncurrent liabilities within the consolidated statement of financial position. The following table details the change in liabilities for the years ended June 30:

	<i>(in thousands of dollars)</i>
Balance as of June 30, 2016	\$ 74,102
Adjustment to liability	12,892
Accretion expense	3,164
Liabilities settled	<u>(6,945)</u>
Balance as of June 30, 2017	83,213
Adjustment to liability	2,855
Accretion expense	3,577
Liabilities settled	<u>(8,414)</u>
Balance as of June 30, 2018	<u>\$ 81,231</u>

Annuities Payable

Annuities payable consist of annuity payments currently due and the actuarial amount of annuities payable. The actuarial amount of annuities payable is the present value of the aggregate liability for annuity payments over the expected lives of the beneficiaries.

Net Assets

Net assets consist of the following at June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Unrestricted net assets	\$ 7,420,851	\$ 6,526,231
Temporarily restricted net assets:		
Future contributions	\$ 152,409	\$ 146,180
Annuity and life income funds	30,082	32,070
Contributions for property, plant and equipment	10,850	6,278
Term endowments and accumulated endowment gains	591,542	523,575
Total temporarily restricted net assets	<u>\$ 784,883</u>	<u>\$ 708,103</u>
Permanently restricted net assets:		
Future contributions	\$ 104,219	\$ 89,734
Annuity and life income funds	38,331	36,069
Student loan funds	17,310	16,890
Perpetual trusts and other funds	32,268	28,013
Endowment funds	1,526,532	1,437,458
Total permanently restricted net assets	<u>\$ 1,718,660</u>	<u>\$ 1,608,164</u>
Total net assets	<u>\$ 9,924,394</u>	<u>\$ 8,842,498</u>

Income Taxes

The University files U.S. federal and state tax returns. The statute of limitations on the University's federal returns generally remains open for three years following the year they are filed. In accordance with ASC 740 Income Taxes Topic, the University continues to evaluate tax positions and has determined there is no material impact on the University financial statements.

Recent Accounting Pronouncements

In May 2014, the FASB issued Accounting Standards Update ("ASU") 2014-09, *"Revenue from Contracts with Customers."* This update clarifies the principles for recognizing revenue that (1) removes inconsistencies and weaknesses in revenue requirements, (2) provides a more robust framework for addressing revenue issues, (3) improves comparability of revenue recognition practices across entities, industries, jurisdictions, and capital markets, (4) provides more useful information to users of financial statements through improved disclosure requirements, and (5) simplifies the preparation of financial statements by reducing the number of requirements to which an entity must refer. In August 2015, the FASB issued ASU 2015-14, *"Revenue from Contracts with Customers; Deferral of the Effective Date."* This update defers the effective date of the original ASU. The update is now effective for the University beginning July 1, 2018. The University is currently in the process of analyzing this guidance, and believes that any impact to the consolidated financial statements will be immaterial.

In July 2015, the FASB issued ASU 2015-11, *"Inventory; Simplifying the Measurement of Inventory."* This update requires entities to measure inventory within the scope of the update at the lower of cost and net realizable value and was effective for the University beginning July 1, 2017. The adoption of this guidance did not have a material impact on the consolidated financial statements.

In January 2016, the FASB issued ASU 2016-01, *"Financial Instruments – Overall; Recognition and Measurement of Financial Assets and Financial Liabilities."* This guidance addresses certain aspects of recognition, measurement, presentation, and disclosure of financial instruments. This guidance is effective for the University beginning July 1, 2018. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

In February 2016, the FASB issued ASU 2016-02, *"Leases."* This update requires substantial changes to lease accounting to increase transparency and comparability among organizations by recognizing lease

assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The main difference between previous GAAP and this guidance is the recognition of lease assets and lease liabilities by lessees for those leases classified as operating under previous GAAP. This update is effective for the University beginning July 1, 2019 with early adoption permitted. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

In August 2016, the FASB issued ASU 2016-14, *“Not-for-Profit Entities; Presentation of Financial Statements of Not-for-Profit Entities.”* This update amends the requirements for financial statements and notes in Topic 958, Not-for-Profit Entities. The most significant amendment requires a not-for-profit entity (“NFP”) to present on the face of the statement of financial position amounts for two classes of net assets at the end of the period, rather than for the currently required three classes. That is, an NFP will report amounts for *net assets with donor restrictions* and *net assets without donor restrictions*, as well as the currently required amount for total net assets. This update is effective for the University beginning July 1, 2018 with early adoption permitted. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

In August 2016, the FASB issued ASU 2016-15, *“Statement of Cash Flows; Classification of Certain Cash Receipts and Cash Payments.”* This update provides guidance on eight specific cash flows issues with the objective of reducing the existing diversity in practice. This update is effective for the University beginning July 1, 2018 with early adoption permitted. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

In January 2017, the FASB issued ASU 2017-02, *“Not-for-Profit Entities—Consolidation; Clarifying When a Not-for-Profit Entity That Is a General Partner or a Limited Partner Should Consolidate a For-Profit Limited Partnership or Similar Entity.”* This update amends the consolidation guidance in Subtopic 958-810, Not-for-Profit Entities—Consolidation, to clarify when a NFP that is a general partner or a limited partner should consolidate a for-profit limited partnership or similar legal entity once the amendments in ASU 2015-02 become effective. This update was effective for the University beginning July 1, 2017. The adoption of this guidance did not have a material impact on the consolidated financial statements.

In March 2017, the FASB issued ASU 2017-07, *“Compensation – Retirement Benefits; Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost.”* This update requires that an employer report the service cost component in the same line items as other compensation costs arising from services rendered by the pertinent employees during the period. In addition, the other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This update is effective for the University beginning July 1, 2018 with early adoption permitted. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

In June 2018, the FASB issued ASU 2018-08, *“Not-for-Profit Entities; Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made.”* This update clarifies and improves current guidance about whether a transfer of assets (or the reduction, settlement, or cancellation of liabilities) is a contribution or an exchange transaction. In addition, this update requires that an entity determine whether a contribution is conditional on the basis of whether an agreement includes a barrier that must be overcome and either a right of return of assets transferred or a right of release of a promisor’s obligation to transfer assets. This update is effective for the University beginning July 1, 2018. The University is currently in the process of analyzing this guidance, and believes that any impact to the consolidated financial statements will be immaterial.

In August 2018, the FASB issued ASU 2018-13, *“Fair Value Measurement; Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement.”* This update modifies the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement. This update is effective for the University beginning July 1, 2020, with early adoption permitted. The University has not yet evaluated the impact this guidance may have on its consolidated financial statements.

3. INVESTMENTS

Investments by major category as of June 30 are summarized as follows:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
Money markets	\$ 183,623	\$ 144,065
Fixed income:		
U.S. government/agency	874,684	1,030,281
U.S. corporate	791,604	972,121
Foreign	202,459	183,270
Other	441,925	228,070
Equities	2,135,407	1,911,096
Private capital	<u>1,767,259</u>	<u>1,573,841</u>
Total	<u>\$ 6,396,961</u>	<u>\$ 6,042,744</u>

Other fixed income investments consist of collateralized mortgage obligations, mortgage-backed securities and asset-backed securities. Equity investments are comprised of domestic and foreign common stocks. Private capital consists primarily of interests in private real estate, venture capital, private equity, natural resources, private debt, commodities and hedge fund limited partnerships.

Futures contracts comprise the University's beneficially held derivative instruments at June 30, 2018 and 2017, and are included in the fair value of the University's investments. These contracts are fully cash collateralized and marked to market daily. The fair value of derivative instruments is included in the fair value of the University's investments within the money market category. Futures contracts have minimal credit risk because the counterparties are the exchanges themselves. Fully cash collateralized derivative securities comprised \$4.0 million, 0.06% of total investments, and \$5.2 million, 0.09% of total investments at June 30, 2018 and 2017, respectively. The University's derivatives consist of S&P 500 futures at June 30, 2018 and 2017 and are employed as a low cost, passive investment vehicle with daily liquidity which allows the University to maintain desired market exposure in light of irregular cash flows.

The following schedules summarize the investment return and its classification in the consolidated statement of activities for the years ended June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Investment income	\$ 185,372	\$ 185,372	\$ 1,598	\$ 13,543	\$ 200,513
Net realized gains	73,428	73,428	34,663	-	108,091
Net unrealized gains	<u>21,067</u>	<u>21,067</u>	<u>34,543</u>	<u>-</u>	<u>55,610</u>
Total returns	<u>\$ 279,867</u>	<u>\$ 279,867</u>	<u>\$ 70,804</u>	<u>\$ 13,543</u>	<u>\$ 364,214</u>

<i>(in thousands of dollars)</i>	<u>2017</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Investment income	\$ 162,885	\$ 162,885	\$ 1,046	\$ 9,056	\$ 172,987
Net realized gains	82,810	82,810	43,339	-	126,149
Net unrealized gains	<u>78,072</u>	<u>78,072</u>	<u>93,222</u>	<u>-</u>	<u>171,294</u>
Total returns	<u>\$ 323,767</u>	<u>\$ 323,767</u>	<u>\$ 137,607</u>	<u>\$ 9,056</u>	<u>\$ 470,430</u>

4. ENDOWMENT NET ASSETS

The University's endowment includes both donor-restricted endowment funds and funds designated to function as endowments. As required by GAAP, net assets associated with endowment funds, including funds designated to function as endowments, are classified and reported based on the existence or absence of donor-imposed restrictions.

The ASC Not-for-Profit Entities Presentation of Financial Statements Subtopic (ASC Subtopic 958-205) provides guidance on the net asset classification of donor-restricted endowment funds for not-for-profit organizations subject to an enacted version of the Uniform Prudent Management of Institutional Funds Act ("UPMIFA") and improves disclosure about an organization's endowment funds regardless of whether the organization is subject to UPMIFA. The Commonwealth of Pennsylvania has not adopted UPMIFA but rather has enacted Pennsylvania Act 141 ("PA Act 141"). PA Act 141 permits an organization's trustees to define income as a stipulated percentage of endowment assets (between 2% and 7% of the fair value of the assets averaged over a period of at least three preceding years) without regard to actual interest, dividend, or realized and unrealized gains.

The University has interpreted PA Act 141 to permit the University to spend the earnings of its endowment based on a total return approach, without regard to the fair value of the original gift. As a result of this interpretation, the University classifies as permanently restricted net assets the original value of gifts donated to the permanent endowment, the original value of subsequent gifts to the permanent endowment, and accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. Funds functioning as endowments are established at the direction of University management and are classified as unrestricted net assets due to the lack of external donor restrictions. Gains and losses attributable to permanent endowments are recorded as temporarily restricted net assets and gains and losses attributable to funds functioning as endowments are recorded as unrestricted net assets.

From time to time, due to unfavorable market fluctuations, the fair value of some assets associated with individual donor-restricted endowment funds may fall below the level that donors require to be retained as a perpetual fund, while other assets are unaffected to the same extent and maintain or exceed the level required. The aggregate amount of deficiencies at June 30, 2018 and 2017 was \$1.4 million and \$1.3 million, respectively, reported in unrestricted net assets on the consolidated statement of activities. Subsequent investment gains will be used to restore the balance up to the fair market value of the original gift. Subsequent gains above that amount will be recorded as temporarily restricted net assets.

Endowment net asset composition by type of fund as of June 30:

<i>(in thousands of dollars)</i>				
<u>2018</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Donor-restricted endowment funds	\$ (1,424)	\$ 589,395	\$ 1,511,704	\$ 2,099,675
Funds functioning as endowments	<u>762,836</u>	<u>-</u>	<u>-</u>	<u>762,836</u>
Total net assets	<u>\$ 761,412</u>	<u>\$ 589,395</u>	<u>\$ 1,511,704</u>	<u>\$ 2,862,511</u>
<i>(in thousands of dollars)</i>				
<u>2017</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Donor-restricted endowment funds	\$ (1,299)	\$ 521,602	\$ 1,424,224	\$ 1,944,527
Funds functioning as endowments	<u>651,647</u>	<u>-</u>	<u>-</u>	<u>651,647</u>
Total net assets	<u>\$ 650,348</u>	<u>\$ 521,602</u>	<u>\$ 1,424,224</u>	<u>\$ 2,596,174</u>

Changes in endowment net assets for the years ended June 30:

<i>(in thousands of dollars)</i> <u>2018</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Endowment net assets, beginning of the year	\$ 650,348	\$ 521,602	\$ 1,424,224	\$ 2,596,174
Endowment return:				
Endowment earnings	31,280	17	3,805	35,102
Net realized gains	86,307	33,681	-	119,988
Net unrealized gains	11,891	33,442	-	45,333
Reclassification of funds with deficiencies	(125)	125	-	-
Total endowment return	<u>129,353</u>	<u>67,265</u>	<u>3,805</u>	<u>200,423</u>
Contributions	-	528	83,675	84,203
Endowment spending	(105,183)	-	-	(105,183)
Transfers to create funds functioning as endowments	<u>86,894</u>	<u>-</u>	<u>-</u>	<u>86,894</u>
Endowment net assets, end of the year	<u>\$ 761,412</u>	<u>\$ 589,395</u>	<u>\$ 1,511,704</u>	<u>\$ 2,862,511</u>
<i>(in thousands of dollars)</i> <u>2017</u>	<u>Unrestricted</u>	<u>Temporarily Restricted</u>	<u>Permanently Restricted</u>	<u>Total</u>
Endowment net assets, beginning of the year	\$ 587,234	\$ 398,384	\$ 1,330,966	\$ 2,316,584
Endowment return:				
Endowment earnings	22,650	20	3,398	26,068
Net realized gains	89,401	41,482	-	130,883
Net unrealized gains	27,652	87,277	-	114,929
Reclassification of funds with deficiencies	6,054	(6,054)	-	-
Total endowment return	<u>145,757</u>	<u>122,725</u>	<u>3,398</u>	<u>271,880</u>
Contributions	-	493	89,860	90,353
Endowment spending	(98,521)	-	-	(98,521)
Transfers to create funds functioning as endowments	<u>15,878</u>	<u>-</u>	<u>-</u>	<u>15,878</u>
Endowment net assets, end of the year	<u>\$ 650,348</u>	<u>\$ 521,602</u>	<u>\$ 1,424,224</u>	<u>\$ 2,596,174</u>

Not included above are the endowment net assets of subsidiaries of \$20.2 million and \$18.1 million as of June 30, 2018 and 2017, respectively.

The University has adopted investment and spending policies for endowment assets that attempt to provide a relatively predictable stream of funding to programs supported by its endowment while seeking to maintain, over time, the purchasing power of the endowment assets. The overall management objective for the University's pooled endowment funds is to preserve or grow the real (inflation-adjusted) purchasing power of the assets through a prudent long-term investment strategy. This objective would be achieved on a total return basis. Under these policies, as approved by the Board of Trustees and the Penn State Investment Council, the primary investment objective of the University's pooled endowment is to attain a real total return (net of investment management fees) that at least equals a total annual effective spending rate of 5.25% (program spending of 4.5% plus administrative costs of 0.75%) over the long term.

To satisfy its long-term rate-of-return objectives, the University relies on a total return strategy in which investment returns are achieved through both capital appreciation (realized and unrealized) and current yield (interest and dividends). The University targets diversified asset allocation that places a greater emphasis on equity-based investments to achieve its long-term return objectives within prudent risk constraints. The endowment assets of the University are invested in a broad range of equities and fixed income securities, thereby limiting the market risk exposure in any one institution or individual investment.

The University has a policy of appropriating for distribution each year a certain percentage (4.5% for 2018 and 2017) of its pooled endowment fund's average fair market value over the prior five years preceding the fiscal year in which the distribution is planned. Accordingly, over the long term, the University expects the current spending policy to allow its endowment to provide generous current spending while preserving "intergenerational equity". This is consistent with the University's objective to maintain the purchasing power of the endowment assets held in perpetuity as well as to provide additional real growth through new gifts and investment returns.

5. FAIR VALUE MEASUREMENTS

The University utilizes the following fair value hierarchy, which prioritizes into three broad levels the inputs to valuation techniques used to measure fair value:

Level 1 – Quoted prices (unadjusted) for identical assets or liabilities in active markets as of the measurement date. Such instruments valued at Level 1 primarily consist of securities that are directly held and actively traded in public markets.

Level 2 – Inputs other than unadjusted quoted prices that are observable for the asset or liability, directly or indirectly, including quoted prices for similar assets or liabilities in active markets, inputs other than quoted prices that are observable for the asset or liability, and inputs that are derived from observable market data by correlation or other means.

Level 3 – Unobservable inputs that cannot be corroborated by observable market data.

In instances in which the inputs used to measure fair value fall into different levels of the fair value hierarchy, the fair value measurement has been determined based on the lowest level input that is significant to the fair value measurement in its entirety. The University's assessment of significance of a particular item to the fair value measurement in its entirety requires judgment, including consideration of inputs specific to the asset.

The following table presents information as of June 30, 2018 about the University's financial assets and liabilities that are measured at fair value on a recurring basis:

<i>(in thousands of dollars)</i>	Quoted Prices in Active Markets For Identical Assets <u>Level 1</u>	Significant Other Observable Inputs <u>Level 2</u>	Significant Unobservable Inputs <u>Level 3</u>	Total Fair Value
<u>Assets:</u>				
Long-term Investment Pool:				
Money markets	\$ 152,310	\$ 756	\$ -	\$ 153,066
Fixed income				
U.S. government/agency	-	86,060	-	86,060
U.S. corporate	-	152,990	-	152,990
Foreign	-	70,523	-	70,523
Other	-	91,022	-	91,022
Equities	<u>914,841</u>	<u>85</u>	<u>-</u>	<u>914,926</u>
Total	<u>\$ 1,067,151</u>	<u>\$ 401,436</u>	<u>\$ -</u>	<u>\$ 1,468,587</u>
Operating investments:				
Money markets	\$ 30,558	\$ -	\$ -	\$ 30,558
Fixed income				
U.S. government/agency	43,736	744,887	-	788,623
U.S. corporate	79,872	558,742	-	638,614
Foreign	15,023	116,913	-	131,936
Other	29,255	321,648	-	350,903
Equities	<u>158,312</u>	<u>7</u>	<u>5,297</u>	<u>163,616</u>
Total	<u>\$ 356,756</u>	<u>\$ 1,742,197</u>	<u>\$ 5,297</u>	<u>\$ 2,104,250</u>
Deposits held by bond trustees:				
Money markets	\$ 102,659	\$ -	\$ -	\$ 102,659
Beneficial interest in perpetual trusts	\$ -	\$ -	\$ 23,587	\$ 23,587
<u>Liabilities:</u>				
Present value of annuities payable	\$ -	\$ -	\$ 59,236	\$ 59,236

The following table presents information as of June 30, 2017 about the University's financial assets and liabilities that are measured at fair value on a recurring basis:

<i>(in thousands of dollars)</i>	Quoted Prices in Active Markets For Identical Assets <u>Level 1</u>	Significant Other Observable Inputs <u>Level 2</u>	Significant Unobservable Inputs <u>Level 3</u>	Total Fair Value
<u>Assets:</u>				
Long-term Investment Pool:				
Money markets	\$ 128,632	\$ -	\$ -	\$ 128,632
Fixed income				
U.S. government/agency	85,021	80,107	-	165,128
U.S. corporate	-	243,578	-	243,578
Foreign	-	86,431	-	86,431
Other	-	32,905	-	32,905
Equities	<u>1,102,498</u>	<u>-</u>	<u>-</u>	<u>1,102,498</u>
Total	<u>\$ 1,316,151</u>	<u>\$ 443,021</u>	<u>\$ -</u>	<u>\$ 1,759,172</u>
Operating investments:				
Money markets	\$ 15,424	\$ 9	\$ -	\$ 15,433
Fixed income				
U.S. government/agency	633,619	231,535	-	865,154
U.S. corporate	82,513	646,029	-	728,542
Foreign	11,948	84,892	-	96,840
Other	20,031	175,134	-	195,165
Equities	<u>146,726</u>	<u>16</u>	<u>4,688</u>	<u>151,430</u>
Total	<u>\$ 910,261</u>	<u>\$ 1,137,615</u>	<u>\$ 4,688</u>	<u>\$ 2,052,564</u>
Deposits held by bond trustees:				
Money markets	\$ 178,954	\$ -	\$ -	\$ 178,954
Beneficial interest in perpetual trusts	\$ -	\$ -	\$ 19,854	\$ 19,854
<u>Liabilities:</u>				
Present value of annuities payable	\$ -	\$ -	\$ 58,070	\$ 58,070

The fair value tables above exclude investments of \$2,824.1 million and \$2,231.0 million as of June 30, 2018 and 2017, respectively, which are measured at net asset value (NAV) per share or its equivalent and are not classified in the fair value hierarchy.

The Long-term Investment Pool (LTIP) is a mutual fund-like vehicle used for investing the University's endowment funds, funds functioning as endowments, and other operating funds that are expected to be held long-term. A share method of accounting for the LTIP is utilized by the University. Each participating fund enters into and withdraws from the LTIP based on monthly share values. At June 30, 2018 and 2017, fair value of endowment funds and funds functioning as endowments within the LTIP totaled \$2,891.7 million and \$2,615.6 million, respectively. At June 30, 2018 and 2017, fair value of operating funds included in the LTIP totaled \$1,398.3 million and \$1,370.9 million, respectively.

The following tables present information related to changes in Level 3 for each category of financial assets and liabilities for year ended June 30, 2018:

<i>(in thousands of dollars)</i>	<u>Operating Investments</u>	<u>Beneficial Interest in Perpetual Trusts</u>
<u>Assets:</u>		
Beginning balance	\$ 4,688	\$ 19,854
Total realized and unrealized gains	602	3,651
Gifts	-	82
Purchases	7	-
Ending balance	<u>\$ 5,297</u>	<u>\$ 23,587</u>
	<u>Present Value of Annuities Payable</u>	
<u>Liabilities:</u>		
Beginning balance	\$ 58,070	
Actuarial adjustment of liability	2,255	
Gifts	986	
Sales	(2,075)	
Ending balance	<u>\$ 59,236</u>	

The following tables present information related to changes in Level 3 for each category of financial assets and liabilities for year ended June 30, 2017:

<i>(in thousands of dollars)</i>	<u>Operating Investments</u>	<u>Beneficial Interest in Perpetual Trusts</u>
<u>Assets:</u>		
Beginning balance	\$ 4,214	\$ 14,558
Total realized and unrealized gains	540	5,296
Sales	(66)	-
Ending balance	<u>\$ 4,688</u>	<u>\$ 19,854</u>
	<u>Present Value of Annuities Payable</u>	
<u>Liabilities:</u>		
Beginning balance	\$ 53,859	
Actuarial adjustment of liability	3,460	
Gifts	3,144	
Sales	(2,393)	
Ending balance	<u>\$ 58,070</u>	

There were no transfers of assets between Level 3 and Level 2 and between Level 1 and Level 2 in 2018 and 2017.

The following table presents the fair value and redemption frequency for those investments whose fair value is not readily determinable and is estimated using NAV or its equivalent as of June 30, 2018 and 2017:

(in thousands of dollars)	Fair Value		Unfunded Commitments	Redemption Frequency	Redemption Notice Period
	2018	2017	At June 30, 2018		
Commingled Funds:					
Non-U.S. Equity	\$ 927,415	\$ 627,998		Quarterly/ Daily/Monthly	5-90 days
Subtotal	<u>\$ 927,415</u>	<u>\$ 627,998</u>			
Marketable Investment Partnerships:					
Absolute Return	\$ 59,528	\$ 56,471		Quarterly	60 days
Distressed Debt	54,317	60,406		Quarterly/ Semi Annual	60-90 days
Commodities	82,833	126,846		Monthly	30-60 days
				Monthly/ Quarterly/ Annually	30-90 days
Opportunistic	268,806	123,387		Monthly	30 days
Directional Long/Short	<u>303,068</u>	<u>289,472</u>			
Subtotal	<u>\$ 768,552</u>	<u>\$ 656,582</u>			
Non-Marketable Investment Partnerships:					
Private Real Estate	\$ 66,430	\$ 83,925	\$ 55,910		
Venture Capital	383,882	323,408	188,914		
Private Equity	390,952	297,386	311,824		
Natural Resources	142,396	130,146	55,451		
Private Debt	<u>144,497</u>	<u>111,563</u>	<u>205,236</u>		
Subtotal	<u>\$ 1,128,157</u>	<u>\$ 946,428</u>	<u>\$ 817,335</u>		
Total	<u>\$ 2,824,124</u>	<u>\$ 2,231,008</u>	<u>\$ 817,335</u>		

Commingled Funds include investments that aggregate assets from multiple investors and are managed collectively following a prescribed strategy. Redemptions vary from daily to quarterly with required notification of 90 days or less. The non-U.S. equity strategy is invested in developed and developing countries outside of the United States, and spans the entire equity capitalization spectrum. These collective portfolios preclude the need to obtain securities registration in foreign countries.

Marketable Investment Partnerships include several hedge funds whose underlying positions are traded via public securities markets. Liquidity terms range from quarterly to annually with advance notification for redemption ranging from 30 to 90 days. The fair values of the investments for each fund in this category have been estimated using the net asset value of the LTIP's share holdings in the fund. Five major investment strategies are included within this category. Absolute Return refers to relative value strategies. Directional refers to equity long/short strategies in both U.S. and non-U.S. markets. Opportunistic refers to global multi-strategy. Distressed Debt refers to securities rated below investment grade, along with non-rated debt. Commodities refer to publicly traded commodity instruments primarily including futures and options.

Nonmarketable Investment Partnerships include limited partnership interests in a variety of illiquid investments. The fair values of the investments for each fund in this category have been estimated using the net asset value of the LTIP's ownership interest in partner's capital and cannot be redeemed. Realizations from each fund are received as the underlying investments are liquidated or distributed, typically within 10 years after initial commitment. Unfunded commitments represent remaining commitments of the LTIP's drawdown funds as of June 30, 2018. Five major investment strategies are included within this category. Private Real Estate includes properties primarily located in the U.S. Venture Capital includes non-public startups and enterprises in early stages of growth located globally. Private Equity includes buyouts of previously public companies as well as enterprises that are planning to go public in the near future, including

funds focusing on opportunities outside the U.S. Natural Resources largely include companies primarily involved in oil and natural gas in addition to a variety of other natural resources. Private Debt includes global private credit securities rated below investment grade as well as non-rated debt.

6. CONTRIBUTIONS RECEIVABLE

Contributions receivable are summarized as follows as of June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
In one year or less	\$ 69,963	\$ 66,076
Between one year and five years	70,295	78,025
More than five years	<u>114,750</u>	<u>112,650</u>
Contributions receivable, gross	255,008	256,751
Less allowance	(6,427)	(4,299)
Less discount	<u>(52,096)</u>	<u>(51,394)</u>
Contributions receivable, net	<u>\$ 196,485</u>	<u>\$ 201,058</u>

Contributions received during the years ended June 30, 2018 and 2017 are discounted at rates ranging from 2.33% to 2.90% and 1.24% to 2.46%, respectively. The discount rates for prior periods ranged from 0.11% to 6.28%.

At June 30, 2018 and 2017, the University has received bequest intentions and certain other conditional promises to give of \$104.6 million and \$103.3 million, respectively. These intentions and conditional promises to give are not included in the consolidated financial statements.

The following table summarizes the change in contributions receivable, net during the year ended June 30, 2018:

	<i>(in thousands of dollars)</i>
Balance at the beginning of year	\$ 201,058
New pledges	100,794
Collections on pledges	(102,537)
Increase in allowance	(2,128)
Increase in unamortized discounts	<u>(702)</u>
Balance at the end of year	<u>\$ 196,485</u>

7. LONG-TERM DEBT

The various bond issues, notes payable and capital lease obligations that are included in long-term debt in the statements of financial position consist of the following at June 30:

<i>(in thousands of dollars)</i>	<u>2018</u>	<u>2017</u>
<u>The Pennsylvania State University Bonds</u>		
Series 2018	\$ 64,210	\$ -
Series 2017A	157,080	157,080
Series 2017B	125,000	125,000
Series 2016A	119,580	122,165
Series 2016B	221,480	229,775
Series 2015A	62,320	63,780
Series 2015B	104,335	108,000
Series 2010	127,580	131,380
Series 2009B	74,235	74,235
Series 2007B	47,545	51,065
<u>Pennsylvania Higher Educational Facilities</u>		
<u>Authority University Revenue Bonds</u>		
<u>(issued for The Pennsylvania State</u>		
<u>University)</u>		
Series 2006	2,410	2,655
Series 2004	2,540	2,840
Series 2002	1,995	2,435
<u>Lycoming County Authority College</u>		
<u>Revenue Bonds (issued for Penn</u>		
<u>College)</u>		
Series 2016	52,465	54,190
Series 2015	5,030	6,390
Series 2012	23,255	24,275
Series 2011	<u>37,735</u>	<u>37,810</u>
Total bonds payable	1,228,795	1,193,075
Unamortized bond premiums	146,254	142,442
Unamortized deferred bond costs	(5,981)	(5,952)
<u>Notes payable and capital leases</u>		
Notes payable	24,632	26,983
Capital lease obligations	<u>56,477</u>	<u>112,845</u>
Total notes payable and capital leases	<u>81,109</u>	<u>139,828</u>
Total long-term debt	<u>\$ 1,450,177</u>	<u>\$ 1,469,393</u>

<u>Debt issuance</u>	<u>Interest rate mode</u>	<u>Interest rates</u>	<u>Payment ranges and maturity</u> <i>(in thousands of dollars)</i>
The Pennsylvania State University Bonds			
Series 2018	Fixed	2.00% - 5.00%	\$975 to \$2,320 through September 2037 with \$16,650 and \$18,255 due September 2043 and September 2048, respectively
Series 2017A	Fixed	2.00% - 5.00%	\$2,400 to \$5,965 through September 2037 with \$34,750 and \$44,620 due September 2042 and September 2047, respectively
Series 2017B	Fixed	1.275% - 3.793%	\$2,660 to \$3,830 through September 2032 with \$21,305 and \$56,595 due September 2037 and September 2047, respectively
Series 2016A	Fixed	5.00%	\$2,690 to \$6,465 through September 2036 with \$37,520 due September 2041
Series 2016B	Fixed	4.00% - 5.00%	\$7,165 to \$22,195 through September 2036
Series 2015A	Fixed	4.00% - 5.00%	\$1,520 to \$3,445 through September 2035 with \$20,000 due September 2040
Series 2015B	Fixed	4.00% - 5.00%	\$3,820 to \$8,435 through September 2035
Series 2010	Fixed	3.375% - 5.00%	\$3,955 to \$6,595 through March 2030 with \$21,805 and \$44,245 due March 2035 and March 2040, respectively
Series 2009B	Variable	1.73%	June 2031
Series 2007B	Fixed	5.25%	\$3,710 to \$5,955 through August 2027

**Pennsylvania Higher Educational Facilities
Authority ("PHEFA") University Revenue Bonds**

Series 2006	Fixed	4.35% - 5.125%*	\$255 to \$280 through September 2020 with \$1,610 due September 2025
Series 2004	Fixed	4.70% - 5.00%*	\$310 to \$325 through September 2019 with \$1,905 due September 2024
Series 2002	Fixed	5.00%*	\$2,435 due March 2022

*Annual interest costs to the University for interest rates greater than 3.00% are subsidized by PHEFA.

Lycoming County Authority College Revenue Bonds

Series 2016	Fixed	2.125% - 5.00%	\$1,545 to \$3,615 through October 2032 with \$19,345 due October 2037
Series 2015	Fixed	2.50% - 4.00%	\$465 to \$1,590 through January 2025
Series 2012	Fixed	2.50% - 5.00%	\$1,080 to \$1,170 through May 2020 with \$2,565, \$6,395 and \$12,045 due May 2022, May 2026 and May 2032, respectively
Series 2011	Fixed	4.00% - 5.24%	\$1,565 to \$1,850 through July 2021 with \$14,170 and \$18,705 due July 2026 and July 2030, respectively

The Series 2018 Bonds are general obligation bonds issued in May 2018 for the purpose of financing various construction and renovation projects. The Series 2018 Bonds are subject to early redemption provisions, at the option of the University, beginning September 2028. The bonds maturing in September 2043 and September 2048 are subject to mandatory sinking fund redemption.

The Series 2009B Bonds are currently paying interest on a variable rate basis at a long term rate for the period June 1, 2018 through May 31, 2019. The University has the option to convert to another variable rate (daily, weekly, monthly or flexible) or to a fixed rate basis (such rates are generally determined on a market basis) at respective conversion dates. The bonds currently pay interest at 1.73% with adjustment on the respective date to the rate the remarketing agent believes will cause the bonds to have a market value equal to the principal. The 2009B bondholders have the right to tender bonds on the purchase dates while such bonds bear interest at the daily, weekly or monthly rate. The 2009B Bonds were issued subject to the self-liquidity program established

by the University on the date of issuance pursuant to which the University will provide liquidity for the 2009B Bonds from its general funds in the event of insufficient remarketing proceeds.

The University has complied with all financial debt covenants for the years ended June 30, 2018 and 2017.

Maturities and sinking fund requirements on bonds payable for each of the next five fiscal years and thereafter are summarized as follows:

<u>Year</u>	<u>Annual Installments</u> <i>(in thousands of dollars)</i>
2019	\$ 35,825
2020	38,760
2021	40,475
2022	42,390
2023	44,380
Thereafter	<u>1,026,965</u>
	<u>\$ 1,228,795</u>

The fair value of the University's bonds payable is estimated based on current rates offered for similar issues with similar security, terms and maturities using available market information as supplied by the various financial institutions who act as trustees or custodians for the University. At June 30, 2018, the carrying value and estimated fair value of the University's bonds payable, including issuance premiums and deferred bond costs, are \$1,369.1 million and \$1,347.6 million, respectively. At June 30, 2017, the carrying value and estimated fair value of the University's bonds payable, including issuance premiums and deferred bond costs, were \$1,329.6 million and \$1,337.5 million, respectively. Certain bond issues have associated issuance premiums; these issuance premiums total \$146.3 million and \$142.4 million at June 30, 2018 and 2017, respectively and are presented within the statement of financial position as long-term debt. These issuance premiums will be amortized over the term of the respective outstanding bonds. Certain bond issues have associated deferred bond costs; these deferred bond costs total \$6.0 million at June 30, 2018 and 2017 and are presented within the statement of financial position as a reduction in long-term debt. These deferred bond costs will be amortized over the term of the respective outstanding bonds.

Notes payable and capital leases

The University has three notes payable included within the consolidated statements of financial position at June 30, 2018 with balances of \$6.9 million, \$8.0 million, and \$9.7 million. These notes have payments due annually through June 2024, June 2025, and March 2026 and bear interest at 2.60%, 2.85%, and 2.80%, respectively. The current portion of payments due under these notes totals \$3.3 million at June 30, 2018.

The University has certain building and equipment lease agreements in effect which are considered capital leases. Future minimum lease payments under capital leases together with the present value of the net minimum lease payments as of June 30, 2018 are as follows:

<u>Year</u>	<i>(in thousands of dollars)</i>
2019	\$ 13,767
2020	10,901
2021	8,444
2022	5,308
2023	4,202
Thereafter	<u>33,833</u>
Total minimum lease payments	76,455
Less imputed interest	<u>(19,978)</u>
Capital lease obligation	56,477
Current portion	<u>11,469</u>
Long-term portion	<u>\$ 45,008</u>

8. OPERATING LEASES

The University has certain lease agreements in effect which are considered operating leases. During the year ended June 30, 2018, the University recorded expenses of \$22.1 million for leased equipment and \$31.1 million for leased building space. During the year ended June 30, 2017, the University recorded expenses of \$23.6 million for leased equipment and \$30.5 million for leased building space.

Future minimum lease payments under operating leases as of June 30, 2018 are as follows:

<u>Year</u>	<i>(in thousands of dollars)</i>
2019	\$ 30,152
2020	20,656
2021	14,497
2022	10,919
2023	8,574
Thereafter	<u>29,345</u>
Total minimum lease payments	<u>\$ 114,143</u>

9. RETIREMENT BENEFITS

The University provides retirement benefits for substantially all regular employees, primarily through either contributory defined benefit plans administered by the Commonwealth of Pennsylvania State Employees' Retirement System ("SERS") and The Public School Employees' Retirement System or defined contribution plans administered by the Teachers Insurance and Annuity Association – College Retirement Equity Fund and Fidelity Investments. The University is billed for its share of the estimated actuarial cost of the defined benefit plans (\$121.0 million and \$104.9 million for the years ended June 30, 2018 and 2017, respectively). The University's total cost for retirement benefits, included in expenses, is \$269.7 million and \$246.3 million for the years ended June 30, 2018 and 2017, respectively.

The SERS is the administrator of a cost-sharing, multi-employer retirement system established by the Commonwealth of Pennsylvania to provide pension benefits for employees of state government and certain independent agencies. As provided by statute, the SERS Board of Trustees has exclusive control and management responsibility of the funds and full power to invest the funds. The SERS funding policy provides for periodic member contributions at statutory rates and employer contributions at actuarially determined rates (expressed as a percentage of annual gross pay) that are sufficient to accumulate assets to pay benefits when due. The University's contributions to this plan for the years ended June 30, 2018 and 2017 were \$118.2 million and \$102.6 million, respectively, and represent approximately 6.0% of total contributions to the plan based on projections for fiscal year 2018. The plan is funded at less than 65% with the funded ratio of the plan at 59.4% as of December 31, 2017.

10. POSTRETIREMENT BENEFITS

The University sponsors a retiree medical plan covering eligible retirees and eligible dependents. This program includes a Preferred Provider Organization ("PPO") plan (both a traditional and a qualified high deductible option) for retirees and their dependents who are not eligible for Medicare, and a Medicare Advantage PPO plan. In addition, the University provides certain retiree life insurance benefits to eligible retirees as described below.

Employees who were hired prior to January 1, 2010 are eligible for medical coverage after they retire if either of the following requirements are satisfied:

- they are at least age 60 and have at least 15 years of continuous regular full-time employment and participation in a University-sponsored medical plan immediately preceding the retirement date

- regardless of age, if they have at least 25 years of regular full-time service. The last 10 of those 25 years of University service must be continuous and they must participate in a University-sponsored medical plan during the last 10 years immediately preceding the retirement date.

Effective January 1, 2016, any non-union employee who retires on or before December 31, 2020 will receive a \$5,000 term life insurance policy benefit at no cost to the employee. If a non-union employee retires after December 31, 2020, no life insurance benefit is provided. For union employees, a \$5,000 term life insurance policy is provided at no cost to the employee regardless of their retirement date.

The retiree PPO medical plan is a self-funded program, and all medical claims, death benefits and other expenses are paid from the unrestricted net assets of the University. The Medicare Advantage PPO plan and life insurance program are fully-insured. The retirees pay varying amounts for coverage under the medical plan.

For those employees who were hired after December 31, 2009, the University will contribute funds each month on their behalf to a Retirement Healthcare Savings Plan. This plan is designed to help pay for qualified medical and health-related expenses in retirement, including the purchase of a health insurance policy.

Retirees will be eligible to access their Retirement Healthcare Savings Plan account when they are no longer actively employed at Penn State and have satisfied either of the following requirements:

- completed 25 years of continuous full-time service and are age 60 or older
- completed a minimum of 15 years of continuous full-time service and are age 65 or older.

Included in unrestricted net assets at June 30, 2018 and 2017 are the following amounts that have not yet been recognized in net periodic postretirement cost: unrecognized prior service cost (benefit) of (\$4.1) million and (\$8.5) million and unrecognized actuarial loss of \$459.7 million and \$707.6 million, respectively.

The following sets forth the plan's benefit obligation, plan assets and funded status reconciled with the amounts recognized in the University's consolidated statements of financial position at June 30:

Change in benefit obligation:

(in thousands of dollars)

	<u>2018</u>	<u>2017</u>
Benefit obligation at beginning of year	\$ 2,318,462	\$ 2,148,522
Service cost	47,477	50,368
Interest cost	92,448	90,719
Actuarial loss (gain)	(95,091)	33,287
Benefits paid	(58,199)	(51,860)
Plan amendment	1,312	(6,845)
Plan assumptions	<u>(112,854)</u>	<u>54,271</u>
Benefit obligation at end of year	<u>\$ 2,193,555</u>	<u>\$ 2,318,462</u>

Change in plan assets:

(in thousands of dollars)

	<u>2018</u>	<u>2017</u>
Fair value of plan assets at beginning of year	\$ -	\$ -
Employer contributions	58,199	51,860
Benefits paid	<u>(58,199)</u>	<u>(51,860)</u>
Fair value of plan assets at end of year	<u>\$ -</u>	<u>\$ -</u>
Funded status	\$ (2,193,555)	\$ (2,318,462)
Unrecognized prior service cost (benefit)	-	-
Unrecognized net actuarial loss	-	-
Accrued postretirement benefit expense	<u>\$ (2,193,555)</u>	<u>\$ (2,318,462)</u>

Net periodic postretirement cost includes the following components for the years ended June 30:
(in thousands of dollars)

	<u>2018</u>	<u>2017</u>
Service cost	\$ 47,477	\$ 50,368
Interest cost	92,448	90,719
Amortization of prior service cost	(3,131)	(19,392)
Amortization of unrecognized net loss	40,003	48,990
Net periodic postretirement cost	<u>\$ 176,797</u>	<u>\$ 170,685</u>

The assumed healthcare cost trend rate used in measuring the accumulated postretirement benefit obligation was 7.20% and 7.50% for the years ended June 30, 2018 and 2017, respectively, reduced each year to an ultimate level of 5.00%. The postretirement benefit obligation discount rate was 4.46% and 4.21% for the years ended June 30, 2018 and 2017, respectively. During 2018, the plan had favorable demographic experience compared to assumptions. In addition, the plan had positive per capita medical claims experience over the past 3 years contributing to favorable results during 2018.

If the healthcare cost trend rate assumptions were increased by 1% in each year, the accumulated postretirement benefit obligation would be increased by \$452.6 million and \$498.4 million as of June 30, 2018 and 2017, respectively. The effect of this change on the sum of the service cost and interest cost components of the net periodic postretirement benefit cost would be an increase of \$34.2 million and \$35.5 million as of June 30, 2018 and 2017, respectively. If the healthcare cost trend rate assumptions were decreased by 1% in each year, the accumulated postretirement benefit obligation would be decreased by \$348.3 million and \$384.9 million as of June 30, 2018 and 2017, respectively. The effect of this change on the sum of the service cost and interest cost components of the net periodic postretirement benefit cost would be a decrease of \$25.7 million and \$26.6 million as of June 30, 2018 and 2017, respectively.

Gains and losses in excess of 10% of the accumulated postretirement benefit obligation are amortized over the average future service to assumed retirement of active participants.

Postretirement benefits expected to be paid for the years ended June 30 are as follows:

	<i>(in thousands of dollars)</i>
2019	\$ 61,286
2020	65,658
2021	70,434
2022	75,589
2023	80,977
2024-28	486,823

11. PENN STATE HEALTH

Penn State Health was organized exclusively for the charitable, educational, and scientific purposes as defined and limited by Section 501(c)(3) of the Internal Revenue Code of 1986. The Health System's purpose is to promote, support and further the charitable, educational, and scientific purposes of the University. The Health System is controlled by the University with a minority ownership by Highmark Health.

The wholly owned subsidiaries of the Health System include the Milton S. Hershey Medical Center ("MSHMC"), Saint Joseph's Regional Health Network and Medical Group ("SJRHN/SJMG"), Penn State Community Medical Group ("PSCMG"), Nittany Health, Inc. ("Nittany"), Central PA Health Network ("CIN") and 4814 Development Assoc., Inc. ("4814 DA, Inc.").

In July 2015, the Health System acquired SJRHN/SJMG. SJRHN/SJMG is a 180-bed, not-for-profit acute care hospital that provides inpatient, outpatient, and emergency care services to the Berks County Region.

In January 2016, the ownership of Nittany transferred from the University to the Health System. Nittany (formerly Penn State Hershey Health System, Inc.) is a corporate investor in healthcare joint ventures,

which are supportive of the missions of the Health System. Nittany's objectives are consistent with the strategic objective to extend the range of healthcare services offered by and through the Health System over a broader geographic region. Nittany recorded non-controlling interest related to the acquisition of additional ownership interest in a joint venture. This non-controlling interest is recorded in unrestricted net assets within the consolidated statements of financial position with a value at June 30, 2018 and 2017 of \$1.9 million and \$4.6 million, respectively.

In May 2016, the ownership of MSHMC transferred from the University to the Health System. At June 30, 2018, MSHMC is a 548-bed, not-for-profit acute care, academic medical center located in Hershey, Pennsylvania. The University retains ownership of the buildings and land occupied by MSHMC, which is co-located with the University's College of Medicine. The clinical facilities of the Medical Center complex are leased to MSHMC. MSHMC makes certain payments to support the College of Medicine. MSHMC is a Level 1 Regional Trauma Center and provides inpatient, outpatient, and emergency care services to residents of central Pennsylvania through its central facility in Hershey and 36 medical group sites. Additionally, MSHMC operates an ambulatory surgical center, which provides endoscopy procedures to the Centre County Region.

In February 2017, the Health System established PSCMG. The purpose of PSCMG is to extend the ambulatory clinical footprint of the Health System into a broader geographic region. In October 2017, the Health System, through an asset purchase agreement, began operations of 16 medical group sites.

In July 2017, CIN ownership was transferred from joint ownership by MSHMC and SJRHN/SJMG to direct ownership by the Health System. The purpose of CIN is to develop population health initiatives across the Health System organization.

In October 2017, the Health System established 4814 DA, Inc. The purpose of 4814 DA, Inc. was to acquire property in Cumberland County, which is intended to be the future site of an acute care hospital. The land acquisition took place in October 2017.

In January 2018, Highmark Health purchased a 20% minority interest in the Health System. The Health System received cash contributions of \$200.0 million in exchange for three board seats and certain reserve powers. The contributions are recorded as capital contributions within non-controlling interest on the statement of activities. Additionally, the Health System recorded non-controlling interest, excess of revenues over expenses of \$21.7 million related to this minority interest. The total non-controlling interest related to Highmark Health is recorded in unrestricted net assets within the consolidated statements of financial position with a value at June 30, 2018 of \$221.7 million.

During 2018, the Health System received cash contributions related to the Community Health Reinvestment Act from Highmark Health. The cash contributions of \$30.0 million are recorded as Health System revenue on the consolidated statements of activities. Additionally, during 2018, the Health System paid Highmark Health \$146.3 million related to employee benefit expenses and recorded \$544.0 million in net patient revenue related to Highmark Health Third Party Payor contracts.

12. CONTINGENCIES AND COMMITMENTS

Contractual Obligations

The University has contractual obligations for the construction of new buildings and for additions to existing buildings in the amount of \$1,239.8 million of which \$1,019.8 million has been paid or accrued as of June 30, 2018. The contract costs are being financed from available resources and from borrowings.

Letters of Credit

The University has available letters of credit in the amount of \$31.8 million and \$25.7 million as of June 30, 2018 and 2017, respectively. These letters of credit are used primarily to comply with minimum state and federal regulatory laws that govern various University activities. The fair value of these letters of credit approximates contract values based on the nature of the fee arrangements with the issuing banks.

Guarantees

The University has a contract with a third party whereby the third party acts as an agent of the University in connection with procurement of electricity. The University guarantees the payment of the obligations of the third party incurred on behalf of the University to counterparties.

Self-Insurance

The University has a coordinated program of commercial and self-insurance for medical malpractice claims at MSHMC through the use of a qualified trust and a domestic captive insurance company in combination with a self-insured retention layer and is supplementing this program through participation in the Pennsylvania Medical Care Availability and Reduction of Error Fund ("MCARE Fund"), in accordance with Pennsylvania law. An estimate of the present value, discounted at 2% for the years ended June 30, 2018 and 2017, of the medical malpractice claims liability in the amount of \$131.1 million and \$120.4 million is recorded as of June 30, 2018 and 2017, respectively.

The subsidiaries of the Health System are self-insured for all medical malpractice claims asserted on or after July 1, 2003, for all amounts that are below the coverage of excess insurance policies and not included in the insurance coverage of the MCARE Fund. Under the self-insurance program, the Health System is required to maintain a malpractice trust fund in an amount at least equal to the expected loss of known claims. The balance of this trust fund was \$31.5 million and \$27.4 million at June 30, 2018 and 2017, respectively. The Health System intends to fund any claims due during the next year from cash flows from operations.

With approval from the Pennsylvania Department of Labor and Industry ("PA-DLI"), the University elected to self-insure potential obligations applicable to Pennsylvania workers' compensation. Certain claims under the program are contractually administered by a private agency. The University purchased insurance coverage for excess obligations over \$600,000 per incident. An estimate of the self-insured workers' compensation claims liability in the amount of \$6.8 million and \$7.0 million, discounted at 2.73% and 1.89%, respectively, is recorded as of June 30, 2018 and 2017, respectively. The University has established a trust fund, in the amount of \$13.2 million at June 30, 2018 and 2017 as required by PA-DLI, to provide for the payment of claims under this self-insurance program. The Health System is self-insured for workers' compensation claims and has purchased excess policies through commercial insurers which cover individual claims in excess of \$750,000 per incident for workers' compensation claims.

The University and the Health System are self-insured for certain health care benefits provided to employees. The University, MSHMC and SJRHN/SJMG have purchased excess policies which cover employee health benefit claims in excess of \$600,000, \$575,000 and \$375,000 per employee per year, respectively. The University and the Health System provide for reported claims and claims incurred but not reported.

Litigation and Contingencies

In November 2011, the University was made aware of certain allegations in a Commonwealth of Pennsylvania Grand Jury presentment. Various legal proceedings and investigations have arisen as a result of such allegations, including criminal proceedings against former officers and employees of the University. Certain claims and civil litigation have been filed against the University with anticipation that other complaints could be filed. The University has recognized an expense of \$4.0 million and \$16.0 million for the years ended June 30, 2018 and 2017, respectively, with such amounts included in institutional support within the consolidated statement of activities. Additional claims could be paid in the future but without having knowledge of the number and nature of such claims the University is unable to predict the outcome of these matters or the ultimate legal and financial liability and at this time cannot reasonably estimate the possible loss or range of loss. Accordingly, no amounts have been accrued in the financial statements for these claims.

In addition to the settlement costs, the University has incurred costs for the fiscal years ended June 30, 2018 and 2017 totaling \$3.5 million and \$4.9 million, respectively, for internal investigation, legal, communications and other related costs. These costs are included in institutional support within the consolidated statement of activities.

By jury verdict and court orders in October and November 2016 and March 2017, the University was found liable for compensatory and punitive damages of \$12.3 million and was ordered to pay attorney's fees and costs of \$1.7 million in a lawsuit brought by a former employee alleging whistleblower liability, defamation and misrepresentation. In October 2017, the University agreed to settle with the plaintiff for a lesser amount pursuant to a confidential settlement agreement. The amount per the settlement agreement is accrued as of June 30, 2017 and included in institutional support within the consolidated statement of activities.

The University has submitted claims to insurance carriers related to the claims that have been settled or paid. Some insurance claims have been paid and other insurance claims remain outstanding.

Based on its operation of the Health System (see Note 11), the University, like the rest of the healthcare industry, is subject to numerous laws and regulations of federal, state and local governments. Compliance with these laws and regulations can be subject to government review and interpretation, as well as regulatory actions. Recently, government reviews of healthcare providers for compliance with regulations have increased. Although the University believes it has done its best to comply with these numerous regulations, such government reviews could result in significant repayments of previously billed and collected revenues from patient services.

On July 12, 2013, the University received a preliminary report from the U.S. Department of Education based on the program review of the University's compliance with the Clery Act, a federal law related to campus safety. A final program review determination was made in November 2016, which assessed a fine in the amount of \$2.4 million. The fine has been paid and the Department of Education's program review is now closed.

Various other legal proceedings have arisen in the normal course of conducting University business. The outcome of such litigation is not expected to have a material effect on the financial position of the University.

13. SUBSEQUENT EVENTS

The University has evaluated subsequent events through October 23, 2018, the date on which the consolidated financial statements were issued. It did not identify any subsequent events to be disclosed other than those below or previously noted.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
10 001		Agricultural Research Basic and Applied Research	Research and Development	\$ 897,549	\$ 570,397,776	Y				\$ 692,698
10 001		Agricultural Research Basic and Applied Research	Research and Development	\$ 897,549	\$ 570,397,776	N	Geisinger Health System	59-1950-4-002		\$ 20,079
10 001		Agricultural Research Basic and Applied Research	Research and Development	\$ 897,549	\$ 570,397,776	N	Geisinger Health System	USDA AGRICULTURAL RESEARCH SER		\$ 59,131
10 025		Plant and Animal Disease, Pest Control, and Animal Care	Research and Development	\$ 951,538	\$ 570,397,776	Y			\$ 110,950	\$ 818,026
10 025		Plant and Animal Disease, Pest Control, and Animal Care	Research and Development	\$ 951,538	\$ 570,397,776	N	Commonwealth of Pennsylvania	44176707		\$ 133,512
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Commonwealth of Pennsylvania	44155555		\$ 290
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Commonwealth of Pennsylvania	44155556		\$ 33,993
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Commonwealth of Pennsylvania	44166072		\$ 38,258
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Commonwealth of Pennsylvania	44166075		\$ 14,807
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Pennsylvania Co-Operative Potato Growers, Inc.	ME# 44166082		\$ 26,780
10 170		Specialty Crop Block Grant Program - Farm Bill	Research and Development	\$ 202,442	\$ 570,397,776	N	Pennsylvania Co-Operative Potato Growers, Inc.	ME#44155561		\$ 1,472
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	Y			\$ 69,392	\$ 1,431,395
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	Kansas State University	2015-39575-24367		\$ 1,188,808
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	Kansas State University	2017-39575-27343		\$ 18,582
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	Kansas State University	N/A		\$ 63,558
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	Rutgers University	2015-34383-23812		\$ 2
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	Rutgers University	2017-34383-2761		\$ 6,514
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	University of Maine, The	2015-34141-23964		\$ 1,504
10 200		Grants for Agricultural Research, Special Research Grants	Research and Development	\$ 2,745,187	\$ 570,397,776	N	University of Maine, The	2016-34141-25708		\$ 34,824
10 210		Higher Education - Graduate Fellowships Grant Program	Research and Development	\$ 69,828	\$ 570,397,776	Y				\$ 69,828
10 212		Small Business Innovation Research	Research and Development	\$ 20,473	\$ 570,397,776	N	Epicrop Technologies Inc.	2017-33610-27022		\$ 20,473
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Maryland	20173864026915		\$ 403
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2014-38640-22161		\$ 48,749
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2014-38640-2261		\$ 888
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	20153864023777		\$ 31,753
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2015-38640-23777		\$ 37,486
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2016-38640-25380		\$ 185,493
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2017-38640-26915		\$ 6,679
10 215		Sustainable Agriculture Research and Education	Research and Development	\$ 390,326	\$ 570,397,776	N	University of Vermont, The	2053864023777		\$ 3,683
10 217		Higher Education - Institution Challenge Grants Program	Research and Development	\$ 32,763	\$ 570,397,776	Y				\$ 32,763
10 230		Department of Agriculture - Non-Specified	Research and Development	\$ 22,065	\$ 570,397,776	N	North Carolina State University	2014-38502-22598		\$ 22,065
10 250		Agricultural and Rural Economic Research, Cooperative Agreements and Collaborations	Research and Development	\$ 53,212	\$ 570,397,776	Y			\$ 34,358	\$ 39,742
10 250		Agricultural and Rural Economic Research, Cooperative Agreements and Collaborations	Research and Development	\$ 53,212	\$ 570,397,776	N	Miami University	58-30000-5-0037		\$ 13,470
10 253		Consumer Data and Nutrition Research	Research and Development	\$ 23,680	\$ 570,397,776	Y				\$ 23,680
10 290		Agricultural Market and Economic Research	Research and Development	\$ 11,638	\$ 570,397,776	Y				\$ 11,638
10 303		Integrated Programs	Research and Development	\$ 725,896	\$ 570,397,776	Y				\$ 717,378
10 303		Integrated Programs	Research and Development	\$ 725,896	\$ 570,397,776	N	Cornell University	2014-51106-22080		\$ 2,855
10 304		Homeland Security Agricultural	Research and Development	\$ 19,680	\$ 570,397,776	N	Cornell University	2016-37620-25852		\$ 19,680
10 307		Organic Agriculture Research and Extension Initiative	Research and Development	\$ 1,417,493	\$ 570,397,776	Y			\$ 129,155	\$ 1,417,493
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	Y				\$ 92,864
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	Michigan State University	2012-51181-20105		\$ 10,645
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	Michigan State University	2014-51181-22380		\$ 119,798
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	Michigan State University	N/A		\$ 4,545
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	North Carolina State University	2016-51181-25409		\$ 71,862
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	North Carolina State University	N/A		\$ 2,924
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	North Carolina State University	USDA NATIONAL INSTITUTE OF FOO		\$ 39,668
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	Purdue University	2012-51181-19878		\$ (8,338)
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	Rutgers University	2016-51181-235399		\$ 105,622
10 309		Specialty Crop Research Initiative	Research and Development	\$ 526,783	\$ 570,397,776	N	University of Georgia	20145118122383		\$ 70,750
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	Y			\$ 2,056,697	\$ 6,140,867
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	American Chestnut Foundation, The	2016-67013-24581		\$ 3,524
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Kansas State University	2013-68004-20378		\$ 88,626
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Michigan State University	N/A		\$ 77,844
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Montana State University	2015-68006-22850		\$ 8,142
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Purdue University	2016-67019-25014		\$ 71,682
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Rutgers University	2017-67023-26906		\$ 26,529

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Sam Houston State University	2017-68006-26235		\$ 4,048
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Syracuse University	2016-68006-24739		\$ 49,764
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	University of Arizona, The	2016-67014-24805		\$ 77,882
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	University of Minnesota	2016-67015-24457		\$ 18,404
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	University of New Hampshire	2017-67013-26594		\$ 63,664
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	University of Wisconsin	2012-68002-20525		\$ 377,134
10 310		Agriculture and Food Research Initiative (AFRI)	Research and Development	\$ 7,450,189	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	2017-67019-26401		\$ 46,287
10 311		Beginning Farmer and Rancher Development Program	Research and Development	\$ 271,449	\$ 570,397,776	Y				\$ 144,090
10 312		Biomass Research and Development Initiative Competitive Grants Program (BRDI)	Research and Development	\$ 196,415	\$ 570,397,776	N	Dartmouth College	USDA		\$ 196,415
10 320		Sun Grant Program	Research and Development	\$ 279,087	\$ 570,397,776	N	South Dakota State University	2014-38502-22598	\$ 197,076	\$ 246,097
10 320		Sun Grant Program	Research and Development	\$ 279,087	\$ 570,397,776	N	South Dakota State University	N/A		\$ 32,990
10 329		Crop Protection and Pest Management Competitive Grants Program	Research and Development	\$ 261,763	\$ 570,397,776	Y				\$ 50,546
10 329		Crop Protection and Pest Management Competitive Grants Program	Research and Development	\$ 261,763	\$ 570,397,776	N	Cornell University	2015-70006-24274		\$ 5,985
10 329		Crop Protection and Pest Management Competitive Grants Program	Research and Development	\$ 261,763	\$ 570,397,776	N	Cornell University	U.S. DEPARTMENT OF AGRICULTURE		\$ 28,155
10 329		Crop Protection and Pest Management Competitive Grants Program	Research and Development	\$ 261,763	\$ 570,397,776	N	North Carolina State University	2016-70006-25877		\$ 6,070
10 329		Crop Protection and Pest Management Competitive Grants Program	Research and Development	\$ 261,763	\$ 570,397,776	N	University of Maryland	2015-70006-24277		\$ 5,562
10 330		Alfalfa and Forage Research Program	Research and Development	\$ 6,962	\$ 570,397,776	N	University of Kentucky	2016-70005-25648		\$ 5,913
10 330		Alfalfa and Forage Research Program	Research and Development	\$ 6,962	\$ 570,397,776	N	University of Wisconsin	2017-70005-27087		\$ 1,049
10 500		Cooperative Extension Service	Research and Development	\$ 23,819,354	\$ 570,397,776	Y			\$ 124,197	\$ 12,085,723
10 500		Cooperative Extension Service	Research and Development	\$ 23,819,354	\$ 570,397,776	N	Michigan State University	USDA-NIFA		\$ 9,145
10 500		Cooperative Extension Service	Research and Development	\$ 23,819,354	\$ 570,397,776	N	University of Minnesota	2013-41520-21529	\$ 303,895	\$ 658,553
10 500		Cooperative Extension Service	Research and Development	\$ 23,819,354	\$ 570,397,776	N	University of Nebraska	2017-41521-27121		\$ 24,277
10 574		Team Nutrition Grants	Research and Development	\$ 74,969	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300487126 4400008014		\$ 38,463
10 678		Forest Stewardship Program	Research and Development	\$ 164,789	\$ 570,397,776	Y			\$ 2,150	\$ 16,966
10 680		Forest Health Protection	Research and Development	\$ 3,104	\$ 570,397,776	Y				\$ 3,104
10 699		Partnership Agreements	Research and Development	\$ 20,041	\$ 570,397,776	Y				\$ 20,041
10 777		Norman E. Borlaug International Agricultural Science and Technology Fellowship	Research and Development	\$ 44,458	\$ 570,397,776	Y				\$ 8,248
10 777		Norman E. Borlaug International Agricultural Science and Technology Fellowship	Research and Development	\$ 44,458	\$ 570,397,776	N	Michigan State University	N/A		\$ 36,210
10 902		Soil and Water Conservation	Research and Development	\$ 26,257	\$ 570,397,776	N	Great Lakes Commission	USDA NATURAL RESOURCES CONSERV		\$ 507
10 902		Soil and Water Conservation	Research and Development	\$ 26,257	\$ 570,397,776	N	University of Rhode Island, The	68-3A75-17-480		\$ 364
10 903		Soil Survey	Research and Development	\$ 18,040	\$ 570,397,776	Y				\$ 18,040
10 912		Environmental Quality Incentives Program	Research and Development	\$ 192,461	\$ 570,397,776	Y			\$ 24,566	\$ 30,954
10 912		Environmental Quality Incentives Program	Research and Development	\$ 192,461	\$ 570,397,776	N	Cornell University	USDA NATURAL RESOURCES CONSERV		\$ 46,426
10 960		Technical Agricultural Assistance	Research and Development	\$ 117,398	\$ 570,397,776	Y				\$ 117,398
10 962		Cochran Fellowship Program-International Training-Foreign Participant	Research and Development	\$ 4,408	\$ 570,397,776	Y				\$ 4,408
10 RD	4300565807 4400015622	Agricultural Research Service - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300565807 4400015622		\$ 127
10 RD	AG-6395-C-17-0152 836026	Animal and Plant Health Inspection Service - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 100
10 RD	03-JV-11242328-001/TO15-JV-112	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ (10,413)
10 RD	14-JV-11242302-144	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 500
10 RD	14-JV-11272167-037	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 66,733
10 RD	15-CR11242302-023	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 3,685
10 RD	16-8130-0370-CA	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 7,092
10 RD	17-DG-11420004-090	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 29,643
10 RD	2015-68001-23233	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 555,061
10 RD	2016-46100-25845	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 149,942
10 RD	2016-70006-25833	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 110,274
10 RD	2017-36100-06042	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 30,715
10 RD	2017-36100-06042	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 21
10 RD	2017-51300-26818	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 25,984
10 RD	2017-67015-26455	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 93,938
10 RD	2018-67013-27402	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 50,345

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
10 RD	4/1/2018-3/31/2019	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 170,930
10 RD	58-2094-7-016	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 30,983
10 RD	58-8042-7-018	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 7,776
10 RD	58-8070-7-008	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 252,537
10 RD	AP17PPQFO000C159	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 64,040
10 RD	AP17PPQS&T00C026	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 115,439
10 RD	AP17VSNVSL00C036	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 117,633
10 RD	TA-CR-16-028	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 174,696
10 RD	10/1/2017-10/30/2019	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Commonwealth of Pennsylvania	N/A		\$ 2,616
10 RD	10/1/2017-9/30/2018	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Commonwealth of Pennsylvania	N/A		\$ 19,038
10 RD	4/1/2018-6/30/2018	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Commonwealth of Pennsylvania	N/A		\$ 98,382
10 RD	44176583	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Commonwealth of Pennsylvania	44176583	\$ 24,924	
10 RD	17-020HEH	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	Delaware State University	N/A		\$ 15,683
10 RD	28865SUB52428	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	University of Vermont, The	14CA-11420004-036		\$ 5,238
10 RD	GNE16-138-29994	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	University of Vermont, The	20153864023777		\$ 12,642
10 RD	PO# 0000000667	Department of Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	N	University of Wisconsin - Extension	AG-3151-P-15-0228		\$ 35,130
10 RD	2016-67011-24710	National Institute of Food and Agriculture - Non-Specified	Research and Development	\$ 2,277,829	\$ 570,397,776	Y				\$ 16,395
11 307		Economic Adjustment Assistance	Research and Development	\$ 32,548	\$ 570,397,776	N	Gannon University	N/A		\$ 32,548
11 312		Research and Evaluation Program	Research and Development	\$ 96,261	\$ 570,397,776	N	Indiana University	ED17HDQ3120040		\$ 96,261
11 417		Sea Grant Support	Research and Development	\$ 1,068,455	\$ 570,397,776	Y			\$ 183,743	\$ 1,054,330
11 417		Sea Grant Support	Research and Development	\$ 1,068,455	\$ 570,397,776	N	University of Minnesota	NA140AR4170291		\$ 14,125
11 429		Marine Sanctuary Program	Research and Development	\$ 14,575	\$ 570,397,776	Y				\$ 14,575
11 431		Climate and Atmospheric Research	Research and Development	\$ 57,643	\$ 570,397,776	Y				\$ 32,165
11 431		Climate and Atmospheric Research	Research and Development	\$ 57,643	\$ 570,397,776	N	RAND Corporation	NA16OAR4310179		\$ 25,478
11 432		National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Research and Development	\$ 114,467	\$ 570,397,776	N	Colorado State University	N/A		\$ 35,017
11 432		National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Research and Development	\$ 114,467	\$ 570,397,776	N	University of Illinois	NA17OAR43201152		\$ 733
11 432		National Oceanic and Atmospheric Administration (NOAA) Cooperative Institutes	Research and Development	\$ 114,467	\$ 570,397,776	N	University of Michigan	NA17OAR4320152		\$ 78,717
11 459		Weather and Air Quality Research	Research and Development	\$ 162,241	\$ 570,397,776	Y				\$ 162,241
11 462		Hydrologic Research	Research and Development	\$ 97,907	\$ 570,397,776	N	University Corporation for Atmospheric Research	NA16NWS4620043		\$ 97,907
11 467		Meteorologic and Hydrologic Modernization Development	Research and Development	\$ 1,128	\$ 570,397,776	N	University Corporation for Atmospheric Research	NA11NWS4670004		\$ 1,128
11 468		Applied Meteorological Research	Research and Development	\$ 79,990	\$ 570,397,776	Y				\$ 79,990
11 478		Center for Sponsored Coastal Ocean Research Coastal Ocean Program	Research and Development	\$ 44,491	\$ 570,397,776	N	Virginia Institute of Marine Science	NA16NOS478027		\$ 44,491
11 481		Educational Partnership Program	Research and Development	\$ 111,421	\$ 570,397,776	N	Howard University	NA16SEC4810006		\$ 111,421
11 482		Coral Reef Conservation Program	Research and Development	\$ 37,302	\$ 570,397,776	Y				\$ 37,302
11 609		Measurement and Engineering Research and Standards	Research and Development	\$ 1,045,231	\$ 570,397,776	Y				\$ 1,045,231
11 619		Arrangements for Interdisciplinary Research Infrastructure	Research and Development	\$ 16,879	\$ 570,397,776	N	Youngstown State University	70NANB15H070		\$ 16,879
11 RD	5/1/2018-9/30/2018	National Institute of Standards and Technology - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 33,782
11 RD	60NANB17D279	National Institute of Standards and Technology - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 52,846
11 RD	2/1/2018-1/31/2019	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 3,525
11 RD	INTERNAL SUBAWARD FROM ERIE	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 33,627
11 RD	NA14OAR4170063 NO. 12	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 22,898
11 RD	RA-133E-16-SE-1457	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 33,624
11 RD	RA133R18SE0020	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 15,001
11 RD	SP133E17SE1302	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	Y				\$ 53,792
11 RD	8601-SUB03	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	N	ERT, Inc.	NATIONAL OCEANIC AND ATMOSPHER		\$ 29,621
11 RD	8601-SUB03 TASK ORDER 003	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	N	ERT, Inc.	NATIONAL OCEANIC AND ATMOSPHER		\$ 42,774
11 RD	S2017-0119	National Oceanic and Atmospheric Administration - Non-Specified	Research and Development	\$ 397,183	\$ 570,397,776	N	Synoptic Data	NATIONAL OCEANIC AND ATMOSPHER		\$ 75,693
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	Y			\$ 373,228	\$ 7,191,481
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	Massachusetts Institute of Technology	N/A		\$ 53,948
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	North Carolina Agricultural and Technical State University	N/A		\$ 4,198

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	Princeton University	N00014-12-1-0875		\$ 36,982
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	Princeton University	N00014-12-1-0962		\$ (204)
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	University of Minnesota	N00014-12-1-1030		\$ 46,535
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	University of Minnesota	N00014-17-1-2438		\$ 17,958
12 300		Basic and Applied Scientific Research	Research and Development	\$ 7,354,628	\$ 570,397,776	N	Vanderbilt University	N00014-18-1-2107		\$ 3,730
12 330		Science, Technology, Engineering & Mathematics (STEM) Education, Outreach and Workforce Program	Research and Development	\$ 87,711	\$ 570,397,776	N	American Lightweight Materials Manufacturing Innovation Institute	N00014-14-2-0002		\$ 87,711
12 351		Scientific Research - Combating Weapons of Mass Destruction	Research and Development	\$ 1,212,072	\$ 570,397,776	Y			\$ 307,919	\$ 1,058,142
12 351		Scientific Research - Combating Weapons of Mass Destruction	Research and Development	\$ 1,212,072	\$ 570,397,776	N	Columbia University	HDTRA-11-0027		\$ 64,319
12 351		Scientific Research - Combating Weapons of Mass Destruction	Research and Development	\$ 1,212,072	\$ 570,397,776	N	University of Iowa, The	HDTRA1-18-1-0012		\$ 9,382
12 351		Scientific Research - Combating Weapons of Mass Destruction	Research and Development	\$ 1,212,072	\$ 570,397,776	N	University of Minnesota	HDTRA11710445		\$ 80,229
12 360		Research on Chemical and Biological Defense	Research and Development	\$ 638,641	\$ 570,397,776	N	Raytheon Company	W911NF-09-2-0053N		\$ 638,641
12 420		Military Medical Research and Development	Research and Development	\$ 1,532,620	\$ 570,397,776	Y				\$ 1,515,801
12 420		Military Medical Research and Development	Research and Development	\$ 1,532,620	\$ 570,397,776	N	Johns Hopkins University	W81XWH-09-2-0108		\$ 2,104
12 420		Military Medical Research and Development	Research and Development	\$ 1,532,620	\$ 570,397,776	N	University of Texas Health Science Center at San Antonio, The	W81XWH1320065		\$ 14,715
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	Y			\$ 141,088	\$ 1,912,813
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	Boston University	N/A		\$ 323
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	George Mason University	N/A		\$ 160,130
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	National Institute of Aerospace, The	U.S. ARMY RESEARCH LABORATORY		\$ 15,085
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	Princeton University	W911NF-12-1-0461		\$ 90,597
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	University of California, Berkeley	W911NF-12-1-0541		\$ 54,034
12 431		Basic Scientific Research	Research and Development	\$ 2,252,550	\$ 570,397,776	N	University of Wisconsin - Madison	W911NF-17-1-0462		\$ 19,568
12 432		U.S. Military Academy Athletic Program at West Point	Research and Development	\$ 23,740	\$ 570,397,776	Y				\$ 23,740
12 557		Invitational Grants for Military-Connected Schools	Research and Development	\$ 25,390	\$ 570,397,776	N	San Diego Unified School District	HE1254-14-1-0036		\$ 25,390
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	Y			\$ 2,483,457	\$ 3,697,270
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	N	Digital Manufacturing and Design Innovation Institute	U.S. ARMY CONTRACTING COMMAND	\$ 459,304	\$ 553,522
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	N	IBM	U.S. ARMY RESEARCH LABORATORY		\$ 123,816
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	N	Iowa State University	W31P4Q-14-2-0001		\$ 27,990
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	N	Rolls-Royce	W31P4Q-14-2-0001		\$ 6,885
12 630		Basic, Applied, and Advanced Research in Science and Engineering	Research and Development	\$ 4,569,784	\$ 570,397,776	N	UI Labs	W31P4Q-14-2-0001	\$ 9,935	\$ 160,301
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	Y			\$ 1,043,398	\$ 3,904,324
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	General Electric	FA8650-12-2-7230		\$ 74,972
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Honeywell International, Inc.	FA8650-12-2-7230		\$ 18,521
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	National Center for Defense Manufacturing and Machining	FA8650-16-2-5700		\$ 7,306
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	North Carolina State University	FA9550-17-1-0318		\$ 90,748
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	North Carolina State University	N/A		\$ 18,804
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Research Foundation for The State University of New York, The	FA955015010313		\$ 110,339
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Research Foundation for The State University of New York, The	FA95501710088		\$ 31,402
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Rice University	FA9550-14-1-0268		\$ 78,806
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Stanford University	FA9550-14-10317		\$ 182,368
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Texas A&M Research Foundation	FA9550-15-1-0149		\$ 150,761
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	University of Illinois	FA9550-12-1-0471		\$ 41,680
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	University of Maryland	FA95501310126		\$ 48,029
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Youngstown Business Incubator	FA8650-12-2-7230		\$ 64,589
12 800		Air Force Defense Research Sciences Program	Research and Development	\$ 5,252,585	\$ 570,397,776	N	Youngstown State University	FA8650-16-2-5700		\$ 429,936
12 901		Mathematical Sciences Grant	Research and Development	\$ 20,442	\$ 570,397,776	Y				\$ 20,442
12 903		GenCyber Grants Program	Research and Development	\$ 46,752	\$ 570,397,776	Y				\$ 46,752
12 905		CyberSecurity Core Curriculum	Research and Development	\$ 70,925	\$ 570,397,776	Y				\$ 15,775
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	Y			\$ 1,114,103	\$ 2,904,733
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	Carnegie Institution for Science	W31P4Q-13-1-0005		\$ 75,320
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	Carnegie Mellon University	DEFENSE ADVANCED RESEARCH PROJ		\$ 104,090
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	Carnegie Mellon University	N66001-13-2-4040		\$ 62,451
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	University of Colorado	W31P4Q-13-1-0015		\$ 39,949
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	University of South Florida	D15AP0089		\$ 324,728

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	University of Southern California	W911NF-18-1-0027		\$ 30,646
12 910		Research and Technology Development	Research and Development	\$ 3,612,505	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	HR0011-16-C-0035		\$ 70,588
12 RD	D14AP00042_AMEND 0001	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (6,014)
12 RD	HR0011-12-C-0075	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 18,287
12 RD	HR0011-15-C-0029	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 51,534	\$ 1,414,766
12 RD	HR0011-15-C-0029	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 62,195
12 RD	W911NF-15-1-0084	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 136,514
12 RD	206487	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Actuated Medical, Inc.	DEFENSE ADVANCED RESEARCH PROJ		\$ 12,255
12 RD	5050-S01	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Actuated Medical, Inc.	DEFENSE ADVANCED RESEARCH PROJ		\$ 15,636
12 RD	APS-17-05	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Applied Physical Sciences Corporation	N66604-16-C-2187		\$ 5,830
12 RD	D17PC00133	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	De Novo DNA	DEFENSE ADVANCED RESEARCH PROJ		\$ 37,703
12 RD	E203809-3	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	George Mason University	HR0011-16-C-0055		\$ 87,418
12 RD	136490	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Johns Hopkins University	HR0011-16-C-0011		\$ 18,413
12 RD	4301-83287 GRANT 210161	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Purdue University	HR0011-18-3-0004		\$ 2,294
12 RD	A003571411	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Minnesota	2013-MA-2381		\$ 102,115
12 RD	202092-PENN	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Notre Dame	2013-MA-2383		\$ 290,167
12 RD	450528-19079	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	N66001-17-C-4052		\$ 133,471
12 RD	AFRL-17C0425-PS-DW	Defense Advanced Research Projects Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Voxtel, Inc.	DEFENSE ADVANCED RESEARCH PROJ		\$ 25,876
12 RD	HHM402-17-P-0037	Defense Intelligence Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 50,371
12 RD	HDTRA1-13-C-0064	Defense Threat Reduction Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 128,387
12 RD	HDTRA1-13-C-0064 CLIN 0004	Defense Threat Reduction Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 1,007,400
12 RD	HDTRA1-16-1-0005	Defense Threat Reduction Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 483,457	\$ 797,636
12 RD	401100953	Defense Threat Reduction Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	General Electric	246819		\$ 224,276
12 RD	P010198789	Defense Threat Reduction Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Leidos	DEFENSE THREAT REDUCTION AGENC		\$ 68,691
12 RD	22941	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Brimrose Technology Corporation	HQ0147-15-C-7401		\$ 146,335
12 RD	SC1519801	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Charles River Analytics Inc.	W81XWH-17-C-0002		\$ 39,066
12 RD	11-005JNA	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Delaware State University	N/A		\$ 1,979
12 RD	S18-06114	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	EOIR Technologies, Inc.	DOTC-13-01-INIT334		\$ 132,875
12 RD	26495	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Mainstream Engineering Corporation	HQ0147-18-C-7215		\$ 30,788
12 RD	27701	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	MTEQ, Inc.	W909MY-12-D-0008		\$ 49,197
12 RD	4201527845	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Raytheon Company	N/A		\$ 19,948
12 RD	5003408031	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Rolls-Royce	N/A		\$ 71,576
12 RD	PO 2941 CLIN 1	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SRI International	090051SC-SRI-01		\$ (1,254)
12 RD	PO 2941 CLIN 2	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SRI International	090051SC-SRI-01		\$ 46
12 RD	PO 2942	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SRI International	2014-SC-4-0188		\$ 1,005
12 RD	2017-107 CLIN 0001	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Steel Founders' Society of America	SP4701-17-D-1161		\$ 2,540
12 RD	2102620-03 TO 0060	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Stevens Institute of Technology	HQ0034-13-D-0004		\$ (53)
12 RD	2102739-03 TO HQ003417F0283	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Stevens Institute of Technology	HQ0034-13-D-0004		\$ 29,818
12 RD	TO-0037-RT-137	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Stevens Institute of Technology	HQ0034-13-D-0004 TO-0037		\$ (1,965)
12 RD	S-105-000-001	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UES, Inc.	FA9550-16-C-0004		\$ 9,961
12 RD	S-137-000-004	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UES, Inc.	HQ0147-17-C-7427		\$ 9,976
12 RD	2015-328 TO3 NRTC-FY15-R-01	Department of Defense - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Vertical Left Consortium	NRTC-FY15-R-01	\$ 28,281	\$ 164,166
12 RD	FA8650-12-C-7225	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 12,561	\$ 12,561
12 RD	FA8650-15-C-5625	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 73,217
12 RD	FA8750-17-C-0254	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 315,521
12 RD	FA9453-15-C-0064	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 52,570
12 RD	FA9550-12-1-0270	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (5,361)

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12 RD	FA9550-15-1-0239	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 131,955
12 RD	FA9550-15-1-0306	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (576)
12 RD	FA9550-15-1-0400	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 10,146
12 RD	FA9550-17-1-0173	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 59,116
12 RD	FA9550-18-1-0072	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 28,208	\$ 114,711
12 RD	FA9550-18-1-0135	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 51,248
12 RD	200036173	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Aerojet Rocketdyne	FA8650-14-2-5214		\$ 137
12 RD	238-5404-PSU	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Azimuth Corporation	AIR FORCE RESEARCH LABORATORY		\$ 75,709
12 RD	20180006 PROJ 9308	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	CFD Research Corporation	FA8650-18-C-6870		\$ 65,130
12 RD	10130 MOD 004	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Defense Engineering Corporation	FA8650-12-D-1376 0004		\$ 118,903
12 RD	20170601	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Global Engineering Research and Technologies, LLC	FA8651-17-P-0129		\$ 49,340
12 RD	201040	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	INVERCON LLC	AIR FORCE OFFICE OF SCIENTIFIC		\$ 41,675
12 RD	DWY-16-100 TO-3	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	L3 Brashear	FA8702-15-D-0001		\$ 7,319
12 RD	DWY-16-100 TO-4	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	L3 Brashear	FA8702-15-D-0001		\$ 26,879
12 RD	DWY-16-100 TO-5	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	L3 Brashear	FA8702-15-D-0001		\$ 5,925
12 RD	PO10203201	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Leidos	FA9451-17-D-0070		\$ 110,416
12 RD	4102518771	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	FA8219-15-C-0008		\$ 2,567
12 RD	4103009755	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	U.S. DEPARTMENT OF THE AIR FOR		\$ 6,192
12 RD	4103046902 AMEND 3	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	U.S. DEPARTMENT OF THE AIR FOR		\$ 11,288
12 RD	4103211887	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	N/A		\$ 8,021
12 RD	4103345418	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	FA8214-14-D-0002		\$ 2,546
12 RD	4103702371	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	U.S. DEPARTMENT OF THE AIR FOR		\$ 6,521
12 RD	CRFR-008 TO CRFR-008-002-01	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Matrix Research Inc.	N/A		\$ 85,426
12 RD	NOK-PSU09062017	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Nokomis, Inc.	W81XWH-17-C-0059		\$ 44,954
12 RD	22167	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Optomec	FA8650-12-2-7230		\$ (3,694)
12 RD	24296 PO 1041.PSU	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Sabre Systems, Inc.	FA8750-16-C-0216		\$ 43,075
12 RD	SPG-FD-16-C-001 CLIN 01	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SP Global, Inc.	FA8726-16-C-0016		\$ 2,617
12 RD	25494	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Surmet Corporation	FA8650-07-2-5508		\$ 5,259
12 RD	SC16-5995-1	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Toyon Research Corporation	FA8650-16-C-1769		\$ 88,032
12 RD	S-143-000-001	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UES, Inc.	FA8650-17-P-2024		\$ 40,594
12 RD	S-925-03A-001	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UES, Inc.	FA8650-11-D-5400 TO-003		\$ (583)
12 RD	RSC18008	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Dayton Research Institute	FA8650-18-D-5761/0001		\$ 31,407
12 RD	UTA14-001124	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Texas at Austin, The	FA95601410089		\$ 209,542
12 RD	10028801-PENN-APP PO 174167	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Utah, The	W911NF-12-2-0023		\$ 43,126
12 RD	5310597	Department of the Air Force - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UTC Aerospace Systems	N/A		\$ 14,117
12 RD	DA ARDEC TRAINING	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (1,170)
12 RD	W15P7T-06-D-R401 DO 0009	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 292
12 RD	W81XWH-14-1-0283	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 126,332
12 RD	W81XWH-15-1-0339	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 197,130
12 RD	W81XWH-16-1-0117	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 154,447
12 RD	W81XWH-16-1-0725	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 11,261
12 RD	W81XWH-17-1-0197	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 133,598
12 RD	W81XWH-17-C-0247	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 222,363
12 RD	W81XWH1810103	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 13,835
12 RD	W911NF-11-D-0002 DO 0001	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,661	\$ 3,844
12 RD	W911NF-11-D-0002 DO 0002	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 6,102	\$ 6,407

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12 RD	W911NF-11-D-0002 DO 0003	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,331,985	\$ 1,458,009
12 RD	W911NF-14-1-0475	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 46,780	\$ 46,780
12 RD	W911NF-15-1-0576	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 104,898	\$ 158,009
12 RD	W911NF-15-2-0066	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 172,306
12 RD	W911NF-16-1-0484	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 384,199
12 RD	W911NF-17-1-0155	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 166,528
12 RD	W911NF-17-1-0237	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 11,865
12 RD	W911NF-18-1-0043	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 45,984
12 RD	W911NF-18-1-0099	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 13,267
12 RD	W911NF1810198	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 10,200
12 RD	W911NF1810261	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 8,097
12 RD	W911QY-18-D-0125	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 998
12 RD	W911W6-11-2-0011	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (9,325)
12 RD	W911W6-17-2-0003	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 314,595	\$ 1,378,090
12 RD	W911W6-17-2-0003 TASK A 1.1	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 120,986
12 RD	W911W6-17-2-0003 TASK A 1.12	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 66,346
12 RD	W911W6-17-2-0003 TASK A 1.6	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 15,042
12 RD	W9128F-16-2-0005	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 10,636
12 RD	W912HQ-12-C-0044	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 650	\$ 1,120
12 RD	W912HQ-15-C-0063	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 42,754
12 RD	W912HQ-16-C-0006	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 21,499	\$ 576,111
12 RD	W912HQ-17-C-0041	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 80,289
12 RD	W91CRB-04-C-0046	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 27,642	\$ 32,327
12 RD	W91CRB-16-C-0051	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 3,948
12 RD	W91CRB-17-C-0047	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 132,482
12 RD	24356	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Cooling Technologies, Inc.	U.S. ARMY CONTRACTING COMMAND		\$ 5,966
12 RD	2014-309-002	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	DOTC-17-01-INIT0453	\$ 256,500	\$ 751,797
12 RD	2014-309-003 MOD 1	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	DOTC-17-01-INIT0451	\$ 110,000	\$ 332,385
12 RD	2015-328 TASK 01	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	W15QKN-10-9-0003	\$ 32,007	\$ 127,806
12 RD	NRTC-FY15-C-02/BASE 2015-328	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	W1QKN-10-9-0003	\$ 5,192	\$ 60,406
12 RD	208 CO 002	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	AVX Aircraft Company	W911W6-16-C-0005		\$ 20,017
12 RD	20120990	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	CFD Research Corporation	W81XWH-14-C-0003		\$ 280
12 RD	CFD RES CORP	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	CFD Research Corporation	W81XWH-14-C-0045		\$ (15)
12 RD	SC1608001	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Charles River Analytics Inc.	U.S. DEPARTMENT OF THE ARMY		\$ 89,816
12 RD	177966	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Cytosorbents Corporation	W81XWH-16-C-0025		\$ 41,852
12 RD	196907	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Cytosorbents Corporation	U.S. ARMY MEDICAL RESEARCH AND		\$ 187,451
12 RD	CH010349	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Dynetics, Inc.	W9113M-14-D-0002		\$ (653)
12 RD	25930	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Gear Research Institute	W15QKN-10-0-0003		\$ 205,781
12 RD	E2030473	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	George Mason University	N/A		\$ 59,660
12 RD	24025	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	H.F. Webster Engineering Services	W911QX-16-C-0024		\$ 89,658
12 RD	25170	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Hadal, Inc.	W15QKN-17-9-1001		\$ 783
12 RD	25697 PO W15Q-2	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	HAMR Industries LLC	W15QKN-17-C-0060		\$ 65,212
12 RD	52609/25242	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	IAP Research, Inc.	N/A		\$ 3,332
12 RD	W911NF-16-3-0001 PO 5004948072	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	IBM	W911NF-16-3-0001		\$ 178,682
12 RD	200674	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Impulse Technology, LLC	W81XWH-1-C-0102		\$ 50,000
12 RD	W81XWH-10-2-0090	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Johns Hopkins University	W81XWH-10-2-0090		\$ 15,970
12 RD	PO10188059	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Leidos	W15QKN-14-9-1001		\$ 22,323
12 RD	20210 (PO 59780)	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	M Cubed Technologies, Inc.	N/A		\$ (87)
12 RD	5710003781	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Massachusetts Institute of Technology	W911NF-13-D-0001, T.O. 8		\$ 5,657
12 RD	79324-1	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Nammo Talley Inc.	W911QY-17-C-00300		\$ 68,685

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	70-201618/T01	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	National Advanced Mobility Consortium	W15QKN-14-9-1002	\$ 58,185
12	RD	101917-01	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	New Tech Ceramics, Inc.	ARMY RIF - UNKNOWN NUMBER	\$ 56,370
12	RD	15-04 CHANGE ORDER 03	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	NextGen Aeronautics	W15QKN-15-C-0029	\$ (2,079)
12	RD	1/1/2018-10/20/2018	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	North Carolina State University	ARMY RESEARCH OFFICE	\$ 25,041
12	RD	170427 PO 4500427227	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Sikorsky Aircraft Corporation	W15QKN-10-9-0003	\$ 80,423
12	RD	23823 PO 4500426062	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Sikorsky Aircraft Corporation	W911W6-11-2-0008	\$ 24,663
12	RD	41980-100114-01	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Structured Materials Industries, Inc.	W911NF-14-C-0163	\$ (124)
12	RD	S17-095010	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SURVICE Engineering Company	U.S. ARMY CONTRACTING COMMAND	\$ 57,535
12	RD	S18-095004	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SURVICE Engineering Company	DOTC-17-01-INIT0086	\$ 29,953
12	RD	S-146-000-001	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	UES, Inc.	W911QX-17-P-0227	\$ 17,287
12	RD	10028801-PENN-APP CLIN 006	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Utah, The	U.S. ARMY RESEARCH LABORATORY	\$ 15,569
12	RD	PO-0016096 L1 1	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Vencore, Inc.	W91ZLK-15-D-0006	\$ 174,738
12	RD	141630 2014-B-12-T6.1-A05	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Vertical Left Consortium	W911W6-12-2-0003	\$ (394)
12	RD	141630 2014-B-21-T2.1-A05	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Vertical Left Consortium	W911W6-12-2-003	\$ (900)
12	RD	88475 2011-B-12-T4.1-A5	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Vertical Left Consortium	W911W6-06-2-0002	\$ 1
12	RD	16-TMP-01-215461/ 215465	Department of the Army - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Worcester Polytechnic Institute	W911NF-15-2-0024	\$ 92,834
12	RD	N00014-05-G-0106 DO 0005	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (71,291)
12	RD	N00014-05-G-0106 DO 0008	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 292
12	RD	N00014-10-D-0145 DO 0004	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 1,024,181	\$ 1,571,996
12	RD	N00014-10-D-0145 DO 0005	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 15,766	\$ 50,182
12	RD	N00014-10-D-0145 DO 0007	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 98,155	\$ 123,256
12	RD	N00014-10-D-0145 DO 0008	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 3,747	\$ 3,747
12	RD	N00014-10-D-0145 DO 0010	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 74,496
12	RD	N00014-10-G-0259 DO 0021	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,652)
12	RD	N00014-10-G-0259 DO 0022	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 133
12	RD	N00014-10-G-0259 DO 0026	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,015)
12	RD	N00014-10-G-0259 DO 0027	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,275)
12	RD	N00014-10-G-0259 DO 0030	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (199,631)
12	RD	N00014-10-G-0259 DO 0031	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (57)
12	RD	N00014-10-G-0259 DO 0034	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 618,513
12	RD	N00014-12-C-0124	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (18,786)
12	RD	N00014-14-C-0004	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 69,021	\$ 100,175
12	RD	N00014-14-C-0020	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 13,699
12	RD	N00014-14-C-0157	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 279,555	\$ 303,002
12	RD	N00014-15-1-2364	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 36,319

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00014-15-D-5003 DO 0001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 533,049
12	RD	N00014-15-D-5003 DO 0002	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 646,294
12	RD	N00014-15-D-5003 DO_16-F-M010	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 1,383,525	\$ 1,723,487
12	RD	N00014-15-G-0001 DO 0001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 454,498
12	RD	N00014-15-G-0001 DO 0002	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,542,388
12	RD	N00014-15-G-0001 DO 0003	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 82,509
12	RD	N00014-15-G-0001 DO 0004	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 81,450
12	RD	N00014-15-G-0001 DO 0005	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 549,868
12	RD	N00014-15-G-0001 DO 0006	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 149,528
12	RD	N00014-15-G-0001 DO 18F1006	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 17,860
12	RD	N00014-15-G-0001 DO 18F7001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 198,965
12	RD	N00014-15-G-0001 DO-1418F2006	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 948,325
12	RD	N00014-15-G-0001/16-F-3013	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 221,494
12	RD	N00014-15-G-0001/17-F-2015	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 233,633
12	RD	N00014-16-1-2082	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 162,434
12	RD	N00014-16-1-2186	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (500)
12	RD	N00014-16-1-2383	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 14,419
12	RD	N00014-16-1-2790	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 6,875
12	RD	N00014-16-1-2816	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 68,881
12	RD	N00014-16-1-2912	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 139,096
12	RD	N00014-16-1-2952	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 139,344
12	RD	N00014-16-F-M010	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 686,744	\$ 1,440,476
12	RD	N00014-17-1-2088	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 194,748
12	RD	N00014-17-1-2361	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 153,942
12	RD	N00014-17-1-2526	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 146,052
12	RD	N00014-17-1-2894	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 165,279
12	RD	N00014-17-F-M004	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 8,684
12	RD	N00014-18-1-2511	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,171
12	RD	N00024-02-D-6604 DO 0331	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,710
12	RD	N00024-02-D-6604 DO 0415	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (143)
12	RD	N00024-02-D-6604 DO 0432	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (14,076)
12	RD	N00024-02-D-6604 DO 0467	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 51
12	RD	N00024-02-D-6604 DO 0512	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,512
12	RD	N00024-02-D-6604 DO 0560	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,973
12	RD	N00024-02-D-6604 DO 0573	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 1,899	\$ 2,205
12	RD	N00024-02-D-6604 DO 0583	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 43,192	\$ 44,821
12	RD	N00024-02-D-6604 DO 0643	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 12,275	\$ 35,039
12	RD	N00024-02-D-6604 DO 0715	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 4,808	\$ 5,372

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-02-D-6604 DO 0736	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 26,709	\$ 26,709
12	RD	N00024-02-D-6604 DO 0739	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4,187
12	RD	N00024-12-D-6402 DO 0021	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 24
12	RD	N00024-12-D-6402 DO 0075	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (253)
12	RD	N00024-12-D-6402 DO 0086	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,866)
12	RD	N00024-12-D-6404 DO 18F8345	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 378,852
12	RD	N00024-12-D-6404 DO 0001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,518)
12	RD	N00024-12-D-6404 DO 0003	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 190
12	RD	N00024-12-D-6404 DO 0016	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (46,176)
12	RD	N00024-12-D-6404 DO 0017	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 12
12	RD	N00024-12-D-6404 DO 0020	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (92)
12	RD	N00024-12-D-6404 DO 0028	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (6,597)
12	RD	N00024-12-D-6404 DO 0035	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (329)
12	RD	N00024-12-D-6404 DO 0039	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (661)
12	RD	N00024-12-D-6404 DO 0044	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2
12	RD	N00024-12-D-6404 DO 0045	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (13,008)
12	RD	N00024-12-D-6404 DO 0047	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 20
12	RD	N00024-12-D-6404 DO 0056	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 371
12	RD	N00024-12-D-6404 DO 0066	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 548
12	RD	N00024-12-D-6404 DO 0070	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (475)
12	RD	N00024-12-D-6404 DO 0082	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,562)
12	RD	N00024-12-D-6404 DO 0094	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 7
12	RD	N00024-12-D-6404 DO 0095	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 73,465	\$ 424,555
12	RD	N00024-12-D-6404 DO 0096	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (13,235)
12	RD	N00024-12-D-6404 DO 0102	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 57
12	RD	N00024-12-D-6404 DO 0103	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,211)
12	RD	N00024-12-D-6404 DO 0108	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (20,837)
12	RD	N00024-12-D-6404 DO 0109	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (145)
12	RD	N00024-12-D-6404 DO 0110	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,902)
12	RD	N00024-12-D-6404 DO 0112	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,139)
12	RD	N00024-12-D-6404 DO 0116	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 347

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0117	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 418
12	RD	N00024-12-D-6404 DO 0120	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,627)
12	RD	N00024-12-D-6404 DO 0121	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 305,093
12	RD	N00024-12-D-6404 DO 0138	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (625)
12	RD	N00024-12-D-6404 DO 0140	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 6
12	RD	N00024-12-D-6404 DO 0143	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (16)
12	RD	N00024-12-D-6404 DO 0144	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (975)
12	RD	N00024-12-D-6404 DO 0145	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (966)
12	RD	N00024-12-D-6404 DO 0148	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 2,052	\$ 2,442
12	RD	N00024-12-D-6404 DO 0151	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 53,452	\$ 56,036
12	RD	N00024-12-D-6404 DO 0153	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,288)
12	RD	N00024-12-D-6404 DO 0154	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 57,069
12	RD	N00024-12-D-6404 DO 0157	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (574)
12	RD	N00024-12-D-6404 DO 0158	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 31
12	RD	N00024-12-D-6404 DO 0162	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (4,094)
12	RD	N00024-12-D-6404 DO 0163	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (13)
12	RD	N00024-12-D-6404 DO 0164	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,298)
12	RD	N00024-12-D-6404 DO 0165	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,938)
12	RD	N00024-12-D-6404 DO 0167	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 601,293
12	RD	N00024-12-D-6404 DO 0169	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (127)
12	RD	N00024-12-D-6404 DO 0171	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,982)
12	RD	N00024-12-D-6404 DO 0172	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,242
12	RD	N00024-12-D-6404 DO 0176	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,537)
12	RD	N00024-12-D-6404 DO 0179	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,326
12	RD	N00024-12-D-6404 DO 0181	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,382)
12	RD	N00024-12-D-6404 DO 0183	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 28
12	RD	N00024-12-D-6404 DO 0184	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,433)
12	RD	N00024-12-D-6404 DO 0185	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,332)
12	RD	N00024-12-D-6404 DO 0189	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,820
12	RD	N00024-12-D-6404 DO 0190	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4
12	RD	N00024-12-D-6404 DO 0191	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 9,703	\$ 44,100

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0194	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (4,205)
12	RD	N00024-12-D-6404 DO 0195	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4
12	RD	N00024-12-D-6404 DO 0196	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 680
12	RD	N00024-12-D-6404 DO 0198	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 3,658	\$ 604,882
12	RD	N00024-12-D-6404 DO 0202	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,406)
12	RD	N00024-12-D-6404 DO 0205	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (320)
12	RD	N00024-12-D-6404 DO 0207	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (568)
12	RD	N00024-12-D-6404 DO 0208	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 517
12	RD	N00024-12-D-6404 DO 0216	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (8,750)
12	RD	N00024-12-D-6404 DO 0217	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (581)
12	RD	N00024-12-D-6404 DO 0220	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (447)
12	RD	N00024-12-D-6404 DO 0224	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 3,766	\$ 3,766
12	RD	N00024-12-D-6404 DO 0225	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 38,748
12	RD	N00024-12-D-6404 DO 0227	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,042)
12	RD	N00024-12-D-6404 DO 0231	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,643)
12	RD	N00024-12-D-6404 DO 0233	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 191
12	RD	N00024-12-D-6404 DO 0240	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,105)
12	RD	N00024-12-D-6404 DO 0242	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,463
12	RD	N00024-12-D-6404 DO 0243	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,080)
12	RD	N00024-12-D-6404 DO 0244	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,846)
12	RD	N00024-12-D-6404 DO 0246	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 34,489	\$ 36,587
12	RD	N00024-12-D-6404 DO 0254	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (317)
12	RD	N00024-12-D-6404 DO 0255	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 489
12	RD	N00024-12-D-6404 DO 0256	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (196)
12	RD	N00024-12-D-6404 DO 0257	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (777)
12	RD	N00024-12-D-6404 DO 0259	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 31
12	RD	N00024-12-D-6404 DO 0260	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 958,334
12	RD	N00024-12-D-6404 DO 0262	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 16,489	\$ 17,903
12	RD	N00024-12-D-6404 DO 0263	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 13
12	RD	N00024-12-D-6404 DO 0269	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 627
12	RD	N00024-12-D-6404 DO 0272	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (4,169)

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0275	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,052
12	RD	N00024-12-D-6404 DO 0276	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (299)
12	RD	N00024-12-D-6404 DO 0278	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 7,396,627
12	RD	N00024-12-D-6404 DO 0281	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,268)
12	RD	N00024-12-D-6404 DO 0282	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 71
12	RD	N00024-12-D-6404 DO 0286	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (70)
12	RD	N00024-12-D-6404 DO 0288	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (852)
12	RD	N00024-12-D-6404 DO 0289	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (233)
12	RD	N00024-12-D-6404 DO 0293	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 294,317
12	RD	N00024-12-D-6404 DO 0294	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,983)
12	RD	N00024-12-D-6404 DO 0296	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 533,550
12	RD	N00024-12-D-6404 DO 0298	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,727)
12	RD	N00024-12-D-6404 DO 0301	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,124)
12	RD	N00024-12-D-6404 DO 0302	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 60,473
12	RD	N00024-12-D-6404 DO 0306	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 90,312
12	RD	N00024-12-D-6404 DO 0307	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 12,890
12	RD	N00024-12-D-6404 DO 0309	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 39,554
12	RD	N00024-12-D-6404 DO 0310	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 235,519
12	RD	N00024-12-D-6404 DO 0311	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (558)
12	RD	N00024-12-D-6404 DO 0313	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 103,897
12	RD	N00024-12-D-6404 DO 0314	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 22,306
12	RD	N00024-12-D-6404 DO 0315	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (6,557)
12	RD	N00024-12-D-6404 DO 0318	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 482
12	RD	N00024-12-D-6404 DO 0319	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 290,697
12	RD	N00024-12-D-6404 DO 0320	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (4,316)
12	RD	N00024-12-D-6404 DO 0321	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (17,241)
12	RD	N00024-12-D-6404 DO 0322	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (796)
12	RD	N00024-12-D-6404 DO 0324	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 937
12	RD	N00024-12-D-6404 DO 0325	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2
12	RD	N00024-12-D-6404 DO 0326	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1
12	RD	N00024-12-D-6404 DO 0327	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (5,169)

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0328	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (350)
12	RD	N00024-12-D-6404 DO 0331	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (476)
12	RD	N00024-12-D-6404 DO 0334	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 141,962
12	RD	N00024-12-D-6404 DO 0336	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 280,433	\$ 1,501,836
12	RD	N00024-12-D-6404 DO 0337	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,170)
12	RD	N00024-12-D-6404 DO 0338	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 246,866
12	RD	N00024-12-D-6404 DO 0341	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,659
12	RD	N00024-12-D-6404 DO 0342	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (7,423)
12	RD	N00024-12-D-6404 DO 0343	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 182
12	RD	N00024-12-D-6404 DO 0344	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 625,238
12	RD	N00024-12-D-6404 DO 0345	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (247)
12	RD	N00024-12-D-6404 DO 0346	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (949)
12	RD	N00024-12-D-6404 DO 0348	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 676,235
12	RD	N00024-12-D-6404 DO 0349	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (12,795)
12	RD	N00024-12-D-6404 DO 0351	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (614)
12	RD	N00024-12-D-6404 DO 0352	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (14,283)
12	RD	N00024-12-D-6404 DO 0355	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,014)
12	RD	N00024-12-D-6404 DO 0356	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,257)
12	RD	N00024-12-D-6404 DO 0357	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (319)
12	RD	N00024-12-D-6404 DO 0358	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,007)
12	RD	N00024-12-D-6404 DO 0359	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 145
12	RD	N00024-12-D-6404 DO 0360	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (919)
12	RD	N00024-12-D-6404 DO 0361	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4
12	RD	N00024-12-D-6404 DO 0365	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,449)
12	RD	N00024-12-D-6404 DO 0366	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (31)
12	RD	N00024-12-D-6404 DO 0369	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,130)
12	RD	N00024-12-D-6404 DO 0370	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,101,497
12	RD	N00024-12-D-6404 DO 0371	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 610,054
12	RD	N00024-12-D-6404 DO 0372	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,355
12	RD	N00024-12-D-6404 DO 0373	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (4,203)
12	RD	N00024-12-D-6404 DO 0374	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (21)

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0377	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 462
12	RD	N00024-12-D-6404 DO 0378	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (13,288)
12	RD	N00024-12-D-6404 DO 0379	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,321
12	RD	N00024-12-D-6404 DO 0380	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 140
12	RD	N00024-12-D-6404 DO 0382	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,832
12	RD	N00024-12-D-6404 DO 0384	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (398)
12	RD	N00024-12-D-6404 DO 0385	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (728)
12	RD	N00024-12-D-6404 DO 0386	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (727)
12	RD	N00024-12-D-6404 DO 0388	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 8
12	RD	N00024-12-D-6404 DO 0389	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 5,318
12	RD	N00024-12-D-6404 DO 0390	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (156)
12	RD	N00024-12-D-6404 DO 0391	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (379)
12	RD	N00024-12-D-6404 DO 0392	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2)
12	RD	N00024-12-D-6404 DO 0393	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 64
12	RD	N00024-12-D-6404 DO 0394	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,107,594
12	RD	N00024-12-D-6404 DO 0395	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (233)
12	RD	N00024-12-D-6404 DO 0396	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (211)
12	RD	N00024-12-D-6404 DO 0397	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (939)
12	RD	N00024-12-D-6404 DO 0399	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 65
12	RD	N00024-12-D-6404 DO 0400	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (219)
12	RD	N00024-12-D-6404 DO 0402	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (786)
12	RD	N00024-12-D-6404 DO 0405	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 178,916
12	RD	N00024-12-D-6404 DO 0406	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (613)
12	RD	N00024-12-D-6404 DO 0407	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,367
12	RD	N00024-12-D-6404 DO 0408	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 45,519
12	RD	N00024-12-D-6404 DO 0411	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,268)
12	RD	N00024-12-D-6404 DO 0413	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 664,486
12	RD	N00024-12-D-6404 DO 0414	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (510)
12	RD	N00024-12-D-6404 DO 0415	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (214)
12	RD	N00024-12-D-6404 DO 0416	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 21,965
12	RD	N00024-12-D-6404 DO 0418	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1)

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0419	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 41,591
12	RD	N00024-12-D-6404 DO 0421	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4,698
12	RD	N00024-12-D-6404 DO 0423	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 166,041	\$ 3,839,453
12	RD	N00024-12-D-6404 DO 0425	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 63,710	\$ 645,482
12	RD	N00024-12-D-6404 DO 0426	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 70,754	\$ 4,430,831
12	RD	N00024-12-D-6404 DO 0427	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 147,607
12	RD	N00024-12-D-6404 DO 0428	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,402,091
12	RD	N00024-12-D-6404 DO 0429	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,325,060
12	RD	N00024-12-D-6404 DO 0431	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (3,706)
12	RD	N00024-12-D-6404 DO 0432	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,652)
12	RD	N00024-12-D-6404 DO 0433	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 22,945
12	RD	N00024-12-D-6404 DO 0434	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 608,731
12	RD	N00024-12-D-6404 DO 0435	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 5
12	RD	N00024-12-D-6404 DO 0436	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 237,280
12	RD	N00024-12-D-6404 DO 0437	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 170,983
12	RD	N00024-12-D-6404 DO 0438	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 38,040
12	RD	N00024-12-D-6404 DO 0439	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 55,820
12	RD	N00024-12-D-6404 DO 0440	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 127,139
12	RD	N00024-12-D-6404 DO 0442	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 86,458
12	RD	N00024-12-D-6404 DO 0443	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (463)
12	RD	N00024-12-D-6404 DO 0444	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,873
12	RD	N00024-12-D-6404 DO 0445	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 335,207
12	RD	N00024-12-D-6404 DO 0446	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (538)
12	RD	N00024-12-D-6404 DO 0447	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,206)
12	RD	N00024-12-D-6404 DO 0448	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 24,821	\$ 723,376
12	RD	N00024-12-D-6404 DO 0449	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (99)
12	RD	N00024-12-D-6404 DO 0450	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 14,005
12	RD	N00024-12-D-6404 DO 0451	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 312,912	\$ 4,084,736
12	RD	N00024-12-D-6404 DO 0452	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (808)
12	RD	N00024-12-D-6404 DO 0453	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 5
12	RD	N00024-12-D-6404 DO 0455	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 499,365

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0456	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 556,233
12	RD	N00024-12-D-6404 DO 0458	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,379,499
12	RD	N00024-12-D-6404 DO 0459	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 53,782
12	RD	N00024-12-D-6404 DO 0460	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 7
12	RD	N00024-12-D-6404 DO 0461	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 343,740
12	RD	N00024-12-D-6404 DO 0462	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 40,360
12	RD	N00024-12-D-6404 DO 0463	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 30,605
12	RD	N00024-12-D-6404 DO 0464	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 332,530
12	RD	N00024-12-D-6404 DO 0465	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 110,396
12	RD	N00024-12-D-6404 DO 0467	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 87,469	\$ 146,444
12	RD	N00024-12-D-6404 DO 0468	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 29,703
12	RD	N00024-12-D-6404 DO 0469	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,300,507
12	RD	N00024-12-D-6404 DO 0470	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 262,012
12	RD	N00024-12-D-6404 DO 0471	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 34,606	\$ 787,103
12	RD	N00024-12-D-6404 DO 0472	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 334,062
12	RD	N00024-12-D-6404 DO 0473	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 47
12	RD	N00024-12-D-6404 DO 0474	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,950)
12	RD	N00024-12-D-6404 DO 0475	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 75,332
12	RD	N00024-12-D-6404 DO 0476	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (112)
12	RD	N00024-12-D-6404 DO 0477	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 17,880
12	RD	N00024-12-D-6404 DO 0478	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 14
12	RD	N00024-12-D-6404 DO 0479	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 22
12	RD	N00024-12-D-6404 DO 0480	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 196,275
12	RD	N00024-12-D-6404 DO 0481	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 160,008
12	RD	N00024-12-D-6404 DO 0482	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,605
12	RD	N00024-12-D-6404 DO 0483	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,121
12	RD	N00024-12-D-6404 DO 0484	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 453,369
12	RD	N00024-12-D-6404 DO 0485	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (214)
12	RD	N00024-12-D-6404 DO 0486	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,423,711
12	RD	N00024-12-D-6404 DO 0487	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 26,127
12	RD	N00024-12-D-6404 DO 0488	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 218,704

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0491	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 34
12	RD	N00024-12-D-6404 DO 0492	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,104,533
12	RD	N00024-12-D-6404 DO 0493	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 119,009
12	RD	N00024-12-D-6404 DO 0494	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 67,479
12	RD	N00024-12-D-6404 DO 0495	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,163,103
12	RD	N00024-12-D-6404 DO 0496	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 51,231
12	RD	N00024-12-D-6404 DO 0497	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 12,116
12	RD	N00024-12-D-6404 DO 0498	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 270,504
12	RD	N00024-12-D-6404 DO 0500	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 93,168
12	RD	N00024-12-D-6404 DO 0502	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 501,926	\$ 772,011
12	RD	N00024-12-D-6404 DO 0503	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 6,032
12	RD	N00024-12-D-6404 DO 0504	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 29,258
12	RD	N00024-12-D-6404 DO 0505	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 486,096
12	RD	N00024-12-D-6404 DO 0506	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,448,000
12	RD	N00024-12-D-6404 DO 0507	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 114,879
12	RD	N00024-12-D-6404 DO 0508	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 165,792
12	RD	N00024-12-D-6404 DO 0509	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (6,512)
12	RD	N00024-12-D-6404 DO 0510	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 289,750
12	RD	N00024-12-D-6404 DO 0511	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 106,536
12	RD	N00024-12-D-6404 DO 0512	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 27,201
12	RD	N00024-12-D-6404 DO 0513	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 191,640
12	RD	N00024-12-D-6404 DO 0514	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 303,912
12	RD	N00024-12-D-6404 DO 0515	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 2,992	\$ 457,084
12	RD	N00024-12-D-6404 DO 0516	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 56,755
12	RD	N00024-12-D-6404 DO 0518	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 368,581
12	RD	N00024-12-D-6404 DO 0519	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 163,393
12	RD	N00024-12-D-6404 DO 0520	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 22,005	\$ 56,468
12	RD	N00024-12-D-6404 DO 0521	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 33,448
12	RD	N00024-12-D-6404 DO 0522	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 31,987
12	RD	N00024-12-D-6404 DO 0523	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 141,603
12	RD	N00024-12-D-6404 DO 0524	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 67,218

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0526	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 1,227,920	\$ 1,987,637
12	RD	N00024-12-D-6404 DO 0527	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (670)
12	RD	N00024-12-D-6404 DO 0529	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,454,028
12	RD	N00024-12-D-6404 DO 0530	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 34,653
12	RD	N00024-12-D-6404 DO 0531	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 196,514
12	RD	N00024-12-D-6404 DO 0532	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 9,469,810
12	RD	N00024-12-D-6404 DO 0533	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 535,029
12	RD	N00024-12-D-6404 DO 0534	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (17)
12	RD	N00024-12-D-6404 DO 0535	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 107,730
12	RD	N00024-12-D-6404 DO 0537	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 41,530
12	RD	N00024-12-D-6404 DO 0538	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 53,142
12	RD	N00024-12-D-6404 DO 0541	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 772,263
12	RD	N00024-12-D-6404 DO 0542	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 9,728	\$ 3,328,451
12	RD	N00024-12-D-6404 DO 0543	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 305,243
12	RD	N00024-12-D-6404 DO 0544	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 932,217
12	RD	N00024-12-D-6404 DO 0545	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,752,383
12	RD	N00024-12-D-6404 DO 0547	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 55,596
12	RD	N00024-12-D-6404 DO 0548	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,327,543
12	RD	N00024-12-D-6404 DO 0549	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 79,508
12	RD	N00024-12-D-6404 DO 0550	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,818
12	RD	N00024-12-D-6404 DO 0551	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,219)
12	RD	N00024-12-D-6404 DO 0553	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 738,110	\$ 27,951,406
12	RD	N00024-12-D-6404 DO 0555	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 160,383
12	RD	N00024-12-D-6404 DO 0556	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 591,655
12	RD	N00024-12-D-6404 DO 0557	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 833,560
12	RD	N00024-12-D-6404 DO 0558	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 224,558
12	RD	N00024-12-D-6404 DO 0559	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 624,763
12	RD	N00024-12-D-6404 DO 0560	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 323,163
12	RD	N00024-12-D-6404 DO 0561	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,760,383
12	RD	N00024-12-D-6404 DO 0562	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 247,987
12	RD	N00024-12-D-6404 DO 0566	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 59,179

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 0567	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 25,059
12	RD	N00024-12-D-6404 DO 0568	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 75,525
12	RD	N00024-12-D-6404 DO 0569	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 46,364
12	RD	N00024-12-D-6404 DO 0571	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 25,999
12	RD	N00024-12-D-6404 DO 0572	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 117,576
12	RD	N00024-12-D-6404 DO 0574	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 198,503
12	RD	N00024-12-D-6404 DO 0576	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,556,153
12	RD	N00024-12-D-6404 DO 0577	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 595,420
12	RD	N00024-12-D-6404 DO 0578	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 278,208
12	RD	N00024-12-D-6404 DO 0579	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 83,245
12	RD	N00024-12-D-6404 DO 0580	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,540,720
12	RD	N00024-12-D-6404 DO 0581	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 121,519
12	RD	N00024-12-D-6404 DO 0582	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 404,327
12	RD	N00024-12-D-6404 DO 0583	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 673,201
12	RD	N00024-12-D-6404 DO 0585	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 412,066
12	RD	N00024-12-D-6404 DO 0586	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 369,784
12	RD	N00024-12-D-6404 DO 0590	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 216,789
12	RD	N00024-12-D-6404 DO 0593	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 19,319
12	RD	N00024-12-D-6404 DO 17F8300	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 982,397
12	RD	N00024-12-D-6404 DO 17F8301	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,220
12	RD	N00024-12-D-6404 DO 17F8302	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 61,496
12	RD	N00024-12-D-6404 DO 17F8303	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 458,155
12	RD	N00024-12-D-6404 DO 17F8304	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 149,987
12	RD	N00024-12-D-6404 DO 17F8305	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,881,570
12	RD	N00024-12-D-6404 DO 17F8306	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 470,552
12	RD	N00024-12-D-6404 DO 17F8307	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 355,239
12	RD	N00024-12-D-6404 DO 17F8310	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 620,750
12	RD	N00024-12-D-6404 DO 17F8311	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 152,430
12	RD	N00024-12-D-6404 DO 17F8313	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,661,094
12	RD	N00024-12-D-6404 DO 17F8314	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 301,233
12	RD	N00024-12-D-6404 DO 17F8315	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 505,639

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 17F8316	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 28,427
12	RD	N00024-12-D-6404 DO 17F8317	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 344,823
12	RD	N00024-12-D-6404 DO 17F8318	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 456,314
12	RD	N00024-12-D-6404 DO 17F8320	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 252,869
12	RD	N00024-12-D-6404 DO 17F8321	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 94,287
12	RD	N00024-12-D-6404 DO 17F8322	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 125,805
12	RD	N00024-12-D-6404 DO 17F8323	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 700,181
12	RD	N00024-12-D-6404 DO 17F8324	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 329,149
12	RD	N00024-12-D-6404 DO 17F8325	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 490,287
12	RD	N00024-12-D-6404 DO 17F8326	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 973,962
12	RD	N00024-12-D-6404 DO 17F8327	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 20,183
12	RD	N00024-12-D-6404 DO 17F8328	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 36,668	\$ 1,515,063
12	RD	N00024-12-D-6404 DO 17F8330	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 648,052
12	RD	N00024-12-D-6404 DO 17F8331	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 8,147
12	RD	N00024-12-D-6404 DO 17F8332	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,169
12	RD	N00024-12-D-6404 DO 17F8333	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 257,322
12	RD	N00024-12-D-6404 DO 17F8334	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 33,017
12	RD	N00024-12-D-6404 DO 17F8335	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 36,004
12	RD	N00024-12-D-6404 DO 17F8336	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,883,342
12	RD	N00024-12-D-6404 DO 17F8337	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 485,156
12	RD	N00024-12-D-6404 DO 17F8338	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 60,488
12	RD	N00024-12-D-6404 DO 17F8340	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,646,244
12	RD	N00024-12-D-6404 DO 17F8341	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 22,018
12	RD	N00024-12-D-6404 DO 17F8342	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 159,565
12	RD	N00024-12-D-6404 DO 17F8343	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 385,904	\$ 662,614
12	RD	N00024-12-D-6404 DO 17F8344	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 314,458
12	RD	N00024-12-D-6404 DO 17F8345	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 165,307
12	RD	N00024-12-D-6404 DO 17F8346	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 994,425
12	RD	N00024-12-D-6404 DO 17F8347	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 27,579
12	RD	N00024-12-D-6404 DO 17F8348	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 90,623
12	RD	N00024-12-D-6404 DO 17F8349	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,015,889

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 17F8350	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 791,915
12	RD	N00024-12-D-6404 DO 17F8351	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 49,911
12	RD	N00024-12-D-6404 DO 17F8352	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 159,171
12	RD	N00024-12-D-6404 DO 17F8353	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 140,298
12	RD	N00024-12-D-6404 DO 17F8354	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 121,907
12	RD	N00024-12-D-6404 DO 17F8355	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 63,784	\$ 420,660
12	RD	N00024-12-D-6404 DO 17F8356	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 125,080
12	RD	N00024-12-D-6404 DO 17F8359	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 300,344
12	RD	N00024-12-D-6404 DO 17F8360	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 219,292
12	RD	N00024-12-D-6404 DO 17F8362	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 45,681
12	RD	N00024-12-D-6404 DO 17F8364	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 176,146
12	RD	N00024-12-D-6404 DO 17F8365	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 288,871
12	RD	N00024-12-D-6404 DO 17F8367	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 69,922
12	RD	N00024-12-D-6404 DO 18F8300	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 385,506
12	RD	N00024-12-D-6404 DO 18F8302	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 23,622
12	RD	N00024-12-D-6404 DO 18F8303	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 151,901
12	RD	N00024-12-D-6404 DO 18F8304	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,034,866
12	RD	N00024-12-D-6404 DO 18F8305	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 135,745
12	RD	N00024-12-D-6404 DO 18F8306	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 109
12	RD	N00024-12-D-6404 DO 18F8307	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 91,681
12	RD	N00024-12-D-6404 DO 18F8308	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 32,577
12	RD	N00024-12-D-6404 DO 18F8309	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 17,146,932
12	RD	N00024-12-D-6404 DO 18F8310	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 99,476
12	RD	N00024-12-D-6404 DO 18F8312	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 76,480	\$ 707,293
12	RD	N00024-12-D-6404 DO 18F8313	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 341,624
12	RD	N00024-12-D-6404 DO 18F8314	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 2,840,612
12	RD	N00024-12-D-6404 DO 18F8315	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 227,634
12	RD	N00024-12-D-6404 DO 18F8316	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 38,571
12	RD	N00024-12-D-6404 DO 18F8317	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y		\$ 15,549	\$ 1,461,429
12	RD	N00024-12-D-6404 DO 18F8318	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 295,964
12	RD	N00024-12-D-6404 DO 18F8321	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 486,901

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N00024-12-D-6404 DO 18F8322	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 132,542
12	RD	N00024-12-D-6404 DO 18F8323	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 14,340
12	RD	N00024-12-D-6404 DO 18F8324	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 34,489
12	RD	N00024-12-D-6404 DO 18F8326	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 469,990
12	RD	N00024-12-D-6404 DO 18F8327	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 117,746
12	RD	N00024-12-D-6404 DO 18F8329	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 175,986
12	RD	N00024-12-D-6404 DO 18F8330	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 20,610
12	RD	N00024-12-D-6404 DO 18F8331	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 11,259
12	RD	N00024-12-D-6404 DO 18F8332	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 99,981
12	RD	N00024-12-D-6404 DO 18F8333	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 100,110
12	RD	N00024-12-D-6404 DO 18F8333	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 154,328
12	RD	N00024-12-D-6404 DO 18F8334	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 4,464
12	RD	N00024-12-D-6404 DO 18F8337	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 13,499
12	RD	N00024-12-D-6404 DO 18F8338	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 390,948
12	RD	N00024-12-D-6404 DO 18F8339	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 1,351
12	RD	N00024-12-D-6404 DO 18F8340	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 18,103
12	RD	N00024-12-D-6404 DO 18F8341	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 20,700
12	RD	N00024-12-D-6404 DO 18F8343	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 174,441
12	RD	N00024-12-D-6404 DO 18F8347	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 48,350
12	RD	N00024-12-D-6404 DO 18F8349	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 101,983
12	RD	N00024-12-D-6404 DO 18F8350	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 5,710
12	RD	N00024-12-D-6404 DO 18F8352	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 15,611
12	RD	N00024-12-D-6404 DO 18F8353	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 220,544
12	RD	N00024-12-D-6404 DO 18F8355	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 16,233
12	RD	N00024-18-D-6401 DO 18F8403	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 30,347
12	RD	N00024-18-D-6401 DO 18F8404	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 45,015
12	RD	N00024-18-D-6401 DO 18F8405	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 107,017
12	RD	N00024-18-D-6401 DO 18F8409	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 37,271
12	RD	N00173-17-1-G004	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 98,858
12	RD	N00406-15-P-2251	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,555)
12	RD	N00406-17-P-2510	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 126,843
12	RD	N65236-10-D-6836 DO 0007	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 3,697

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12	RD	N65236-10-D-6836 DO 0008	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (1,047)
12	RD	N65236-10-D-6836 DO 0009	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (2,841)
12	RD	N6600118P0028	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 11,981
12	RD	N66596-15-IPA-0003	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ (282)
12	RD	NOO024-12-D-6404 DO 18F8335	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y			\$ 12,100
12	RD	3118-SC001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Adaptive Methods	N00024-16-C-4032	\$ 199
12	RD	29646	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Cooling Technologies, Inc.	U.S. DEPARTMENT OF THE NAVY	\$ 30,025
12	RD	2012-532 DO-005	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-11-D-0504 DO-004	\$ 218,839
12	RD	2012-532 TO-0007	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-11-D-0504	\$ 5,426
12	RD	2012-532 TO-006	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-11-D-0504	\$ 1,618
12	RD	2013-454	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N/A	\$ (1,077)
12	RD	2015-460 TO-01	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-14-D-0377 DO-0002	\$ 6,579
12	RD	2017-422	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N/A	\$ 63,172
12	RD	2017-430	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	NAVSEA	\$ 12,826
12	RD	2018-427	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00024-98-9-2310	\$ 15,035
12	RD	2018-457 TO-001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-17-D-4003	\$ 54,604
12	RD	TBD	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Advanced Technology International	N00014-16-D-4001	\$ 11,207
12	RD	N00014-15-P-1170/1	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Analysis, Design & Diagnostics, Inc.	N00014-15-P-1170	\$ (150)
12	RD	N68335-17-C-0037/1	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Analysis, Design & Diagnostics, Inc.	N68335-17-C-0037	\$ 109,727
12	RD	2018-0425-N-PSU	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Applied Optimization, Inc.	N68335-18-C-0340	\$ 7,966
12	RD	PO 911014 JOB 5795-049 & 050	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Assurance Technology Corporation	GS00Q140ADS402/N00173-15-F2002	\$ 192,560
12	RD	956537	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	BAE Systems	N66604-17-C-0005	\$ 22,480
12	RD	956537/TA1	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	BAE Systems	N66604-17-C-0005	\$ 199,498
12	RD	956537/TA2	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	BAE Systems	N66604-17-C-0005	\$ 20,270
12	RD	SC1527501	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Charles River Analytics Inc.	OFFICE OF NAVAL RESEARCH	\$ 122,123
12	RD	SC1701801	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Charles River Analytics Inc.	NAVAL AIR SYSTEMS COMMAND	\$ 37,324
12	RD	S160600115	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Concurrent Technologies Corporation	N00014-10-D-0062	\$ 168,006
12	RD	191-16-C-0001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Cortana	N68335-15-C-0142	\$ 115,205
12	RD	14-C-0073/C591	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Craft Tech	N/A	\$ 27,995
12	RD	25901	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00024-12-C-2115	\$ 184,978
12	RD	25903	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00104-15-G--A752	\$ 149,905
12	RD	26195	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00024-12-C-2115	\$ 138,374
12	RD	26196 PO 504908	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00024-12-C-2115	\$ 138,374
12	RD	26197	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00024-12-C-2115	\$ 138,374
12	RD	493823	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Curtiss-Wright Corporation	N00024-09-C-2104	\$ (1)
12	RD	72P0003635	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	DRS Consolidated Controls, Inc.	N00024-08-C-2103	\$ 109,021
12	RD	25371	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	DSPlagic	M67854-17-C-6554	\$ 26,877
12	RD	25729	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Eagle Harbor Technologies Inc.	N00014-15-C-0025	\$ 78,307
12	RD	23369	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Gear Research Institute	N68335-13-C-0225	\$ 5,808
12	RD	51ESM795547	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	General Dynamics Corporation	B11-2011076G005	\$ (103)
12	RD	G11W5791	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	General Dynamics Corporation	N61331-11-C-0017	\$ 86,192
12	RD	PPS030-087 SUPP 028	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	General Dynamics Electric Boat	N00014-02-C-2101	\$ 43,640
12	RD	SNC055-080	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	General Dynamics Electric Boat	N/A	\$ 51,447
12	RD	24548	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Image Acoustics, Inc.	N00014-18-C-2008	\$ 13,037
12	RD	25484	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	In-Depth Engineering Corporation	N68335-18-C-0066	\$ 11,039
12	RD	SUBC IOS 3263 NAVY - LUT AM II	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Intelligent Optical Systems, Inc.	N68335-17-C-0148	\$ 144,601
12	RD	117643 TO 133521	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Johns Hopkins University	N00024-13-D-6400	\$ 150,105
12	RD	117643 TO 141304	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Johns Hopkins University	NAVSEA N00024-13-D-6400	\$ 100,321
12	RD	MSA 117643/24961 TO 138016	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Johns Hopkins University	N00024-13-D-6400	\$ 46,049
12	RD	25294/17-4037	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	KCF Technologies, Inc.	N00024-17-C-4037	\$ 2,903

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12 RD	199266	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Kyma Technologies	N00014-17-C-2003		\$ 45,875
12 RD	DWY-16-100 TO2 MOD 3	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	L3 Brashear	MIT LINCOLN LABS		\$ 419,836
12 RD	4102152293	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	N00024-13-C-2128		\$ (444)
12 RD	6574020275	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	OFFICE OF NAVAL RESEARCH		\$ 16,585
12 RD	PO 4102690612	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Lockheed Martin Corporation	SNC043-014		\$ 16,963
12 RD	25781	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Noise Control Engineering, LLC	N6833517C0547		\$ 21,613
12 RD	1/1/2018-7/5/2018	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	North Carolina State University	OFFICE OF NAVAL RESEARCH		\$ 35,220
12 RD	7500148620	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Northrop Grumman Corporation	N00178-04-D-4091/N410		\$ 106,723
12 RD	OASIS13-SC-01	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	OASIS, Inc.	N00014-13-P-1166		\$ 3
12 RD	OASIS14-SC-06	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	OASIS, Inc.	N00014-14-C-0315		\$ 11,198
12 RD	197441 TO 03	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Oceaneering International, Inc.	SNB166-009		\$ 57,656
12 RD	197441/TTO 01	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Oceaneering International, Inc.	17D5484		\$ 10,225
12 RD	25227 (AMEND 2)	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Oceaneering International, Inc.	UNNUMBERED		\$ 4,178
12 RD	BUOTM-58119 RSA 23894	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Oceaneering International, Inc.	N00173-14-D-2017/0004		\$ 1
12 RD	200148	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	PolyK Technologies	N0025317C0016		\$ 37,200
12 RD	202828	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Polymics, Ltd.	N/A		\$ 40,104
12 RD	1548/ 25432	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Questek Innovations LLC	N68335-17-C-0318		\$ 24,731
12 RD	1775	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Questek Innovations LLC	N68335-17-C-0318		\$ 1,541
12 RD	PO 1651	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Questek Innovations LLC	N68335-17-C-0668		\$ 24,625
12 RD	694376	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Rolls-Royce	N00014-16-C-2031		\$ 339,906
12 RD	202759	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Senvol LLC	OFFICE OF NAVAL RESEARCH		\$ 21,000
12 RD	205455	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Senvol LLC	N/A		\$ 23,382
12 RD	19304 (PO P190) AMENDMENT 7	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Stratonics, Inc.	N00014-12-C-0221		\$ (692)
12 RD	S17-022001	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	SURVICE Engineering Company	N68335-17-C-0382		\$ 49,880
12 RD	170406-3329-01	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	TRS Technologies, Inc.	N00014-17-C-4004		\$ 144,900
12 RD	2017A21381	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	University of Texas at Austin, The	N/A		\$ 8,629
12 RD	450487-19079	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	N00014-17-1-2498		\$ 95,674
12 RD	25809	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Welkins, LLC	N00253-17-C-001		\$ 99,925
12 RD	PO# 17-2502	Department of the Navy - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	WR Systems, Ltd.	N65236-16-D-8001		\$ 261,734
12 RD	HQ0147-16-C-6006	Missile Defense Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 89,067
12 RD	72977-1926-46	Missile Defense Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Physical Sciences, Inc.	HQ0147-16-C-7808		\$ 118,230
12 RD	170100078S	National Geospatial-Intelligence Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	N	Concurrent Technologies Corporation	NATIONAL GEOSPATIAL-INTELLIGEN		\$ 69,269
12 RD	3/1/2018-2/28/2019	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 9,174
12 RD	H98230-12-C-1130	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (21,603)
12 RD	H98230-15-1-0008	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 228
12 RD	H98230-15-1-0253, MOD P01	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 36,992
12 RD	H98230-16-1-0306, MOD P01	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 5,923
12 RD	H98230-16-D-0022 DO 0004	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 72,612
12 RD	H98230-16-D-0022 TO 0004	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 258,536
12 RD	H98230-16-D-0022/0001	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 584,416
12 RD	H98230-16-D-0022/0002	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 410,192
12 RD	H98230-16-D-0022/0003	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 191
12 RD	H98230-16-D-0022/0005	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 73,647

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
12 RD	H98230-16-D-0022/0006	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 89,066
12 RD	H98230-17-1-0409	National Security Agency - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 31,050
12 RD	M0008816WRPC702	United States Marine Corps - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 63,435
12 RD	M00264-18-C-0002	United States Marine Corps - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ 322,352
12 RD	M67854-11-C-9040	United States Marine Corps - Non-Specified	Research and Development	\$ 215,276,595	\$ 570,397,776	Y				\$ (417)
15 225		Recreation and Visitor Services	Research and Development	\$ 49,333	\$ 570,397,776	Y				\$ 49,333
15 232		Wildland Fire Research and Studies	Research and Development	\$ 95,234	\$ 570,397,776	Y				\$ 95,234
15 255		Science and Technology Projects Related to Coal Mining and Reclamation	Research and Development	\$ 216,017	\$ 570,397,776	Y			\$ 52,151	\$ 216,017
15 560		SECURE Water Act - Research Agreements	Research and Development	\$ 54,327	\$ 570,397,776	Y				\$ 54,327
15 608		Fish and Wildlife Management Assistance	Research and Development	\$ 59,618	\$ 570,397,776	N	Commonwealth of Pennsylvania	4100075144		\$ 14,137
15 608		Fish and Wildlife Management Assistance	Research and Development	\$ 59,618	\$ 570,397,776	N	Commonwealth of Pennsylvania	4100077068		\$ 33,510
15 608		Fish and Wildlife Management Assistance	Research and Development	\$ 59,618	\$ 570,397,776	N	University of Maryland Center for Environmental Science	F12AP01037		\$ 11,971
15 634		State Wildlife Grants	Research and Development	\$ (5,783)	\$ 570,397,776	N	Commonwealth of Pennsylvania	ME 231 121 4100067192		\$ (5,783)
15 662		Great Lakes Restoration	Research and Development	\$ 178,604	\$ 570,397,776	Y			\$ 104,334	\$ 178,604
15 678		Cooperative Ecosystem Studies Units	Research and Development	\$ 49,661	\$ 570,397,776	Y				\$ 49,661
15 691		Department of the Interior - Non-Specified	Research and Development	\$ 45,679	\$ 570,397,776	N	Wildlife Management Institute	N/A		\$ 45,679
15 805		Assistance to State Water Resources Research Institutes	Research and Development	\$ 108,979	\$ 570,397,776	Y			\$ 21,854	\$ 53,593
15 805		Assistance to State Water Resources Research Institutes	Research and Development	\$ 108,979	\$ 570,397,776	N	University of Illinois	G16AP00001		\$ 55,386
15 808		U.S. Geological Survey Research and Data Collection	Research and Development	\$ 23,108	\$ 570,397,776	Y				\$ 23,108
15 812		Cooperative Research Units	Research and Development	\$ 322,499	\$ 570,397,776	Y				\$ 322,499
15 923		National Center for Preservation Technology and Training	Research and Development	\$ 1	\$ 570,397,776	Y				\$ 1
15 944		Natural Resource Stewardship	Research and Development	\$ 7,033	\$ 570,397,776	Y				\$ 7,033
15 945		Cooperative Research and Training Programs - Resources of the National Park System	Research and Development	\$ 334,628	\$ 570,397,776	Y			\$ 11,122	\$ 299,868
15 945		Cooperative Research and Training Programs - Resources of the National Park System	Research and Development	\$ 334,628	\$ 570,397,776	N	Oregon State University	NATIONAL PARK SERVICE		\$ 34,760
15 RD	G16AP00079	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	Y				\$ 20,951
15 RD	P14AC01354 P11AC30805	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	Y				\$ 40,608
15 RD	1434-03HQRUI548	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548		\$ 67,494
15 RD	23033	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Hadal, Inc.	D16PC00210		\$ 102,411
15 RD	0404.16.053525	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	National Fish and Wildlife Foundation	N/A		\$ (2,036)
15 RD	SA75281310-N M/INV-3N PO38989	Department of the Interior - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	University of Maryland Center for Environmental Science	F12AP01037		\$ 5,054
15 RD	F17AP00711	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	Y				\$ 80,970
15 RD	1434-03HQRUI548	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548		\$ 135,492
15 RD	1434-03HQRUI548 #33	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548 #33		\$ 3,498
15 RD	1434-03HQRUI548 4000021607	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548 4000021607		\$ 36,734
15 RD	1434-03HQRUI548 RES PROJ 27	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548 RES PROJ 27		\$ 57,987
15 RD	1434-03HQRUI548 RES PROJ 31	Fish and Wildlife Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	N	Commonwealth of Pennsylvania	1434-03HQRUI548 RES PROJ 31		\$ 114,624
15 RD	P14AC01495	National Park Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	Y				\$ 21,509
15 RD	P17PX03542	National Park Service - Non-Specified	Research and Development	\$ 691,908	\$ 570,397,776	Y				\$ 6,612
16 560		National Institute of Justice Research, Evaluation, and Development Project Grants	Research and Development	\$ 885,502	\$ 570,397,776	Y			\$ 117,363	\$ 885,502
16 566		National Institute of Justice W.E.B. DuBois Fellowship Program	Research and Development	\$ 31,473	\$ 570,397,776	N	Towson University	NATIONAL INSTITUTE OF JUSTICE		\$ 31,473
16 817		Innovations in Community-Based Crime Reduction	Research and Development	\$ 18,172	\$ 570,397,776	N	Arizona State University	FP00007901		\$ 18,172
16 888		Consolidated And Technical Assistance Grant Program to Address Children and Youth Experiencing Domestic and Sexual Violence and Engage Men and Boys as Allies	Research and Development	\$ 5,251	\$ 570,397,776	N	Safe Journey	2017-CY-AX-0004		\$ 5,251
16 RD	2014-DN-BX-K007	Department of Justice - Non-Specified	Research and Development	\$ 471,888	\$ 570,397,776	Y			\$ 1,787	\$ 29,045
16 RD	2015-DN-BX-K025	Department of Justice - Non-Specified	Research and Development	\$ 471,888	\$ 570,397,776	Y				\$ 327,894

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
16 RD	2015-R2-CX-K032	Department of Justice - Non-Specified	Research and Development	\$ 471,888	\$ 570,397,776	Y				\$ 4,263
16 RD	2016-BJ-R-1975	Department of Justice - Non-Specified	Research and Development	\$ 471,888	\$ 570,397,776	Y				\$ 110,686
19 RD	S-LMAQM-15-CA-1112	Department of State - Non-Specified	Research and Development	\$ (4,686)	\$ 570,397,776	Y				\$ (4,686)
20 109		Air Transportation Centers of Excellence	Research and Development	\$ 232,482	\$ 570,397,776	Y				\$ 232,482
20 205		Highway Planning and Construction	Research and Development	\$ 26,087	\$ 570,397,776	N	Washington State Department of Transportation	N/A		\$ 26,087
20 215		Highway Training and Education	Research and Development	\$ 5,751	\$ 570,397,776	Y				\$ 5,751
20 701		University Transportation Centers Program	Research and Development	\$ (21,211)	\$ 570,397,776	Y			\$ (21,211)	\$ (21,211)
20 RD	DTFH61-12-C-00032	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ 45,081	\$ 127,046
20 RD	DTFH6114CO0012	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 31,448
20 RD	PA 04-7010	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ (619)	\$ (619)
20 RD	PA 2017-007-00	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 2,141,266
20 RD	PA 2018-001-00	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 525,699
20 RD	PA 24-2017-007-00	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 968,594
20 RD	PA 24-7011	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ 63,801	\$ 344,084
20 RD	PA 24-7012	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 80,770
20 RD	4300544869	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300544869		\$ 54,494
20 RD	3TB400	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	South Dakota State University	311283		\$ 43,086
20 RD	23510	Department of Transportation - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	TechKnowServ	DTRT5715C10046		\$ 5,772
20 RD	13-C-AJFE-PSU 023	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 48,147
20 RD	13-C-AJFE-PSU A021	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 13,748
20 RD	13-C-AJFE-PSU A028	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 87,648
20 RD	13-C-AJFE-PSU A031	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 80,188
20 RD	13-C-AJFE-PSU A034	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 82,630
20 RD	13-C-AJFE-PSU AMED. 022	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ 13,310	\$ 49,933
20 RD	13-C-AJFE-PSU AMENDMENT 004	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ (2,190)
20 RD	13-C-AJFE-PSU AMENDMENT 007	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ (661)
20 RD	13-C-AJFE-PSU AMENDMENT 016	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ (149)
20 RD	13-C-AJFE-PSU AMENDMENT 017	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 3,880
20 RD	13-C-AJFE-PSU AMENDMENT 035	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 34,679
20 RD	13-C-AJFE-PSU AMEND 037	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ 20,000	\$ 109,337
20 RD	13-C-AJFE-PSU AMENDMENT 032	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 85,504
20 RD	DTFH6416G00039	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y				\$ 3,423
20 RD	22205 TO 94	Federal Aviation Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	United Technologies Corporation - Pratt & Whitney Division	DTFAWA-15-A-80010		\$ 544,665
20 RD	38110-04 TASK A	Federal Highway Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	VHB	DTFH61-13-D-00001		\$ 8,744
20 RD	DTRF5316C00023	Federal Railroad Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	Y			\$ 25,977	\$ 93,341
20 RD	SUB00000854	Federal Railroad Administration - Non-Specified	Research and Development	\$ 5,584,618	\$ 570,397,776	N	National Academy of Sciences	FR-RRD-0070-16-01-00		\$ 20,111
21 RD	161420	Department of the Treasury - Non-Specified	Research and Development	\$ 19,416	\$ 570,397,776	Y				\$ 19,416
23 002		Appalachian Area Development	Research and Development	\$ 33,802	\$ 570,397,776	N	Appalachian Regional Commission	ARC		\$ 33,802
39 RD	GS-00P-13-CY-0020	General Services Administration - Non-Specified	Research and Development	\$ 363,945	\$ 570,397,776	Y				\$ 363,945
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	Y			\$ 1,239,897	\$ 6,942,666
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Boise State University	NNX16AT71G		\$ 45,419
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Cornell University	NNX16AK876		\$ 47,684
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Montana State University	NNX16AJ62G		\$ 82,407
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	N/A		\$ 11,384
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 659,513
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NNX15AC44G		\$ 9,401
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NNX17AG77G		\$ 61,238

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	South Dakota State University	NNX15AP81G		\$ 5,206
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Space Telescope Science Institute	NASS-26555		\$ 10,465
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	University of California, Irvine	80NSSC17K0698		\$ 10,336
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	University of Washington	NNA13AA93A		\$ 41,983
43 001		Science	Research and Development	\$ 7,949,906	\$ 570,397,776	N	Villanova University	80NSSC18K0417		\$ 22,204
43 002		Aeronautics	Research and Development	\$ 251,372	\$ 570,397,776	Y				\$ 89,887
43 002		Aeronautics	Research and Development	\$ 251,372	\$ 570,397,776	N	Baylor College of Medicine	NCC9-58-168		\$ 8,053
43 002		Aeronautics	Research and Development	\$ 251,372	\$ 570,397,776	N	University of Tennessee, Knoxville, The	NNX17AJ95A		\$ 152,293
43 002		Aeronautics	Research and Development	\$ 251,372	\$ 570,397,776	N	Worcester Polytechnic Institute	NNC14AA01A		\$ 1,139
43 003		Exploration	Research and Development	\$ 180,153	\$ 570,397,776	Y				\$ 138,400
43 003		Exploration	Research and Development	\$ 180,153	\$ 570,397,776	N	Georgia Institute of Technology	NATIONAL AERONAUTICS AND SPACE		\$ 41,753
43 007		Space Operations	Research and Development	\$ 137,281	\$ 570,397,776	Y				\$ 137,281
43 008		Education	Research and Development	\$ 660,156	\$ 570,397,776	Y			\$ 223,793	\$ 611,363
43 012		Space Technology	Research and Development	\$ 405,785	\$ 570,397,776	Y				\$ 291,499
43 012		Space Technology	Research and Development	\$ 405,785	\$ 570,397,776	N	Johns Hopkins University	80NSSC17K0226		\$ 74,392
43 012		Space Technology	Research and Development	\$ 405,785	\$ 570,397,776	N	Michigan Technological University	NATIONAL AERONAUTICS AND SPACE		\$ 39,894
43 RD	4200633574	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 22,206
43 RD	80NSSC17K0122	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 78,782
43 RD	80NSSC17K0183	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 63,110
43 RD	80NSSC17K0313	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 20,172
43 RD	80NSSC17K0639	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 10,221
43 RD	80NSSC17K0752	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 355
43 RD	80NSSC18K0147	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y			\$ 2,403	\$ 32,118
43 RD	80NSSC18K0205	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 28,616
43 RD	80NSSC18K0282	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 6,130
43 RD	80NSSC18K0355	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 31,651
43 RD	80NSSC18K0360	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 4,604
43 RD	80NSSC18K0487	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 18,813
43 RD	80NSSC18K0878	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 4,802
43 RD	80NSSC18P0781	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 74,916
43 RD	NAS5-00136	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y			\$ 507,261	\$ 1,775,477
43 RD	NNC15MF40P	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ (368)
43 RD	NNL11AA02C	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y			\$ (3,214)	\$ (3,214)
43 RD	NNX15AR44G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ (19)
43 RD	NNX15AR50G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 10,200
43 RD	NNX16AE64G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 19,613
43 RD	NNX16AE66G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 7,551
43 RD	NNX16AF33G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 27,551
43 RD	NNX17AB07G	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y			\$ 524,104	\$ 1,009,721
43 RD	NNX17EE35P	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	Y				\$ 16,057
43 RD	AGNC160519	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	American GNC Corporation	NNX16CJ06C		\$ 86,333
43 RD	APS-15-07 MOD 01	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Applied Physical Sciences Corporation	NNL15AA00C		\$ 72,221
43 RD	25328	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Brimrose Technology Corporation	NNX17CS55P		\$ 29,985
43 RD	44A-1092750	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	California Institute of Technology	NASA		\$ 69,211
43 RD	17-250	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Continuum Dynamics, Inc.	NATIONAL AERONAUTICS AND SPACE		\$ 35,000
43 RD	80NSSC17C0029-PSU-705-817125	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Fibertek, Inc.	80NSSC17C0029		\$ 48,600
43 RD	RH399-S4	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Georgia Institute of Technology	NATIONAL AERONAUTICS AND SPACE		\$ 20,544
43 RD	24704	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Global Technology Enterprises	NNX16CM24P		\$ (343)
43 RD	1459238	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NNN12AA01C		\$ 69,150
43 RD	1525870	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NNN12AA01C		\$ 955
43 RD	1527416	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	N/A		\$ 9
43 RD	1531994	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	N/A		\$ 58,794

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
43 RD	1537000	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NATIONAL AERONAUTICS AND SPACE		\$ 9,104
43 RD	1542445	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NNN12AA01C		\$ (8,264)
43 RD	1547612	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NNN12AA01C	\$ 788,831	\$ 3,927,285
43 RD	1549273	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NNN12AA01C		\$ 36,166
43 RD	1569843	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NASA		\$ 3,762
43 RD	1573620	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NATIONAL AERONAUTICS AND SPACE		\$ 50,000
43 RD	1575913	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	NATIONAL AERONAUTICS AND SPACE		\$ 220,318
43 RD	1580538	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	N/A		\$ 45,000
43 RD	1596437	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Jet Propulsion Laboratory	N/A		\$ 36,419
43 RD	145170	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Johns Hopkins University	NATIONAL AERONAUTICS AND SPACE		\$ 83,450
43 RD	810131	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Johns Hopkins University	NATIONAL AERONAUTICS AND SPACE		\$ 10,144
43 RD	REMS.201605 TO NNA17BF39T	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Monterey Technologies, Inc.	NNA13AA84B		\$ 75,310
43 RD	24189	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	QorTek	NNX16CC11C		\$ 134,386
43 RD	24755	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	QorTek	NNX16CC11C		\$ 3,279
43 RD	24767	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	SET Group, LLC	NNX17CC76P		\$ 23,488
43 RD	AR8-19016X	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 8,544
43 RD	DDT-18088X	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 14,850
43 RD	GO5-16003X	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 673
43 RD	GO8-19059X	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 6,541
43 RD	SV4-74018	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 315,725
43 RD	SV8-88005 PHASE A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	N/A		\$ 63,074
43 RD	SV8-88005 PHASE B	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	N/A		\$ 15,271
43 RD	TM7-18001X	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Smithsonian Astrophysical Observatory	NAS8-03060		\$ 50,763
43 RD	189712	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Solid State Ceramics Inc.	NNX16CS16C		\$ 171,659
43 RD	HST-GO-13457.02-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 2,097
43 RD	HST-GO-13468.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 41,636
43 RD	HST-GO-13783.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 15,702
43 RD	HST-GO-13811.004-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 8,512
43 RD	HST-GO-13851.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 20,733
43 RD	HST-GO-13935.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 302
43 RD	HST-GO-14126.004-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 6,920
43 RD	HST-GO-14157.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 26,933
43 RD	HST-GO-14249.002-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 21,438
43 RD	HST-GO-14258.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 8,244
43 RD	HST-GO-14265.004-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 6,959
43 RD	HST-GO-14655.002-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 32,493
43 RD	HST-GO-14664.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 73,613
43 RD	HST-GO-14729.003-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 33,581
43 RD	HST-GO-14745.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 25,244
43 RD	HST-GO-14794.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NAS5-26555		\$ 3,803
43 RD	HST-GO-14799.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	N/A		\$ 6,315
43 RD	HST-GO-14932.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	N/A		\$ 18,807
43 RD	HST-GO-14937.002-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	N/A		\$ 14,212

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
43 RD	HST-GO-15083.001-A	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Space Telescope Science Institute	NASS-26555		\$ 19,575
43 RD	197876	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Terves Inc.	NNX17CM57P		\$ 43,289
43 RD	08600-017 PO 20180993	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Universities Space Research Association	NNA16BD14C		\$ 24,502
43 RD	FP060761-C AMEND 1	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	University of Chicago, The	NNX16AB44G		\$ 10,634
43 RD	WSCS00037	National Aeronautics and Space Administration - Non-Specified	Research and Development	\$ 9,606,675	\$ 570,397,776	N	Wyle, Inc.	NND15AA05C		\$ 94,660
45 024		Promotion of the Arts Grants to Organizations and Individuals	Research and Development	\$ 37,362	\$ 570,397,776	Y				\$ 7,370
45 130		Promotion of the Humanities Challenge Grants	Research and Development	\$ 17,375	\$ 570,397,776	Y				\$ 17,375
45 161		Promotion of the Humanities Research	Research and Development	\$ 60,107	\$ 570,397,776	Y				\$ 60,107
45 301		Museums for America	Research and Development	\$ 777	\$ 570,397,776	Y				\$ 777
45 312		National Leadership Grants	Research and Development	\$ 146,121	\$ 570,397,776	Y			\$ 10,868	\$ 146,121
45 RD	HK-50070-13	National Endowment for the Humanities - Non-Specified	Research and Development	\$ 84,229	\$ 570,397,776	Y				\$ 9,114
45 RD	RQ-230555-15	National Endowment for the Humanities - Non-Specified	Research and Development	\$ 84,229	\$ 570,397,776	Y				\$ 75,115
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	Y			\$ 538,718	\$ 10,231,849
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Atoptix, LLC	1648892		\$ 28,924
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Boston University	CMMI-1727316		\$ 634
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Case Western Reserve University	NATIONAL SCIENCE FOUNDATION		\$ 30,073
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	CoachSafe PlaySafe LLC	1622894		\$ 16,731
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Highland Light Management	1721502		\$ 67,312
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Honeywell International, Inc.	N/A		\$ (770)
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Iowa State University	1238335		\$ 96,524
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Iowa State University	N/A		\$ 71,806
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Michigan Technological University	CBET-1639342		\$ 145,981
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Mobile Sleep Technologies LLC	1622766		\$ 60,760
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Modular Genetics, Inc.	IIP-1353912		\$ 25,000
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Rensselaer Polytechnic Institute	EFRI-1433311		\$ 218,105
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Solid State Ceramics Inc.	IIP-1632476		\$ 157,917
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	University of Florida	1729209		\$ 27,465
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	University of Notre Dame	2016-NE-2698		\$ 75,770
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	University of Pennsylvania	1542707		\$ 75,371
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Vaporsens	1353637		\$ 60,000
47 041		Engineering Grants	Research and Development	\$ 11,466,516	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	IIP-1160977		\$ 77,064
47 046		National Science Foundation - Non-Specified	Research and Development	\$ 22,389	\$ 570,397,776	N	Northwest Vista College	NSF		\$ 22,389
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	Y			\$ 464,009	\$ 18,510,336
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	Associated Universities, Inc.	NATIONAL SCIENCE FOUNDATION		\$ 18,469
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	California Institute of Technology	1305124		\$ 176,599
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	Ohio State University, The	DMR-1420451		\$ 61,974
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of California, Irvine	CHE-1414466		\$ 160,864
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of North Carolina	1638521		\$ 27,014
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of Pittsburgh	1740630		\$ 82,768
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of Wisconsin	17700765		\$ 120,788
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of Wisconsin	PHY-1104371		\$ 32,130
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	University of Wisconsin - Madison	1629270		\$ 57,796
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	Washington State University	1626566		\$ 21,742
47 049		Mathematical and Physical Sciences	Research and Development	\$ 19,506,678	\$ 570,397,776	N	Yale University	1616086		\$ 95,798
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	Y			\$ 749,348	\$ 8,698,878
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Columbia University	N/A		\$ 2,150
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Columbia University	NATIONAL SCIENCE FOUNDATION		\$ 116,985
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Columbia University	OCE 1450528		\$ 4,653
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Columbia University	OCE-1202632		\$ 16,853
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Cornell University	N/A		\$ 82,149
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Harvard University	N/A		\$ 47,413
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Kansas State University	1639734		\$ 12,093
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	University of California, Davis	1748052		\$ 14,997
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	University of Colorado	AGS1135446		\$ 69,567
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	University of Illinois	EAR-1331906		\$ 8,513
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	University of New Hampshire	EAR-1331841		\$ 18,939
47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	University of Wisconsin	PLR-1600823		\$ 18,097

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47 050		Geosciences	Research and Development	\$ 9,160,328	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	479483-19079		\$ 49,041
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	Y			\$ 112,003	\$ 7,654,644
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	Indiana University	1421908		\$ 27,585
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	North Dakota State University	CNS-1544621		\$ 43,603
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	Northern Arizona University	1639529		\$ 69,309
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	Rutgers University	1640834		\$ 20,562
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	University of California, Santa Barbara	CCF-1500848		\$ 91,340
47 070		Computer and Information Science and Engineering	Research and Development	\$ 7,929,078	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	ACI-1547580		\$ 22,035
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	Y			\$ 1,021,521	\$ 9,407,643
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Iowa State University	1558071		\$ 15,993
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Louisiana State University	DEB-1316334		\$ 3,394
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Michigan State University	1740874		\$ 5,591
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Stanford University	1518681		\$ 209,762
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	University of California, San Diego	1444435		\$ 35,915
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	University of Connecticut	1703048		\$ 9,866
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	University of Maryland	DBII639145		\$ 48,976
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	University of Maryland	NATIONAL SCIENCE FOUNDATION		\$ 10,439
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	University of Virginia	DEB-1237733		\$ 21,917
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	IOS-1238057		\$ 40,431
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Washington University in St. Louis	MCB-1331194		\$ 214,513
47 074		Biological Sciences	Research and Development	\$ 10,077,370	\$ 570,397,776	N	Washington University in St. Louis	MCB1546840		\$ 45,713
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	Y			\$ 450,187	\$ 3,366,611
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	N	Boise State University	N/A		\$ 74,444
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	N	Fordham University	N/A		\$ 37,807
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	N	Smith-Kettlewell Eye Research Institute, The	1640914		\$ 8,265
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	N	University of Colorado	SES 11-32008		\$ 21,942
47 075		Social, Behavioral, and Economic Sciences	Research and Development	\$ 3,519,067	\$ 570,397,776	N	University of Massachusetts Amherst	SES 14-24210		\$ 9,998
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	Y			\$ 333,407	\$ 6,842,010
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	American Educational Research Association	NSF		\$ 19,998
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	Astronomical Society of the Pacific	DRL-1217441		\$ 24,189
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	Carleton College	DUE-1125331		\$ 13,477
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	Carleton College	N/A		\$ 50,438
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	Concord Consortium, The	293.01		\$ 74,032
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	Harvard University	DRL-1503395		\$ 156,963
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	New England Aquarium	N/A		\$ 1,363
47 076		Education and Human Resources	Research and Development	\$ 7,792,011	\$ 570,397,776	N	University of Oklahoma, The	1561660		\$ 102,655
47 078		Polar Programs	Research and Development	\$ 1,660	\$ 570,397,776	Y				\$ 1,660
47 079		Office of International Science and Engineering	Research and Development	\$ 147,073	\$ 570,397,776	Y				\$ 136,035
47 079		Office of International Science and Engineering	Research and Development	\$ 147,073	\$ 570,397,776	N	Oregon State University	N/A		\$ 1,006
47 079		Office of International Science and Engineering	Research and Development	\$ 147,073	\$ 570,397,776	N	Oregon State University	OISE-0968391		\$ 1,701
47 079		Office of International Science and Engineering	Research and Development	\$ 147,073	\$ 570,397,776	N	University at Albany, State University of New York	1545917		\$ 8,331
47 080		Office of Cyberinfrastructure	Research and Development	\$ 45,369	\$ 570,397,776	Y				\$ 45,369
47 083		Office of Integrative Activities	Research and Development	\$ 534,349	\$ 570,397,776	Y			\$ 156,889	\$ 452,323
47 083		Office of Integrative Activities	Research and Development	\$ 534,349	\$ 570,397,776	N	Boise State University	NATIONAL SCIENCE FOUNDATION		\$ 82,026
47 RD	1/1/2018-1/31/2019	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 16,813
47 RD	10/1/2017-9/30/2019	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 9,918
47 RD	1516999	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 93,868
47 RD	9/15/2017-8/31/2018	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 27,376
47 RD	AGS 13-45250	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 118,681
47 RD	AST 12-11756,A02	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 5,000
47 RD	BCS 15-33625	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 29,328
47 RD	BCS 15-54834	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 15,793
47 RD	BCS 16-17396	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y				\$ 3,600

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
47	RD	BCS 16-50824	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 18,433
47	RD	BCS 16-60707	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 106,530
47	RD	CHE 15-65280	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 65,720
47	RD	CMMI 14-63482	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 4,987
47	RD	CNS 16-50527	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 93,616
47	RD	DBI 14-55658	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 225,961
47	RD	DEB 15-56444	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 116,296
47	RD	DEB-1762760	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 16,316
47	RD	DMR 16-54625	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 159,680
47	RD	DMS 16-15457	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 1,500
47	RD	DMS 16-28411	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 1,000
47	RD	DUE 16-50620	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 20,105
47	RD	EAR 16-06738	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ (4,365)
47	RD	EAR 16-34108	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 5,858
47	RD	EAR 16-42498	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 16,887
47	RD	EFRI 14-33378	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 114,709
47	RD	IIS 12-11059	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 1,663
47	RD	IIS 16-36899	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y		\$ 14,400	\$ 57,333
47	RD	MCB 15-16999	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 20,214
47	RD	MCB 15-23353	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 113,260
47	RD	MCB-1715826	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 6,000
47	RD	MCB-1715984	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 1,744
47	RD	PHY 16-07517	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 156,170
47	RD	PHY 16-07648	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 143,770
47	RD	PHY 16-13939	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 147,754
47	RD	PHY 16-20777	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 39,470
47	RD	SES 15-58661	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y		\$ 57,695	\$ 74,871
47	RD	SES 16-25073	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 842
47	RD	SES 16-47505	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 15,406
47	RD	SMA 16-41047 TRANSFER	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	Y			\$ 196,806
47	RD	PSU231221	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	California State University, Los Angeles	DMR-1523588	\$ 40,941
47	RD	172914	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	Dordt College	N/A	\$ 13,402
47	RD	2016-NE-2699	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	Nanoelectronics Research Corporation	P29819	\$ 30,807
47	RD	181223 PO081721	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	North Carolina Central University	N/A	\$ 20,144
47	RD	2012-1067-01 AMEND 4	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	North Carolina State University	EEC-1160483	\$ 460,607
47	RD	2012-1067-01 AMEND 4	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	North Carolina State University	N/A	\$ 48,696
47	RD	2013-1690-02 MOD 1	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	North Carolina State University	EEC-1160483	\$ 16,079
47	RD	UNR-17-33 PO 117GC000041	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	University of Nevada, Reno	N/A	\$ 5,233
47	RD	P3196501	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	NATIONAL SCIENCE FOUNDATION	\$ 24,723
47	RD	K120897	National Science Foundation - Non-Specified	Research and Development	\$ 2,922,437	\$ 570,397,776	N	Woods Hole Oceanographic Institution	OCE-1154283	\$ 2,892
64	RD	206221	Department of Veterans Affairs - Non-Specified	Research and Development	\$ 3,592	\$ 570,397,776	Y			\$ 3,592
66	034		Surveys, Studies, Research, Investigations, Demonstrations, and Special Purpose Activities Relating to the Clean Air Act	Research and Development	\$ 46,309	\$ 570,397,776	N	Commonwealth of Pennsylvania	4100074732	\$ 46,309
66	419		Water Pollution Control State, Interstate, and Tribal Program Support	Research and Development	\$ 26,808	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300534408	\$ 26,808
66	461		Regional Wetland Program Development Grants	Research and Development	\$ 158,816	\$ 570,397,776	Y			\$ 134,737
66	461		Regional Wetland Program Development Grants	Research and Development	\$ 158,816	\$ 570,397,776	N	State of New Jersey Department of Environmental Protection	CD-962843-15	\$ 24,079
66	466		Chesapeake Bay Program	Research and Development	\$ 582,629	\$ 570,397,776	Y			\$ 191,543
66	466		Chesapeake Bay Program	Research and Development	\$ 582,629	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300536553	\$ 57,449
66	466		Chesapeake Bay Program	Research and Development	\$ 582,629	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300538064	\$ 13,003
66	466		Chesapeake Bay Program	Research and Development	\$ 582,629	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300549320	\$ 99,800
66	466		Chesapeake Bay Program	Research and Development	\$ 582,629	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300564415 4400015622	\$ 97,420
66	469		Great Lakes Program	Research and Development	\$ 18,074	\$ 570,397,776	N	University of Minnesota	GL-00E01900	\$ 18,074

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
66 509		Science to Achieve Results (STAR) Research Program	Research and Development	\$ 347,063	\$ 570,397,776	Y			\$ 68,143	\$ 347,063
66 RD	96352201	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	Y				\$ 33,225
66 RD	RD 83514201	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	Y				\$ 12,267
66 RD	PW2016-007	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Amec Foster Wheeler	ENVIRONMENTAL PROTECTION AGENC		\$ 29,815
66 RD	4100077088	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4100077088		\$ 5,442
66 RD	4300526767	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300526767		\$ 57,473
66 RD	4300548732	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300548732		\$ 29,523
66 RD	4300566448 4400015622	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300566448 4400015622		\$ 150,165
66 RD	4300570742 4400015622	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300570742 4400015622		\$ 6,354
66 RD	4300582957 4400015622	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300582957 4400015622		\$ 32,331
66 RD	1120383 TC#34945-04 WA 3-04	Environmental Protection Agency - Non-Specified	Research and Development	\$ 357,235	\$ 570,397,776	N	Tetra Tech, Inc.	EP-C-12-060		\$ 640
77 008		U.S. Nuclear Regulatory Commission Scholarship and Fellowship Program	Research and Development	\$ 492,158	\$ 570,397,776	Y				\$ 492,158
77 009		U.S. Nuclear Regulatory Commission Office of Research Financial Assistance Program	Research and Development	\$ 96,821	\$ 570,397,776	Y			\$ 75,181	\$ 96,821
77 RD	NRC-HQ-12-C-04-0086	Nuclear Regulatory Commission - Non-Specified	Research and Development	\$ 467,355	\$ 570,397,776	Y				\$ 388,299
77 RD	NRCHQ12C040086/NRCHQ 6016T	Nuclear Regulatory Commission - Non-Specified	Research and Development	\$ 467,355	\$ 570,397,776	Y				\$ (48)
77 RD	NRC-HQ-13-G-38-0003	Nuclear Regulatory Commission - Non-Specified	Research and Development	\$ 467,355	\$ 570,397,776	Y				\$ 79,104
81 041		State Energy Program	Research and Development	\$ 656,386	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300512830		\$ 699
81 041		State Energy Program	Research and Development	\$ 656,386	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300513167		\$ 149,792
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	Y			\$ 1,607,623	\$ 7,104,786
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Altex Technologies	DE-SC0013823		\$ 88,002
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Arizona State University	U.S. DEPARTMENT OF ENERGY		\$ 151,718
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Columbia University	DE-SC0016579		\$ 42,067
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Georgia Institute of Technology	DE-SC0012577	\$ 45,057	\$ 72,355
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	H Quest Vanguard, Inc.	DE-SC0017227		\$ 43,282
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Ohio State University, The	DE-SC0016584		\$ 149,430
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Reaction Engineering International	DE-SC0013217		\$ 84,602
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	RNET Technologies, Inc.	DE-SC0017700		\$ 29,962
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Stanford University	DE-SC0005171	\$ 71,912	\$ 126,451
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Stanford University	DE-SC0016162	\$ 165,112	\$ 786,633
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	UES, Inc.	DE-SC0004356 0004		\$ 8,907
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	UES, Inc.	DE-SC0011335		\$ 36,236
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	UES, Inc.	DE-SC0013215		\$ 204,619
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of Arkansas	DE-SC0016529		\$ 60,011
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of California, Davis	DE-SC0016605		\$ 116,471
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of California, San Diego	DE-SC0017981		\$ 43,376
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of Illinois	DE-SC0010778		\$ 66,353
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of Illinois	DE-SC0018260		\$ 32,374
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of South Florida	DE-SC0012635		\$ 111,573
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of Texas at Austin, The	DE-SC0018042		\$ 1,425
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	University of Texas at Dallas, The	DE-SC0010697		\$ 6,615
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Washington University in St. Louis	DE-SC0001035		\$ 264,410
81 049		Office of Science Financial Assistance Program	Research and Development	\$ 9,749,945	\$ 570,397,776	N	Washington University in St. Louis	DE-SC0012722		\$ 118,287
81 086		Conservation Research and Development	Research and Development	\$ 1,127,273	\$ 570,397,776	Y			\$ 157,627	\$ 949,510
81 086		Conservation Research and Development	Research and Development	\$ 1,127,273	\$ 570,397,776	N	Ford Motor Company	DE-EE0005764		\$ 17,842
81 086		Conservation Research and Development	Research and Development	\$ 1,127,273	\$ 570,397,776	N	Michigan State University	DE-EE0007803		\$ 90,520
81 086		Conservation Research and Development	Research and Development	\$ 1,127,273	\$ 570,397,776	N	University of Virginia	DE-EE0008195		\$ 69,401
81 087		Renewable Energy Research and Development	Research and Development	\$ 1,451,285	\$ 570,397,776	Y			\$ 170,499	\$ 881,786
81 087		Renewable Energy Research and Development	Research and Development	\$ 1,451,285	\$ 570,397,776	N	3M	DE-AR0000776		\$ 258,347
81 087		Renewable Energy Research and Development	Research and Development	\$ 1,451,285	\$ 570,397,776	N	Antares Group Incorporated	U.S. DEPARTMENT OF ENERGY		\$ 213,261
81 087		Renewable Energy Research and Development	Research and Development	\$ 1,451,285	\$ 570,397,776	N	Composite Technology Development, Inc.	DE-EE0007248		\$ 48,703
81 087		Renewable Energy Research and Development	Research and Development	\$ 1,451,285	\$ 570,397,776	N	Yale University	DE-EE0007983		\$ 49,188
81 089		Fossil Energy Research and Development	Research and Development	\$ 3,420,135	\$ 570,397,776	Y			\$ 1,548,993	\$ 3,171,226

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
81 089		Fossil Energy Research and Development	Research and Development	\$ 3,420,135	\$ 570,397,776	N	Inventre Renewables, Inc.	DE-FE0030146		\$ 109,554
81 089		Fossil Energy Research and Development	Research and Development	\$ 3,420,135	\$ 570,397,776	N	Liquid Ion Solutions LLC	DE-FE026464		\$ 139,355
81 117		Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and Technical Analysis/Assistance	Research and Development	\$ 534,555	\$ 570,397,776	Y			\$ 139,854	\$ 480,529
81 117		Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and Technical Analysis/Assistance	Research and Development	\$ 534,555	\$ 570,397,776	N	Citizens for Pennsylvania's Future	N/A		\$ 31,192
81 117		Energy Efficiency and Renewable Energy Information Dissemination, Outreach, Training and Technical Analysis/Assistance	Research and Development	\$ 534,555	\$ 570,397,776	N	NGI Technologies	1517-001/150-310-002S1		\$ 22,834
81 121		Nuclear Energy Research, Development and Demonstration	Research and Development	\$ 1,811,899	\$ 570,397,776	Y			\$ 537,866	\$ 1,613,645
81 121		Nuclear Energy Research, Development and Demonstration	Research and Development	\$ 1,811,899	\$ 570,397,776	N	Massachusetts Institute of Technology	DE-NE0008413		\$ 30,844
81 121		Nuclear Energy Research, Development and Demonstration	Research and Development	\$ 1,811,899	\$ 570,397,776	N	New Mexico State University	DE-NE0008687		\$ 3,317
81 121		Nuclear Energy Research, Development and Demonstration	Research and Development	\$ 1,811,899	\$ 570,397,776	N	Purdue University	DE-NE0008259		\$ 46
81 121		Nuclear Energy Research, Development and Demonstration	Research and Development	\$ 1,811,899	\$ 570,397,776	N	Westinghouse Electric Company LLC	DE-NE0008522		\$ 164,047
81 122		Electricity Delivery and Energy Reliability, Research, Development and Analysis	Research and Development	\$ 15,409	\$ 570,397,776	Y				\$ 15,409
81 135		Advanced Research Projects Agency - Energy	Research and Development	\$ 1,803,727	\$ 570,397,776	Y			\$ 835	\$ 1,131,160
81 135		Advanced Research Projects Agency - Energy	Research and Development	\$ 1,803,727	\$ 570,397,776	N	Ocean Renewable Power Company	DE-AR0000658		\$ 537,800
81 135		Advanced Research Projects Agency - Energy	Research and Development	\$ 1,803,727	\$ 570,397,776	N	Storagenenergy Technologies, Inc.	DE-AR0000818		\$ 134,767
81 RD	DE-AR0000801	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 343,064	\$ 929,877
81 RD	DE-AR0000821	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 159,639	\$ 1,334,828
81 RD	DE-EE0007625	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 215,846	\$ 457,826
81 RD	DE-EE0007655	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 65,236
81 RD	DE-EE0008096	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 214,246
81 RD	DE-FE0024261	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 105,129
81 RD	DE-FE0026825 0004	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 133,727
81 RD	DE-FG02-26825 0006	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 297,120
81 RD	DE-FE0031280	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 11,308
81 RD	DE-FE0031544	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 25,267
81 RD	DE-FG02-05ER15675	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 10,084	\$ 203,692
81 RD	DE-FG02-06ER15803	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ (8,652)
81 RD	DE-FG02-93ER40771	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 138,872
81 RD	DE-NE0008688	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 2,879	\$ 76,247
81 RD	DE-SC0012375	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y			\$ 276,316	\$ 774,106
81 RD	DE-SC0013699	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 142,658
81 RD	DE-SC0018032	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 91,503
81 RD	DE-SC0018035	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 160,568
81 RD	DE-SC0018038	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 23,005
81 RD	DE-SC0018087	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	Y				\$ 74,199
81 RD	RES1000026 2.651.061.001 109	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	AECOM	U.S. DEPARTMENT OF ENERGY		\$ 2,273
81 RD	RHA-7-70083-01	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Alliance for Sustainable Energy, LLC	DE-AC36-08GO28308		\$ 7,176
81 RD	SC-17-442	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Ames Laboratory	DE-AC02-07CH11358		\$ 64,407
81 RD	7F-30076	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Argonne National Laboratory	DE-AC02-06CH11357		\$ 93,891
81 RD	7F-30177	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Argonne National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 24,766
81 RD	163662 AMEND 4	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Energy Alliance, LLC	N/A		\$ 104,965
81 RD	176960	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Energy Alliance, LLC	DE-AC07-05ID14517		\$ 62,258
81 RD	188340	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Energy Alliance, LLC	U.S. DEPARTMENT OF ENERGY		\$ 155,786
81 RD	111923 TO 265388 MOD 4	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC05-76RL01830		\$ 26,278
81 RD	165929 AMEND 1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC07-05ID14517		\$ 37
81 RD	324781 REVISION 3	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC05-76RL01830		\$ 1,611
81 RD	334640 MOD 2	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC05-76RL01830		\$ 22,576
81 RD	4000105709 MOD 15	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC05-00OR22725		\$ 55,158
81 RD	4000123466	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	6400012296		\$ 9,869
81 RD	B626737	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Battelle Memorial Institute	DE-AC52-07NA27344		\$ 31,485
81 RD	103595	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Bechtel Bettis, Inc.	N/A		\$ 15,069
81 RD	103595	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Bechtel Bettis, Inc.	U.S. DEPARTMENT OF ENERGY		\$ 78,326

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
81 RD	125444	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Bechtel Bettis, Inc.	DE-NR0000031		\$ 5,271
81 RD	C119808 AMENDMENT 1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Bechtel Plant Machinery, Inc.	DE-NR0000031		\$ 3,648
81 RD	300324	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Brookhaven National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 94,476
81 RD	317797	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Brookhaven National Laboratory	N/A		\$ 55,521
81 RD	331944	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Brookhaven National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 10,498
81 RD	334472	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Brookhaven National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 76,087
81 RD	4300557543	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300557543		\$ 41,825
81 RD	R1007	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Dartmouth College	4000115284		\$ 10,000
81 RD	817068	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Fibertek, Inc.	U.S. DEPARTMENT OF ENERGY		\$ 52,300
81 RD	25365	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Gear Research Institute	DE-SC0013223		\$ 24,987
81 RD	RJ407-G1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Georgia Institute of Technology	DE-FE0031288		\$ 34,805
81 RD	25373 PO 7790-1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	HAMR Industries LLC	DE-SC0017790		\$ 45,367
81 RD	21827-DE-SC0007544	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	HiFunda LLC	DE-SC0007544		\$ (423)
81 RD	101490 LINE 3	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Knolls Atomic Power Laboratory	DE-NR0000031		\$ 8,550
81 RD	101490 LINE 4	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Knolls Atomic Power Laboratory	DE-NR0000031		\$ 103,364
81 RD	101490 LINE 5	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Knolls Atomic Power Laboratory	DE-NR0000031		\$ 48,183
81 RD	101490 LINE 6	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Knolls Atomic Power Laboratory	DE-NR0000031		\$ 38,954
81 RD	7104713	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Lawrence Berkeley National Laboratory	DE-AC02-05CH11231		\$ 60,197
81 RD	7352259	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Lawrence Berkeley National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 3,264
81 RD	7380173	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Lawrence Berkeley National Laboratory	DE-AC02-05CH11231		\$ 1,683
81 RD	B623868	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Lawrence Livermore National Laboratory	DE-AC52-07NA27344		\$ 19,999
81 RD	293402	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Los Alamos National Laboratory	DE-AC52-06NA25396		\$ 96,850
81 RD	293402 WO 424285	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Los Alamos National Laboratory	DE-AC52-06NA25396		\$ 53,983
81 RD	347835	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Los Alamos National Laboratory	DE-AC52-06NA25396		\$ 61,035
81 RD	ACS-7-70122-01	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	National Renewable Energy Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 12,596
81 RD	AFC-7-70044-07	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	National Renewable Energy Laboratory	DE-AC36-08GO28308		\$ 10,428
81 RD	AHQ-8-82029-01	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	National Renewable Energy Laboratory	DE-AC36-08GO28308		\$ 100,216
81 RD	ZFA-5-52002-01	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	National Renewable Energy Laboratory	DE-AC36-08GO28308		\$ 64,178
81 RD	4000105709 MOD 17	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	N/A		\$ 75,425
81 RD	4000153016	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	DE-AC05-00OR22725		\$ 42,780
81 RD	4000153016 MOD 6	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	DE-AC05-00OR22725		\$ 31,736
81 RD	4000154163	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 1,182
81 RD	4000158201	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	U.S. DEPARTMENT OF ENERGY		\$ 22,869
81 RD	4000158464	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Oak Ridge National Laboratory	DOE		\$ 34,519
81 RD	S015808-C	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Princeton University	DE-AC02-09CH11466		\$ 15,057
81 RD	1356879 PO 1725047	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	N/A		\$ 21,493
81 RD	1356879 PO 1818076	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	DE-AC04-94AL85000		\$ 9,838
81 RD	1356879 PO 1868146	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	U.S. DEPARTMENT OF ENERGY		\$ 75,000
81 RD	1356879 TO 1759699 REV 1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	U.S. DEPARTMENT OF ENERGY		\$ 42,802
81 RD	1356879 TO 1969551 PO1759699	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	N/A		\$ 11,985
81 RD	1735699 MASTER 1356879	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	DE-AC04-94-AL85000		\$ 12,108
81 RD	775396 PO 1578792	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Sandia National Laboratories	N/A		\$ (2,449)

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
81	RD	195333	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Tetramer Technologies, LLC	U.S. DEPARTMENT OF ENERGY	\$ 76,172
81	RD	15C1391300	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Thomas Jefferson National Accelerator Facility	N/A	\$ 41,437
81	RD	SUBK00008626	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	University of Michigan	U.S. DEPARTMENT OF ENERGY	\$ 10,709
81	RD	RES1000026 2.651.058.002 104	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 400
81	RD	RES1000026 2.651.061.001 105	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 6,098
81	RD	RES1000026 2.651.061.001 106	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 3,304
81	RD	RES1000026 2.651.061.001 107	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 369
81	RD	RES1000026 2.651.061.001 108	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 369
81	RD	RES1000026 6.670.998.003 102	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	URS Corporation	U.S. DEPARTMENT OF ENERGY	\$ 11,441
81	RD	4000145264	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	UT-Battelle	U.S. DEPARTMENT OF ENERGY	\$ 9,843
81	RD	4000150843	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	UT-Battelle	U.S. DEPARTMENT OF ENERGY	\$ 19,277
81	RD	4000158836	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	UT-Battelle	DE-AC05-00OR22725	\$ 19,201
81	RD	63394	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Washington River Protection Solutions	N/A	\$ 27,739
81	RD	111896 ITO 0033 LINE ITEM 1	Department of Energy - Non-Specified	Research and Development	\$ 7,793,938	\$ 570,397,776	N	Westinghouse Electric Company LLC	DE-NE0008222	\$ 28,699
84	017		International Research and Studies	Research and Development	\$ 30,630	\$ 570,397,776	Y			\$ 30,630
84	022		Overseas Programs - Doctoral Dissertation Research Abroad	Research and Development	\$ 37,450	\$ 570,397,776	Y			\$ 37,450
84	229		Language Resource Centers	Research and Development	\$ 54,094	\$ 570,397,776	Y			\$ 54,094
84	305		Education Research, Development and Dissemination	Research and Development	\$ 1,630,965	\$ 570,397,776	Y		\$ 5,122	\$ 311,138
84	305		Education Research, Development and Dissemination	Research and Development	\$ 1,630,965	\$ 570,397,776	N	Texas A&M University	R305A150057	\$ 336,977
84	305		Education Research, Development and Dissemination	Research and Development	\$ 1,630,965	\$ 570,397,776	N	University of Virginia	N/A	\$ 93,914
84	305		Education Research, Development and Dissemination	Research and Development	\$ 1,630,965	\$ 570,397,776	N	William & Mary	R305A160398	\$ 35,194
84	327		Special Education Educational Technology Media, and Materials for Individuals with Disabilities	Research and Development	\$ 313,856	\$ 570,397,776	Y			\$ 313,856
84	365		English Language Acquisition State Grants	Research and Development	\$ 450,160	\$ 570,397,776	Y			\$ 16,079
84	367		Supporting Effective Instruction State Grants	Research and Development	\$ 32,162	\$ 570,397,776	N	National Writing Project	U367D15004	\$ 6,194
84	411		Education Innovation and Research	Research and Development	\$ 342,122	\$ 570,397,776	Y		\$ 304,505	\$ 342,122
84	RD	P015A140138 ACTION 4	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 12,394
84	RD	P015A14038 ACTION 5	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 235,922
84	RD	P015B140138 ACTION 4	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 68,323
84	RD	P015B140138 ACTION 5	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 292,464
84	RD	P042A100109-14	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ (1,356)
84	RD	P042A150744 ACT 2	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 252,044
84	RD	P042A150744-16	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 51,653
84	RD	P042A150955	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 15,141
84	RD	P042A150955 ACTION 2	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 25,502
84	RD	P042A150955-2	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 257,488
84	RD	R305A140113-15 ACTION 2	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 340,515
84	RD	R305A150391	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 209,497
84	RD	R305A150488 ACTION 1	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 738
84	RD	R305A150488 ACTION 3	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 833,210
84	RD	R305A160403 ACT 1	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y		\$ 378,119	\$ 501,970

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
84 RD	062-160042	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	N	Commonwealth of Pennsylvania	062-160042		\$ (85)
84 RD	4300579829 4400015622	Department of Education - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300579829 4400015622		\$ 1,380
84 RD	R305A160401	Institute of Education Sciences - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 131,259	\$ 323,081
84 RD	R305H150047	Institute of Education Sciences - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 30,956	\$ 48,603
84 RD	R324A150126-15A ACTION 2	Institute of Education Sciences - Non-Specified	Research and Development	\$ 3,595,063	\$ 570,397,776	Y			\$ 52,882	\$ 126,579
93 061		Innovations in Applied Public Health Research	Research and Development	\$ 85,244	\$ 570,397,776	Y				\$ 85,244
93 077		Family Smoking Prevention and Tobacco Control Act Regulatory Research	Research and Development	\$ 3,901,744	\$ 570,397,776	Y			\$ 1,139,339	\$ 3,712,172
93 077		Family Smoking Prevention and Tobacco Control Act Regulatory Research	Research and Development	\$ 3,901,744	\$ 570,397,776	N	Virginia Commonwealth University	4P50 DA036105-04		\$ 189,572
93 086		Healthy Marriage Promotion and Responsible Fatherhood Grants	Research and Development	\$ 13,593	\$ 570,397,776	N	Texas State University	90FM0067-02-00		\$ 13,593
93 088		Advancing System Improvements for Key Issues in Women's Health	Research and Development	\$ 7,442	\$ 570,397,776	N	U.S. Committee for Refugees and Immigrants	1 ASTWH160047-01-00		\$ 7,442
93 092		Affordable Care Act (ACA) Personal Responsibility Education Program	Research and Development	\$ 20,027	\$ 570,397,776	N	Commonwealth of Pennsylvania	4100070981	\$ 3,648	\$ 20,027
93 103		Food and Drug Administration Research	Research and Development	\$ 137,575	\$ 570,397,776	Y				\$ 132,748
93 103		Food and Drug Administration Research	Research and Development	\$ 137,575	\$ 570,397,776	N	University of Vermont, The	R01FD005686		\$ 4,827
93 110		Maternal and Child Health Federal Consolidated Programs	Research and Development	\$ 369,389	\$ 570,397,776	Y			\$ 122,084	\$ 262,197
93 110		Maternal and Child Health Federal Consolidated Programs	Research and Development	\$ 369,389	\$ 570,397,776	N	Children's Hospital of Philadelphia	1 T71MC30798-01-00		\$ 13,278
93 110		Maternal and Child Health Federal Consolidated Programs	Research and Development	\$ 369,389	\$ 570,397,776	N	Children's Hospital of Philadelphia	HEALTH RESOURCES AND SERVICES		\$ 58,715
93 110		Maternal and Child Health Federal Consolidated Programs	Research and Development	\$ 369,389	\$ 570,397,776	N	University of California, San Francisco	5 R40MC26820-03-00		\$ 35,199
93 113		Environmental Health	Research and Development	\$ 2,406,949	\$ 570,397,776	Y			\$ 47,091	\$ 2,273,021
93 113		Environmental Health	Research and Development	\$ 2,406,949	\$ 570,397,776	N	Boston University	1R01ES025791-01A1		\$ 105,952
93 121		Oral Diseases and Disorders Research	Research and Development	\$ 1,581,712	\$ 570,397,776	Y			\$ 298,660	\$ 1,581,712
93 172		Human Genome Research	Research and Development	\$ 589,459	\$ 570,397,776	Y			\$ 602	\$ 570,301
93 172		Human Genome Research	Research and Development	\$ 589,459	\$ 570,397,776	N	HudsonAlpha Institute for Biotechnology	SU54HG006988-04S1		\$ 5,262
93 172		Human Genome Research	Research and Development	\$ 589,459	\$ 570,397,776	N	University of California, San Diego	SU41HG007517-05		\$ 13,896
93 173		Research Related to Deafness and Communication Disorders	Research and Development	\$ 618,993	\$ 570,397,776	Y			\$ 158,768	\$ 507,986
93 173		Research Related to Deafness and Communication Disorders	Research and Development	\$ 618,993	\$ 570,397,776	N	University of Georgia	1R01DC013904		\$ 25,306
93 173		Research Related to Deafness and Communication Disorders	Research and Development	\$ 618,993	\$ 570,397,776	N	University of Georgia	5R01DC013904-03		\$ 85,701
93 213		Research and Training in Complementary and Integrative Health	Research and Development	\$ 758,400	\$ 570,397,776	Y				\$ 743,089
93 213		Research and Training in Complementary and Integrative Health	Research and Development	\$ 758,400	\$ 570,397,776	N	Carnegie Mellon University	5R01AT008685-02		\$ 114
93 213		Research and Training in Complementary and Integrative Health	Research and Development	\$ 758,400	\$ 570,397,776	N	Carnegie Mellon University	NATIONAL INSTITUTES OF HEALTH		\$ 5,724
93 213		Research and Training in Complementary and Integrative Health	Research and Development	\$ 758,400	\$ 570,397,776	N	Mount Sinai Medical Center	4 UH3 AT009149-01		\$ 9,473
93 226		Research on Healthcare Costs, Quality and Outcomes	Research and Development	\$ 800,488	\$ 570,397,776	Y			\$ 173,346	\$ 484,382
93 226		Research on Healthcare Costs, Quality and Outcomes	Research and Development	\$ 800,488	\$ 570,397,776	N	RAND Corporation	U19HS024067		\$ 316,106
93 239		Policy Research and Evaluation Grants	Research and Development	\$ 20,761	\$ 570,397,776	N	University of Wisconsin - Madison	1H79AE00010301		\$ 20,761
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	Y			\$ 571,109	\$ 4,517,228
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	Cold Spring Harbor Laboratory	U01MH105971		\$ 3,555
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	Geisinger Health System	1R01MH107431-01		\$ 168,905
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	Massachusetts General Hospital	N/A		\$ 59,282
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	University of Minnesota	3R24MH106049-03S1		\$ 24,965
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	University of Minnesota	5R24MH106049-03		\$ 13,918
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	University of Pittsburgh	2R01MH048463-24		\$ 10,270
93 242		Mental Health Research Grants	Research and Development	\$ 4,874,065	\$ 570,397,776	N	University of Rochester	5R01MH097293-05		\$ 75,942
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	Y				\$ 25,882
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	N	Bassett Healthcare Network	SU54OH007542-17		\$ 24,795
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	N	Bassett Healthcare Network	NATIONAL INSTITUTE FOR OCCUPAT		\$ 6,449
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	N	Colorado State University	NATIONAL INSTITUTE FOR OCCUPAT		\$ 14,634
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	N	Johns Hopkins Bloomberg School of Public Health	5T42OH008428-11		\$ (276)

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 262		Occupational Safety and Health Program	Research and Development	\$ 172,283	\$ 570,397,776	N	Rensselaer Polytechnic Institute	1R01OH010165-01A1		\$ 43,817
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	Y			\$ 663,834	\$ 2,252,301
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	Binghamton University, State University of New York	5P50AA017823		\$ 34,167
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	Carnegie Mellon University	R01AA025936		\$ 887
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	Old Dominion University	1 R01 AA023197-01A1		\$ 43,399
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	University of Tennessee Health Science Center, The	5R01AA021951-03		\$ 35,481
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	Utah State University	1R01AA025331-01		\$ 37,678
93 273		Alcohol Research Programs	Research and Development	\$ 2,463,125	\$ 570,397,776	N	Washington State University	7R21AA024321		\$ 56,394
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	Y			\$ 1,303,266	\$ 5,715,237
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	Children's Hospital Los Angeles	5U01DA036926-03		\$ 13,708
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	Duke University	N/A		\$ 62,625
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	Iowa State University	R01DA13709		\$ 203,371
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	New York University	1R01DA040480-01A1		\$ 55,882
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	Stanford University	1U01DA044399-01		\$ 126,277
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	University of Colorado	N/A		\$ 40,282
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	University of Michigan	1R01DA039901-01		\$ 46,786
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	University of Michigan	5R01DA035183-03		\$ 58,081
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	University of Michigan	5R01DA037902-03		\$ 35,347
93 279		Drug Abuse and Addiction Research Programs	Research and Development	\$ 6,412,110	\$ 570,397,776	N	University of Michigan	5R01DA03790204		\$ 22,602
93 286		Discovery and Applied Research for Technological Innovations to Improve Human Health	Research and Development	\$ 1,397,725	\$ 570,397,776	Y			\$ 31,934	\$ 1,121,335
93 286		Discovery and Applied Research for Technological Innovations to Improve Human Health	Research and Development	\$ 1,397,725	\$ 570,397,776	N	University of Minnesota	1U01EB025144-01		\$ 264,779
93 286		Discovery and Applied Research for Technological Innovations to Improve Human Health	Research and Development	\$ 1,397,725	\$ 570,397,776	N	University of Southern California	5P41EB002182-19		\$ 11,611
93 301		Small Rural Hospital Improvement Grant Program	Research and Development	\$ 233,999	\$ 570,397,776	Y				\$ 233,999
93 307		Minority Health and Health Disparities Research	Research and Development	\$ 69,633	\$ 570,397,776	N	Case Western Reserve University	5R01MD009699-03		\$ 21,667
93 307		Minority Health and Health Disparities Research	Research and Development	\$ 69,633	\$ 570,397,776	N	Case Western Reserve University	5R01MD009699-04		\$ 10,553
93 307		Minority Health and Health Disparities Research	Research and Development	\$ 69,633	\$ 570,397,776	N	Ohio State University, The	5R01MD011575-03		\$ 21,379
93 307		Minority Health and Health Disparities Research	Research and Development	\$ 69,633	\$ 570,397,776	N	Ohio State University, The	7R01MD011575-02		\$ 16,034
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	Y				\$ 344,719
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	Duke Clinical Research Institute	1U2OD023375-01 REVISED		\$ 9,273
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	Duke Clinical Research Institute	5U2COD023375-02		\$ 34,671
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	Harvard Pilgrim Health Care, Inc.	1 U01 EB023683-01		\$ 137,966
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	New York Institute of Technology	3 U18 EB021789-02S1		\$ 38,893
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	New York Institute of Technology	5 U18 EB021789-02		\$ 26,010
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	New York University	1UG3OD023332-01		\$ 137,164
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	New York University	5UG3OD023332-02		\$ 447,174
93 310		Trans-NIH Research Support	Research and Development	\$ 1,651,101	\$ 570,397,776	N	University of Oregon	1UG3OD023389		\$ 475,231
93 343		Public Health Service Evaluation Funds	Research and Development	\$ 41,211	\$ 570,397,776	N	ETR Associates	U.S. DEPARTMENT OF HEALTH AND		\$ 41,211
93 350		National Center for Advancing Translational Sciences	Research and Development	\$ 4,264,750	\$ 570,397,776	Y				\$ 3,969,025
93 350		National Center for Advancing Translational Sciences	Research and Development	\$ 4,264,750	\$ 570,397,776	N	Harvard University	3UL1TR001102-04S1		\$ 33,215
93 350		National Center for Advancing Translational Sciences	Research and Development	\$ 4,264,750	\$ 570,397,776	N	University of Alabama, The	3UL1TR001417-03S1		\$ 27,391
93 350		National Center for Advancing Translational Sciences	Research and Development	\$ 4,264,750	\$ 570,397,776	N	University of Pennsylvania	5 U18 TR-001878-02		\$ 19,829
93 350		National Center for Advancing Translational Sciences	Research and Development	\$ 4,264,750	\$ 570,397,776	N	University of Pittsburgh	5UL1TR001857-02		\$ 116,475
93 351		Research Infrastructure Programs	Research and Development	\$ 1,741,641	\$ 570,397,776	Y			\$ 66,943	\$ 1,735,631
93 351		Research Infrastructure Programs	Research and Development	\$ 1,741,641	\$ 570,397,776	N	Actuated Medical, Inc.	1R44OD023024-01		\$ 6,010
93 361		Nursing Research	Research and Development	\$ 857,434	\$ 570,397,776	Y			\$ 31,964	\$ 468,196
93 361		Nursing Research	Research and Development	\$ 857,434	\$ 570,397,776	N	University of Maryland	R01NR015982	\$ 4,291	\$ 41,569
93 361		Nursing Research	Research and Development	\$ 857,434	\$ 570,397,776	N	University of Maryland	R01NR015982-03		\$ 309,809
93 361		Nursing Research	Research and Development	\$ 857,434	\$ 570,397,776	N	University of Miami	5R01NR014851-04		\$ 27,855
93 361		Nursing Research	Research and Development	\$ 857,434	\$ 570,397,776	N	Yale University	1R01NR016191-03		\$ 10,005
93 387		National Institutes of Health - Non-Specified	Research and Development	\$ 33,617	\$ 570,397,776	N	University of Pittsburgh	R01HL128388		\$ 6,927
93 387		National Institutes of Health - Non-Specified	Research and Development	\$ 33,617	\$ 570,397,776	N	University of Pittsburgh	R01HL128388-01A1/45433		\$ 26,690
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	Y			\$ 193,237	\$ 2,254,953
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	Cleveland Clinic Foundation	NATIONAL INSTITUTES OF HEALTH		\$ 180,813

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	Ohio State University, The	U01CA188250		\$ 10,131
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	University of Wisconsin	1P01CA180945-01		\$ 72,844
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	University of Wisconsin	5P01CA180945-03		\$ 13,333
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	Washington University in St. Louis	5U01CA200060-02		\$ 8,244
93 393		Cancer Cause and Prevention Research	Research and Development	\$ 2,614,469	\$ 570,397,776	N	Washington University in St. Louis	5U01CA200060-03		\$ 74,151
93 394		Cancer Detection and Diagnosis Research	Research and Development	\$ 545,598	\$ 570,397,776	Y				\$ 188,310
93 394		Cancer Detection and Diagnosis Research	Research and Development	\$ 545,598	\$ 570,397,776	N	Kaiser Permanente	1R01CA206196-01A1		\$ 101,255
93 394		Cancer Detection and Diagnosis Research	Research and Development	\$ 545,598	\$ 570,397,776	N	Northwestern University	2R01CA154908-06A1		\$ 213,457
93 394		Cancer Detection and Diagnosis Research	Research and Development	\$ 545,598	\$ 570,397,776	N	University of Michigan	1R01CA215574-01A1		\$ 42,576
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	Y			\$ 38,985	\$ 466,590
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	Actuated Medical, Inc.	1R43CA225169-01		\$ 15,230
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	Children's Hospital of Philadelphia	U10 CA98543-08		\$ 95,772
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	ECOG-ACRIN Cancer Research Group	NATIONAL INSTITUTES OF HEALTH		\$ 1,332
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	John Wayne Cancer Institute at Providence Saint John's Health Center	P01 CA029605		\$ 1,975
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	Medical University of South Carolina, The	1 P01 CA203628-01		\$ 191,647
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	University of Louisville	5R01CA185972-03		\$ 10,964
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	University of Louisville	5R01CA185972-04		\$ 102,807
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	University of Texas Southwestern Medical Center, The	N/A		\$ 96,600
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	University of Virginia	5P01CA171983-04	\$ 85,331	\$ 275,800
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	University of Virginia	5P01CA171983-05	\$ 49,981	\$ 815,085
93 395		Cancer Treatment Research	Research and Development	\$ 2,075,088	\$ 570,397,776	N	Washington State University	4R01CA164366-05		\$ 1,286
93 396		Cancer Biology Research	Research and Development	\$ 1,511,593	\$ 570,397,776	Y				\$ 1,100,356
93 396		Cancer Biology Research	Research and Development	\$ 1,511,593	\$ 570,397,776	N	Loma Linda University	R01CA209829		\$ 184,965
93 396		Cancer Biology Research	Research and Development	\$ 1,511,593	\$ 570,397,776	N	University of Virginia	1R01CA178393-01A1		\$ 226,272
93 397		Cancer Centers Support Grants	Research and Development	\$ 436,515	\$ 570,397,776	Y			\$ 4,303	\$ 423,141
93 397		Cancer Centers Support Grants	Research and Development	\$ 436,515	\$ 570,397,776	N	University of Kentucky	5 U54 CA153604-05		\$ 13,374
93 398		Cancer Research Manpower	Research and Development	\$ 306,105	\$ 570,397,776	Y				\$ 95,287
93 433		ACL National Institute on Disability, Independent Living, and Rehabilitation Research	Research and Development	\$ 1,098,466	\$ 570,397,776	Y			\$ 743,796	\$ 1,098,466
93 575		Child Care and Development Block Grant	Research and Development	\$ 729,540	\$ 570,397,776	N	Child Care Consultants, Inc.	N/A		\$ 17,281
93 575		Child Care and Development Block Grant	Research and Development	\$ 729,540	\$ 570,397,776	N	Northwest Institute of Research	N/A		\$ (2,730)
93 788		Opioid STR	Research and Development	\$ 647,320	\$ 570,397,776	N	Commonwealth of Pennsylvania	41000785866	\$ 143,688	\$ 647,320
93 834		Capacity Building Assistance (CBA) for High-Impact HIV Prevention	Research and Development	\$ 450	\$ 570,397,776	N	Children's Research Institute	NATIONAL HEART, LUNG AND BLOOD		\$ 450
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	Y			\$ 881,231	\$ 5,079,113
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	Brigham and Women's Hospital	NATIONAL INSTITUTES OF HEALTH		\$ 1,574
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	Children's Hospital of Philadelphia	N/A		\$ 12,323
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Florida	5U01 HL 119178-05		\$ 30,810
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Florida	U01 HL119178-04		\$ 30,976
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Kentucky	1U01HL133359-01A1		\$ 70,689
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Michigan	U01 HL094345		\$ 1,757
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Minnesota	1R01HL130099-01A1		\$ 1,315
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Minnesota	5R01HL130099-02		\$ 84,267
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Nevada, Reno	1R01HL137852-01A1		\$ 28,299
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	University of Texas at Arlington, The	R01HL118498		\$ 26,315
93 837		Cardiovascular Diseases Research	Research and Development	\$ 5,398,140	\$ 570,397,776	N	Yale University	R01HL125918		\$ 1,626
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	Y			\$ 298,706	\$ 1,341,095
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	Seattle Children's Hospital	1U01HL114623-01A1		\$ 12,611
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	University of Pittsburgh	5U01HL123009-02		\$ 16
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	University of Pittsburgh	5U01HL123020-04		\$ 75,890
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	University of Pittsburgh	5U01HL123099-04		\$ 5,000
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	University of Pittsburgh	5U01HL128954-02		\$ 475
93 838		Lung Diseases Research	Research and Development	\$ 1,458,106	\$ 570,397,776	N	University of Pittsburgh	5U01HL128954-03		\$ 23,019

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 839		Blood Diseases and Resources Research	Research and Development	\$ 4,429	\$ 570,397,776	N	Children's Research Institute	NATIONAL INSTITUTES OF HEALTH		\$ 4,429
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	Y			\$ 528,049	\$ 3,634,802
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	Children's Research Institute	5P50AR060836-04		\$ 2,439
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	Columbia University	1R01AR071316-01A1		\$ 38,622
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	University of Massachusetts	1R01AR072036-01		\$ 29,791
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	University of Massachusetts	5R01AR072036-02		\$ 3,498
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	University of Pennsylvania	1-R01-AR-070873-01A1		\$ 3,088
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	University of Pennsylvania	5U54AR057319-14		\$ 622
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	Virginia Commonwealth University	7R01AR068132-17		\$ 82,557
93 846		Arthritis, Musculoskeletal and Skin Diseases Research	Research and Development	\$ 3,796,349	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	N/A		\$ 930
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	Y			\$ 292,562	\$ 5,703,957
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	Augusta University	2U24 DK076169-11		\$ 19,594
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	Children's Hospital of Philadelphia	5R01DK054937-19		\$ 188,296
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	Georgia State University	1R21DK115180-01		\$ 14,171
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	Icahn School of Medicine at Mount Sinai	RQ2687771		\$ 10,258
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	Northwestern University	4R01DK097364-05		\$ 6,220
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of California, San Francisco	5 R01 DK098233-03		\$ 27,209
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of California, San Francisco	5R01DK098233-04		\$ 61,722
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of Pennsylvania	5 U01 DK106892-02		\$ 6,814
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of Pennsylvania	5-U01-DK-106892-03		\$ 71,757
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of South Florida	1UC4DK097835-01		\$ 1,916
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of Texas Health Science Center at San Antonio, The	1R01DK108185-01		\$ 37,539
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of Texas Health Science Center at San Antonio, The	2R25DK078381-11		\$ 24,841
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	Research and Development	\$ 6,190,000	\$ 570,397,776	N	University of Texas Health Science Center at San Antonio, The	2R25DK078381-12		\$ 13,126
93 848		Digestive Diseases and Nutrition Research	Research and Development	\$ (4,471)	\$ 570,397,776	N	Washington State University	2 R01 DK052849-07		\$ (4,471)
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	Y			\$ 323,647	\$ 4,773,599
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Augusta University	1R01NS090083-01A1		\$ 353
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Cincinnati Children's Hospital Medical Center	1R01NS096053-01A1		\$ (131)
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Cincinnati Children's Hospital Medical Center	NATIONAL INSTITUTES OF HEALTH		\$ 2,572
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Columbia University	NATIONAL INSTITUTES OF HEALTH		\$ 25,435
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Gladstone Institutes	NS091046		\$ 16,448
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	Mayo Clinic	N/A		\$ 6,124
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of California, Los Angeles	1R21NS090027-01		\$ 1,316
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of California, San Diego	5U01NS087964-02		\$ 123,278
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Pennsylvania	5U01NS094340-02		\$ 53,429
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Pennsylvania	5-U01-NS-094340-03		\$ 115,985
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Pittsburgh	1R01NS096755-01		\$ (155)

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Pittsburgh	5R01NS096755-02		\$ 94,295
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Pittsburgh	5R01NS096755-03		\$ 7,056
93 853		Extramural Research Programs in the Neurosciences and Neurological Disorders	Research and Development	\$ 5,219,814	\$ 570,397,776	N	University of Rochester Medical Center	5 U01 NS061799-02		\$ 210
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	Y			\$ 1,616,190	\$ 12,142,312
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Actuated Medical, Inc.	2R44AI080335-04		\$ 36,824
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Boston Children's Hospital	NATIONAL INSTITUTES OF HEALTH		\$ 398,031
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Boston College	N/A		\$ 25,306
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Cornell University	2R01AI092571-06A1		\$ 118,756
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Harvard University	SU19A1109764-03		\$ 83,060
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Imperial College London	NATIONAL INSTITUTE OF ALLERGY		\$ 2,999
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Johns Hopkins University	1R01AI117032-01		\$ 112,854
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Johns Hopkins University	1R21AI121768-02		\$ 19,940
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Johns Hopkins University	2U41HG00620		\$ 173,430
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Medical College of Wisconsin	1 R01 AI25334-01A1		\$ 18,664
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	Microbiotix, Inc.	1R01AI132276		\$ 122,368
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	National Jewish Health	U01 AI097073-04		\$ 57,782
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	New York University	5U19AI089676-06		\$ 7,546
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	PathoVax	1R44AI136236-01		\$ 54,480
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of Arizona, The	7R21AL132353-02		\$ 50,415
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of California	1UM1AI110498-02		\$ 5,468
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of California, San Diego	2R01AI090141-05		\$ 83,108
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of Louisville	1R01AI27979-01A1		\$ 16,959
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of Michigan	1R01AI10780-01A1		\$ 156,296
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of North Carolina	1R01A121558-01		\$ 13,404
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of Rochester	5R01AL067391-09		\$ 65,686
93 855		Allergy and Infectious Diseases Research	Research and Development	\$ 13,822,178	\$ 570,397,776	N	University of Washington	1R21AL123690-01A1		\$ 25,402
93 857		Measuring Interoperability Progress through Individuals' Access and Use of the Electronic Health Data	Research and Development	\$ 182,123	\$ 570,397,776	N	University of Texas at Austin, The	1R01HL129077-01A1		\$ 182,123
93 858		National Collaboration to Support Health, Wellness and Academic Success of School-Age Children	Research and Development	\$ 136,439	\$ 570,397,776	N	University of Georgia	5U01GM11074403		\$ (683)
93 858		National Collaboration to Support Health, Wellness and Academic Success of School-Age Children	Research and Development	\$ 136,439	\$ 570,397,776	N	University of Georgia	5U01GM110744-04		\$ 137,122
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	Y			\$ 1,162,617	\$ 13,044,264
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Arizona State University	1R01GM122082-01		\$ 80,381
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Atoptix, LLC	1R43GM113563-01		\$ (2,000)
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Carnegie Mellon University	NATIONAL INSTITUTES OF HEALTH		\$ 53,211
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Cincinnati Children's Hospital Medical Center	NATIONAL INSTITUTES OF HEALTH		\$ 1,395
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Duke University	7R01GM112048-03		\$ 8,798
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Florida State University	P41GM122698		\$ 87,370
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	Georgetown University	1R01GM123007-01		\$ 21,786
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of California, Los Angeles	5R01GM115833-02		\$ 150,481
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of Florida	R01 GM059969		\$ 28,969
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of Georgia	1R01GM124203-01		\$ 40,367
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of Miami	1R01GM105004-01		\$ 2,581
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of Michigan	5P50GM103297-04		\$ 41,490
93 859		Biomedical Research and Research Training	Research and Development	\$ 13,787,948	\$ 570,397,776	N	University of Pittsburgh	2R01GM095566-06		\$ 13,199
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	Y			\$ 1,865,805	\$ 8,934,645
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Actuated Medical, Inc.	1R41HD088139-01		\$ 43,492

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Actuated Medical, Inc.	NATIONAL INSTITUTES OF HEALTH		\$ 14,867
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Children's Hospital of Philadelphia	1R21HD089151-01A1		\$ 3,999
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Cincinnati Children's Hospital Medical Center	4R01HD069431-05		\$ 35,724
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Georgetown University	NATIONAL INSTITUTES OF HEALTH		\$ 60,343
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Icahn School of Medicine at Mount Sinai	5P01HD078233-02		\$ 240,648
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Johns Hopkins University	N/A		\$ 9,367
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	New York University	5U01HD076595-03		\$ 66,429
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	New York University	N/A		\$ 44,391
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	New York University	NATIONAL INSTITUTES OF HEALTH		\$ 125,524
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Princeton University	5R01HD076592-05		\$ 62,270
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	University of North Carolina	5R01HD080786-04		\$ 88,003
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	University of Oregon	R56HD042608		\$ (15)
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	University of Wisconsin	7R01HD081361-02		\$ 181,422
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	University of Wisconsin - Madison	1R21HD91459-01		\$ 90,493
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Virginia Commonwealth University	4R01HD073555-05		\$ 123
93 865		Child Health and Human Development Extramural Research	Research and Development	\$ 10,102,845	\$ 570,397,776	N	Yale University	5U01HD055925-09		\$ 101,120
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	Y			\$ 191,254	\$ 2,690,873
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Beth Israel Deaconess Medical Center	3R01AG030618-06S1		\$ 51,346
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Beth Israel Deaconess Medical Center	5R01AG030618-06		\$ 203,510
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Beth Israel Deaconess Medical Center	R01AG030618		\$ 80,021
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Elon University	1R15AG052903-01		\$ 58,914
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Hebrew Rehabilitation Center	R24AG054259		\$ 25,223
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Icahn School of Medicine at Mount Sinai	5R21AG050072-02		\$ 47,745
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Iowa State University	1 RO1 AG049416		\$ 48,966
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Kent State University	1R01AG054571-01A1		\$ 12,855
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Klein Buendel, Inc.	1R41AG057239-01		\$ 50,407
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Klein Buendel, Inc.	2R24AG049750-02		\$ 414,205
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Klein Buendel, Inc.	R42AG049570		\$ (6,024)
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	Mobile Sleep Technologies LLC	1 R43 AG056250-01		\$ 91,948
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of California	3R01AG046938-03S1		\$ 2,125
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of Kentucky	4R01AG026307-10		\$ 14,668
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of Maryland	R01AG050516		\$ 145,041
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of Southern California	R56AG037985		\$ 32
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of Texas at Austin, The	1R01AG049735		\$ 75,385
93 866		Aging Research	Research and Development	\$ 4,433,820	\$ 570,397,776	N	University of Wisconsin	5U19AG051426-02		\$ 426,580
93 867		Vision Research	Research and Development	\$ 1,306,379	\$ 570,397,776	Y			\$ 512,115	\$ 1,211,351
93 867		Vision Research	Research and Development	\$ 1,306,379	\$ 570,397,776	N	Emory University	NATIONAL EYE INSTITUTE		\$ 41,350
93 867		Vision Research	Research and Development	\$ 1,306,379	\$ 570,397,776	N	Massachusetts Eye and Ear	NATIONAL EYE INSTITUTE		\$ 53,678
93 879		Medical Library Assistance	Research and Development	\$ 238,925	\$ 570,397,776	N	Columbia University	NATIONAL LIBRARY OF MEDICINE		\$ 33,309
93 918		Grants to Provide Outpatient Early Intervention Services with Respect to HIV Disease	Research and Development	\$ 521,498	\$ 570,397,776	Y			\$ 13,421	\$ 521,498
93 928		Special Projects of National Significance	Research and Development	\$ 87,952	\$ 570,397,776	Y			\$ 36,908	\$ 87,952
93 936		National Institutes of Health Acquired Immunodeficiency Syndrome Research Loan Repayment Program	Research and Development	\$ 1,912	\$ 570,397,776	Y				\$ 1,912
93 959		Block Grants for Prevention and Treatment of Substance Abuse	Research and Development	\$ 130,199	\$ 570,397,776	N	Commonwealth of Pennsylvania	26796		\$ (10,594)
93 959		Block Grants for Prevention and Treatment of Substance Abuse	Research and Development	\$ 130,199	\$ 570,397,776	N	Commonwealth of Pennsylvania	27929		\$ 140,793
93 989		International Research and Research Training	Research and Development	\$ 444,021	\$ 570,397,776	Y			\$ 210,600	\$ 347,738

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93	RD	8901210917	Centers for Disease Control and Prevention - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Children's Hospital of Philadelphia	5NU27DD001155-02-00	\$ 6,034
93	RD	8901210918 AMENDMENT 2	Centers for Disease Control and Prevention - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Children's Hospital of Philadelphia	CENTERS FOR DISEASE CONTROL AN	\$ 20,606
93	RD	182225	Centers for Disease Control and Prevention - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Commonwealth of Pennsylvania	182225	\$ 67,423
93	RD	196142	Centers for Disease Control and Prevention - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Commonwealth of Pennsylvania	196142	\$ 7,242
93	RD	821051 PO 533514	Centers for Disease Control and Prevention - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Rutgers University	CENTERS FOR DISEASE CONTROL AN	\$ 5,130
93	RD	HHSP233201750005A LINE ITEM #1	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 266,109
93	RD	6/1/2018-5/31/2019	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Boston Children's Hospital	U.S. DEPARTMENT OF HEALTH AND	\$ 1,847
93	RD	4300570493 182225	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Commonwealth of Pennsylvania	4300570493 182225	\$ 36,591
93	RD	HHSN-2752010000031 STUDY5191	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke Clinical Research Institute	HHSN-2752010000031	\$ 59,060
93	RD	203732	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	SafeNet	90CX7100-01-00	\$ 3,674
93	RD	201401968-01	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of California, Davis	IHS-1310-07894	\$ 38,893
93	RD	Q88763950	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Kansas Medical Center	CER-1306-02496	\$ 712
93	RD	0049450 (711300-3)	Department of Health and Human Services - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pittsburgh	OBS-1505-30683	\$ 1,643
93	RD	2016113684	Food and Drug Administration - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 84,372
93	RD	HHSF223201610124C	Food and Drug Administration - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 11,344
93	RD	HHSF223201610405P	Food and Drug Administration - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 6,316
93	RD	HHSF223201710369P	Food and Drug Administration - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 259,483
93	RD	1 DP1 HD086071-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 8,196
93	RD	1 F32 GM128311-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 156,690
93	RD	1 K01 HL133520-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 195,029
93	RD	1 K22 CA190440-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 192,226
93	RD	1 KL2 TR002015-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 711,160
93	RD	1 P01 HL134609-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 188,173
93	RD	1 R01 AA025301-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 99,142	\$ 20,475
93	RD	1 R01 AG055636-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 47,600
93	RD	1 R01 AI107121-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 7,951	\$ 15,211
93	RD	1 R01 AR070887-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 515,901
93	RD	1 R01 DK099350-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 241,683
93	RD	1 R01 DK110060-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 193,694
93	RD	1 R01 GM105963-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 18,452	\$ 83,608
93	RD	1 R01 GM116044-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 273,313
93	RD	1 R01 GM117014-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 15,547	\$ 900,448
93	RD	1 R01 HD074807-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 390,946	\$ 234,190
93	RD	1 R01 HD079410-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 312,121
93	RD	1 R01 HD084476-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 381,437
93	RD	1 R01 HD087266-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 181,025
93	RD	1 R01 HD088448-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 1,771	\$ 16,260
93	RD	1 R01 HD088566-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 191,708
93	RD	1 R01 HL1271316-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 193,064
93	RD	1 R01 HL130363-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 432,764
93	RD	1 R01 HL131921-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 153,722
93	RD	1 R21 CA196924-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 1,274,406
93	RD	1 R24 DK106766-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 758,372	\$ 196,941
93	RD	1 T32 GM118294-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 223,547
93	RD	1 TL1 TR002016-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 303,615
93	RD	1 U01 DA041632-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 790
93	RD	1 U34 AR067392-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 790	\$ 834,489
93	RD	1 UH2 AG052167-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 108,480	\$ 183,814
93	RD	1-H97HA28893-01-00	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 34,765	\$ 186,327
93	RD	1R01AI123341-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 166,336
93	RD	1R01HD083381-01A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 159,779
93	RD	2 R01 AI045818-16A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y		\$ 20,483	\$ 391,575
93	RD	2 R01 DK082580-06	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 193,840
93	RD	2 R01 GM024129-36A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 42,929
93	RD	2 R01 GM058672-18A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			

See notes to schedule of expenditures of federal awards.

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 RD	2 R01 GM059055-17A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 287,902
93 RD	2 R01 HD066982-05A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 60,649
93 RD	2 R56 AG005214-23A1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 8,563	\$ 200,717
93 RD	200-2016-90385	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 312,302
93 RD	200-2016-91953	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 138,321
93 RD	4 P50 DA036107-04	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ (545,377)	\$ (17,569)
93 RD	4 R01 CA167535-04	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 20,226
93 RD	4 R01 DK099364-04	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 122,846
93 RD	4 R01 HD072468-05	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ (258)	\$ (258)
93 RD	4 U10 HD038992-14	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 15,586	\$ 17,424
93 RD	5 P50 DA036107-05	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 128,092
93 RD	5 R01 HD046064-14	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 319,264
93 RD	5 R01 HL119245-04	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 93,349	\$ 239,774
93 RD	5 U01 DK082183-09	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y			\$ 70,336	\$ 639,625
93 RD	5/1/2018-4/30/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 17,582
93 RD	5/1/2018-6/30/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 10,906
93 RD	6/1/2018-5/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 166,338
93 RD	HHSN27220100000201	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 58,770
93 RD	K01 AA019447	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 20,010
93 RD	P50DA039838	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	Y				\$ 11,777
93 RD	205809	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Actuated Medical, Inc.	NATIONAL INSTITUTES OF HEALTH		\$ 8,546
93 RD	5049-S02	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Actuated Medical, Inc.	NATIONAL INSTITUTES OF HEALTH		\$ 30,760
93 RD	310567 AMENDMENT 8	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	R01NS082432		\$ 7,114
93 RD	310684 PO P0588197	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	NATIONAL INSTITUTES OF HEALTH		\$ 20,417
93 RD	311216	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	IR01AG055527-01A1		\$ 22,302
93 RD	5/1/2018-4/30/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	NATIONAL INSTITUTES OF HEALTH		\$ 14,079
93 RD	6/1/2018-5/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	NATIONAL INSTITUTES OF HEALTH		\$ 29,305
93 RD	P0615017/P0615616/P0616086	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Albert Einstein College of Medicine	NATIONAL INSTITUTES OF HEALTH		\$ 365,542
93 RD	ATHN2015002-HCT5	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	American Thrombosis & Hemostatis Network	NATIONAL INSTITUTES OF HEALTH		\$ 397
93 RD	193371	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Boehringer Ingelheim	1U10HL109086-01	\$ 139,800	\$ 312,066
93 RD	RSTFD0000710305	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Boston Children's Hospital	5R01HD085853-02		\$ 13,799
93 RD	30003963-11	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Children's Research Institute	NATIONAL INSTITUTES OF HEALTH		\$ 275
93 RD	225492-NICHD-2016-SAP3-OPPORT6	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke Clinical Research Institute	HHSN-2752010000031		\$ 35,486
93 RD	HHSN2752010000031	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke Clinical Research Institute	HHSN2752010000031		\$ 3,486
93 RD	NICHD-2014-FUR01275201000031	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke Clinical Research Institute	NICHD-2014-FUR01		\$ 1,200
93 RD	4/1/2018-3/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke University	NATIONAL INSTITUTES OF HEALTH		\$ 7,433
93 RD	CE01-203/SPS 219225	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke University	N/A		\$ 12,590
93 RD	HHSN2752010000031	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke University	HHSN-2752010000031		\$ 2,962
93 RD	NIH TO #25	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Duke University	NATIONAL INSTITUTES OF HEALTH		\$ 7,900

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93	RD	U10CA180820-01-PSC11	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	ECOG-ACRIN Cancer Research Group	NATIONAL CANCER INSTITUTE	\$ 19,312
93	RD	800007142-01	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Florida International University	NATIONAL INSTITUTES OF HEALTH	\$ 6,851
93	RD	R2368-A AMENDMENT 3	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Gladstone Institutes	5U54NS091046-02	\$ (1)
93	RD	0254-3533-4609	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Icahn School of Medicine at Mount Sinai	NIH	\$ 122,525
93	RD	210285	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Jackson Laboratory, The	NATIONAL INSTITUTES OF HEALTH	\$ 14,693
93	RD	2002668606	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Johns Hopkins University	NATIONAL INSTITUTES OF HEALTH	\$ 16,128
93	RD	MUSC16-049-8B901	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Medical University of South Carolina, The	NATIONAL CANCER INSTITUTE	\$ 29,679
93	RD	4151B.04.04.00.PSU	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	National Bureau of Economic Research	4P01AG039347-04	\$ 20,612
93	RD	4/1/2018-3/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	New York University	NATIONAL INSTITUTES OF HEALTH	\$ 58,673
93	RD	F8621-02	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	New York University	NATIONAL INSTITUTES OF HEALTH	\$ 10,531
93	RD	4/1/2018-3/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Northwestern University	NATIONAL INSTITUTES OF HEALTH	\$ 65,628
93	RD	60036745	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Northwestern University	5U01NS080818-03	\$ 12,959
93	RD	NCORP04-STURGEON	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	NRG Oncology	NATIONAL CANCER INSTITUTE	\$ 648
93	RD	16-143-100551-010	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Old Dominion University	NATIONAL INSTITUTES OF HEALTH	\$ 3,990
93	RD	701-7137112	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Rhode Island Hospital	R01HL110791-05	\$ 53,222
93	RD	PSU R41DK105656	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Sidero Bioscience LLC	N/A	\$ 41,841
93	RD	1132270-2-74838 AMEND 4	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Stony Brook University, State University of New York	5R01HD07335205	\$ 191,429
93	RD	080-18007-S23301	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Thomas Jefferson University	EUNICE KENNEDY SHRIVER NATIONAL	\$ 37,264
93	RD	100107-00007	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Tufts University	3UL1TR001064-05S1	\$ 22,994
93	RD	87017-1	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Alabama, The	HHSN2722011000161	\$ 18,990
93	RD	87017-2	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Alabama, The	HHSN2722011000161	\$ 5,075
93	RD	9891SC	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of California	5UM1AL1110498-04	\$ 17,334
93	RD	UCHC6-67063357 AMEND 2	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Connecticut	R01-DK103663	\$ 74,228
93	RD	5/1/2018-5/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Florida	NATIONAL INSTITUTES OF HEALTH	\$ 20,858
93	RD	2014-07266-01-00	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Illinois	1R21CA195543-01	\$ (16)
93	RD	SUBK00005527	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Michigan	N/A	\$ 15,166
93	RD	5/1/2018-4/30/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pennsylvania	NATIONAL INSTITUTES OF HEALTH	\$ 13,811
93	RD	572292 PO 3971345	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pennsylvania	R01-HD-091350-01	\$ 57,379
93	RD	0038682 (127179-1)	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pittsburgh	5U01HL123020-03	\$ (513)
93	RD	9011986 (130031-3)	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pittsburgh	6U1QHP28736-05-01	\$ 111,975
93	RD	9012549(128373-5)	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Pittsburgh	NATIONAL INSTITUTES OF HEALTH	\$ (7,023)
93	RD	417218/URFAO;GR510660	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Rochester	N/A	\$ 1,794

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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93	RD	6/1/2018-5/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Texas at San Antonio, The	NATIONAL INSTITUTES OF HEALTH	\$ 3,429
93	RD	3/1/2018-2/28/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Wisconsin	NATIONAL INSTITUTES OF HEALTH	\$ 75,627
93	RD	576K424	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Wisconsin	R01 HD080201-01A1	\$ 130,721
93	RD	6/1/2018-5/31/2019	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	University of Wisconsin	NATIONAL INSTITUTES OF HEALTH	\$ 22,302
93	RD	PT108771-SC104640	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Virginia Commonwealth University	PT108771-SC104640	\$ 492,355
93	RD	GR101891 (CON-80001103)	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Yale University	SU010HD055925-10	\$ 24,508
93	RD	GR101945 (CON-80001115)	National Institutes of Health - Non-Specified	Research and Development	\$ 16,372,459	\$ 570,397,776	N	Yale University	SU10HD055925-10	\$ 40,559
97	061		Centers for Homeland Security	Research and Development	\$ 10,000	\$ 570,397,776	N	Purdue University	2009-ST-061-CI0001	\$ 10,000
97	077		Homeland Security Research, Development, Testing, Evaluation, and Demonstration of Technologies Related to Nuclear Threat Detection	Research and Development	\$ 192,586	\$ 570,397,776	Y			\$ 144,765 \$ 192,586
97	RD	2014-DN-077-ARI078-05	Department of Homeland Security - Non-Specified	Research and Development	\$ 253,987	\$ 570,397,776	Y			\$ 108,487 \$ 253,987
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	Y			\$ 728,446 \$ 1,029,415
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	Johns Hopkins University	U.S. AGENCY FOR INTERNATIONAL	\$ 43,661
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	Solidarity Center	N/A	\$ 60,000
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	University of California, Davis	EPP-A-00-09-00004	\$ 115,811 \$ 288,261
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	AID-OAA-L-12-00002	\$ 54,265
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	AID-111-A-14-00003	\$ 5,242
98	001		USAID Foreign Assistance for Programs Overseas	Research and Development	\$ 1,552,822	\$ 570,397,776	N	Virginia Polytechnic Institute and State University	AID-OAA-L-15-00001	\$ 43,790
98	RD	S16056	Agency for International Development - Non-Specified	Research and Development	\$ 278,461	\$ 570,397,776	N	Kansas State University	AID-OAA-L-14-00006	\$ 166,047 \$ 234,355
98	RD	8000075676	Agency for International Development - Non-Specified	Research and Development	\$ 278,461	\$ 570,397,776	N	Purdue University	209673	\$ 9,103
98	RD	8000075678 (209673)	Agency for International Development - Non-Specified	Research and Development	\$ 278,461	\$ 570,397,776	N	Purdue University	U.S. AGENCY FOR INTERNATIONAL	\$ 16,986
98	RD	09-002945-105	Agency for International Development - Non-Specified	Research and Development	\$ 278,461	\$ 570,397,776	N	University of California, Davis	EPP-A-00-09-00004	\$ 18,017
99	RD	11-C-0120	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (2)
99	RD	11-C-0323	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (2,029)
99	RD	11-G-5134	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (644)
99	RD	11-G-5134/0005	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 793,364 \$ 857,705
99	RD	12-G-2087/0005	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (6,022)
99	RD	12-G-2807 TO 0008	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 60
99	RD	12-G-3050/0013	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 280,245 \$ 293,238
99	RD	12-G-3050/0014	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (174)
99	RD	12-G-3050/0015	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 637,048 \$ 703,439
99	RD	12-G-3050/0016	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 485,918 \$ 527,322
99	RD	12-G-3050/0017	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 3,929,009 \$ 4,327,121
99	RD	13-C-0086	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 2,955
99	RD	13-G-2500	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (2,969)
99	RD	13-G-2500 DO 0005	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ (69)
99	RD	13-G-2500/0006	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 647,341
99	RD	13-G-4323/0004	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 77,546
99	RD	13-G-4323/18F4018	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 43,562
99	RD	13-G-4323/18F4027	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 57,864
99	RD	14-C-0150	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 877,790 \$ 5,430,873
99	RD	14-C-0188	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 892 \$ 16,443
99	RD	15-G-2529 TO 0001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 263,431
99	RD	15-G-2529/0001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 402,868
99	RD	16021000002 TO 001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 598,875
99	RD	16-C-0089	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 333,288 \$ 3,461,900
99	RD	16-C-0188	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 22,888
99	RD	17-G-2163/0001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 247,895

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
99 RD	2006-0864810-000	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 674
99 RD	201324G001/0007	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 227,087	\$ 246,730
99 RD	2013324G001 TO 007	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 208,066	\$ 228,789
99 RD	2013324G001/006	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 23,971
99 RD	2013324G001/007	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 17,248	\$ 17,248
99 RD	2013324G001/009	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 12,304
99 RD	2013324G001/012	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 250,000	\$ 704,176
99 RD	2015233G004	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 43,102	\$ 586,806
99 RD	2016034G004	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 3,644,194
99 RD	2016-160200002-003	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y			\$ 299,550	\$ 319,330
99 RD	2016-16021000002 TO 001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 22,645
99 RD	2016-16021000002/0005	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 4,852
99 RD	2016-16021000002/004	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 320,065
99 RD	201616021000002-002	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 13,084
99 RD	2016-16021000002-02	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 154,212
99 RD	2016-1602100002-003	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 236,580
99 RD	26539	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 78,756
99 RD	5317	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 290,196
99 RD	U.S. GOVERNMENT	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ (4)
99 RD	US GOVT	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ (420)
99 RD	USG	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ 16,484
99 RD	USG 0004	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ (856)
99 RD	USG 2807	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ (278,260)
99 RD	USG CLIN 0006	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	Y				\$ (201)
99 RD	TA4, NRTC-FY15-D-01A/2015-328	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Advanced Technology International	W1QKN-10-9-0003		\$ 103,873
99 RD	20180043	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	CFD Research Corporation	W81XWH-17-C-0216		\$ 70,637
99 RD	SC1505801	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Charles River Analytics Inc.	FA8650-16-C-6680		\$ 70,047
99 RD	140500084 SLIN 001	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Concurrent Technologies Corporation	14-C-0144		\$ (15)
99 RD	140500084 SLIN 002	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Concurrent Technologies Corporation	14-C-0144		\$ 179
99 RD	140900106	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Concurrent Technologies Corporation	14-C-0144		\$ 796,890
99 RD	195108	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Downstream Strategies, LLC	APPALACHIAN REGIONAL COMMISSIO		\$ 20,526
99 RD	146587	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	EMMES Corporation, The	IU01NS026835-01A1		\$ 78
99 RD	25961	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	General Dynamics Corporation	B16-2016166G003		\$ 52,048
99 RD	B16Y358	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	General Dynamics Corporation	B15-2015105G001		\$ 13,634
99 RD	JRS-000079 PR-50591	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	IAP Worldwide Services, Inc.	W15P7T-10-D-D416		\$ 48,483
99 RD	200393 PO 1863-5161-003	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Innoveering LLC	N6833517C0249		\$ 14,999
99 RD	124818/TO 135787	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Johns Hopkins University	15-G-2133		\$ 1,167
99 RD	437-01	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Kessler Foundation	HC0185		\$ 8,303
99 RD	G02756 PO P0189769	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Miami University	G-1617-04-0372		\$ 45,131
99 RD	674-110933-1	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	MRIGlobal	HR 15-59		\$ 46,837
99 RD	702-111020-3	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	MRIGlobal	17-84		\$ 22,638
99 RD	XDI-7-70106-01	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	National Renewable Energy Laboratory	DE-AC36-08GO28308 - NREL		\$ 19,332
99 RD	7500145432	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Northrop Grumman Corporation	NRO000-16-C-0340		\$ 89,492
99 RD	186245	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Quadrant Biosciences Inc.	1 R41 MH111347-01		\$ 15,736
99 RD	LI00163644 CLIN 0003AA	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A	\$ 57,226	\$ 71,556
99 RD	LI00163644 CLIN 0011	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A		\$ 155,767
99 RD	LI00163644 CLIN 0011AA	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A		\$ (6)
99 RD	LI00163644 CLIN 0015	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A		\$ 84,537
99 RD	LI00163644 CLIN 0022AA	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A		\$ 66,657
99 RD	LI00163644 CLIN 0024	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Raytheon Company	N/A	\$ 57,512	\$ 219,401

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
99 RD	PO #022610	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Roberts & Folkers Associates LLC	N/A		\$ 263
99 RD	1356879 PO 1760733	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Sandia National Laboratories	N/A		\$ 5,142
99 RD	S15-024-570090-PENN	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Texas A&M University	2011-0001-PA011		\$ 3,844
99 RD	4/1/2016-3/31/2018	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Tobacco Centers of Regulatory Science	P50 DA036107		\$ 12,050
99 RD	6/1/2016-6/30/2018	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Tobacco Centers of Regulatory Science	P50 DA036107		\$ 5,931
99 RD	8/1/2016-6/30/2018	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Tobacco Centers of Regulatory Science	P50 DA036107		\$ 5,760
99 RD	9597SC	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	University of California, San Francisco	SOC OF FAM PLANNING; SFPRF1010		\$ 54,454
99 RD	080189-16209 GRANT	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	University of Illinois	298347		\$ 11,144
99 RD	CODE AC542	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	University of Maryland	1NU27DD001155		\$ 1,263
99 RD	1500770	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Zeta Associates	09-C-0051		\$ 361,011
99 RD	090051SC-PSU-ARL-01	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Zeta Associates	4103369310		\$ 35,820
99 RD	369310SC-PSU-ARL-01	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Zeta Associates	4103369310		\$ 3,962
84 007	472660SC-PSU-ARL-01	United States Government - Non-Specified	Research and Development	\$ 27,151,343	\$ 570,397,776	N	Zeta Associates	4103369310		\$ 4,468,786
84 033		Federal Supplemental Educational Opportunity Grant	Student Financial Assistance	\$ 4,468,786	\$ 660,358,759	Y				\$ 2,459,834
84 033		Federal Work Study Program	Student Financial Assistance	\$ 2,459,834	\$ 660,358,759	Y				\$ 42,719,297
84 038		Federal Perkins Loan Program	Student Financial Assistance	\$ 42,719,297	\$ 660,358,759	Y				\$ 84,642,733
84 063		Federal Pell Grant Program	Student Financial Assistance	\$ 84,642,733	\$ 660,358,759	Y				\$ 526,047,591
84 268		Federal Direct Loan Program	Student Financial Assistance	\$ 526,047,591	\$ 660,358,759	Y				\$ 20,518
93 342		Health Professions Student Loan Program	Student Financial Assistance	\$ 20,518	\$ 660,358,759	Y				\$ 897,549
10 001		Agricultural Research Basic and Applied Research	N/A	\$ 897,549	\$ -	N	University of Arkansas	58-8250-4-002		\$ 125,641
10 170		Specialty Crop Block Grant Program - Farm Bill	N/A	\$ 202,442	\$ -	N	Commonwealth of Pennsylvania	4100077037		\$ 48,090
10 170		Specialty Crop Block Grant Program - Farm Bill	N/A	\$ 202,442	\$ -	N	Commonwealth of Pennsylvania	44155554		\$ 17,423
10 170		Specialty Crop Block Grant Program - Farm Bill	N/A	\$ 202,442	\$ -	N	Commonwealth of Pennsylvania	44166071		\$ 7,447
10 170		Specialty Crop Block Grant Program - Farm Bill	N/A	\$ 202,442	\$ -	N	Commonwealth of Pennsylvania	44166076		\$ 13,882
10 215		Sustainable Agriculture Research and Education	N/A	\$ 390,326	\$ -	N	University of Vermont, The	2014-38640-22161		\$ 35,466
10 215		Sustainable Agriculture Research and Education	N/A	\$ 390,326	\$ -	N	University of Vermont, The	20163864025380		\$ 15,437
10 215		Sustainable Agriculture Research and Education	N/A	\$ 390,326	\$ -	N	University of Vermont, The	2016-38640-25380		\$ 24,289
10 303		Integrated Programs	N/A	\$ 725,896	\$ -	N	Utah State University	2017-51150-27127		\$ 5,663
10 309		Specialty Crop Research Initiative	N/A	\$ 526,783	\$ -	N	Cornell University	2015-51181-24393		\$ 16,443
10 310		Agriculture and Food Research Initiative (AFRI)	N/A	\$ 7,450,189	\$ -	Y				\$ 346,301
10 310		Agriculture and Food Research Initiative (AFRI)	N/A	\$ 7,450,189	\$ -	N	Ohio State University, The	2015-68004-23131		\$ 49,491
10 311		Beginning Farmer and Rancher Development Program	N/A	\$ 271,449	\$ -	Y				\$ 125,868
10 311		Beginning Farmer and Rancher Development Program	N/A	\$ 271,449	\$ -	N	University of Vermont, The	20157001723898		\$ 1,491
10 328		National Food Safety Training, Education, Extension, Outreach, and Technical Assistance Competitive Grants Program	N/A	\$ 27,641	\$ -	Y				\$ 27,641
10 329		Crop Protection and Pest Management Competitive Grants Program	N/A	\$ 261,763	\$ -	Y				\$ 160,122
10 329		Crop Protection and Pest Management Competitive Grants Program	N/A	\$ 261,763	\$ -	N	University of Vermont, The	2014-70006-22516		\$ 5,323
10 351		Rural Business Development Grant	N/A	\$ 8,325	\$ -	Y				\$ 8,325
10 458		Crop Insurance Education in Targeted States	N/A	\$ 42,758	\$ -	N	Commonwealth of Pennsylvania	44166063		\$ 8,452
10 458		Crop Insurance Education in Targeted States	N/A	\$ 42,758	\$ -	N	Commonwealth of Pennsylvania	ME# 44166062		\$ 34,306
10 460		Risk Management Education Partnerships	N/A	\$ 20,185	\$ -	Y				\$ 20,185
10 500		Cooperative Extension Service	N/A	\$ 23,819,354	\$ -	Y			\$ 37,712	\$ 10,694,402
10 500		Cooperative Extension Service	N/A	\$ 23,819,354	\$ -	N	University of Delaware	2015-49200-24225		\$ 7,923
10 500		Cooperative Extension Service	N/A	\$ 23,819,354	\$ -	N	University of Nebraska	2013-48712-21516		\$ 339,331
10 547		Professional Standards for School Nutrition Employees	N/A	\$ 3,192	\$ -	N	Commonwealth of Pennsylvania	4300569610 4400015622		\$ 3,192
10 558		Child and Adult Care Food Program	N/A	\$ 94,704	\$ -	N	Commonwealth of Pennsylvania	N/A		\$ 94,704
10 559		Summer Food Service Program for Children	Child Nutrition	\$ 23,456	\$ 23,456	N	Commonwealth of Pennsylvania	PDE		\$ 23,456
10 560		State Administrative Expenses for Child Nutrition	N/A	\$ 339,707	\$ -	N	Commonwealth of Pennsylvania	4300518332		\$ 202,303
10 560		State Administrative Expenses for Child Nutrition	N/A	\$ 339,707	\$ -	N	Commonwealth of Pennsylvania	4300518342		\$ 24,468
10 560		State Administrative Expenses for Child Nutrition	N/A	\$ 339,707	\$ -	N	Commonwealth of Pennsylvania	4300524648		\$ 112,936
10 561		State Administrative Matching Grants for the Supplemental Nutrition Assistance Program	SNAP	\$ 25,796,125	\$ 25,796,125	N	Commonwealth of Pennsylvania	4100069151	\$ 17,892,602	\$ 25,796,125
10 574		Team Nutrition Grants	N/A	\$ 74,969	\$ -	N	Commonwealth of Pennsylvania	4300487036 4400008014		\$ 36,506
10 575		Farm to School Grant Program	N/A	\$ 138,891	\$ -	N	Commonwealth of Pennsylvania	4300515725		\$ 138,891
10 674		Wood Utilization Assistance	N/A	\$ 100,324	\$ -	Y			\$ 61,249	\$ 100,324
10 675		Urban and Community Forestry Program	N/A	\$ 391,472	\$ -	Y				\$ 391,472

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
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CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
10 678		Forest Stewardship Program	N/A	\$ 164,789	\$ -	Y				\$ 147,823
10 868		Rural Energy for America Program	N/A	\$ 6,782	\$ -	Y				\$ 6,782
10 902		Soil and Water Conservation	N/A	\$ 26,257	\$ -	Y				\$ 25,386
10 912		Environmental Quality Incentives Program	N/A	\$ 192,461	\$ -	Y				\$ 115,081
10 U01	4300565807 4400015622	Agricultural Research Service - Non-Specified	N/A	\$ 66,453	\$ -	N	Commonwealth of Pennsylvania	4300565807 4400015622		\$ 66,453
10 U02	13-CS-11242302-099	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 3,077
10 U02	16-CR-11138100-009	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 5,933
10 U02	2015-68004-23179	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 41,077
10 U02	2017-41590-27105	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 69,722
10 U02	2017-70020-27236	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 16,672
10 U02	44-027-0246000376	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 27,049
10 U02	5/1/2018-4/30/2019	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	Y				\$ 75,232
10 U02	202657	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	N	University of Delaware	N/A		\$ 113
10 U02	42667	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	N	University of Delaware	2015-49200-24225	\$ 1,403	\$ 5,595
10 U02	ENE15-136-29994	Department of Agriculture - Non-Specified	N/A	\$ 248,726	\$ -	N	University of Vermont, The	2015-38640-23777		\$ 4,256
11 U01	ED17HDQ0200061	Department of Commerce - Non-Specified	N/A	\$ 100,000	\$ -	Y				\$ 100,000
11 U02	ED15HDQ0200022	Economic Development Administration - Non-Specified	N/A	\$ 286,953	\$ -	Y				\$ 160,989
11 U02	ED16PHI3030065	Economic Development Administration - Non-Specified	N/A	\$ 286,953	\$ -	Y				\$ 25,954
11 U02	ED16PHI3030065_YR2	Economic Development Administration - Non-Specified	N/A	\$ 286,953	\$ -	Y				\$ 100,010
11 U03	70NANB17H089	National Institute of Standards and Technology - Non-Specified	N/A	\$ 82,707	\$ -	Y				\$ 308
11 U03	DA IPA AGREE_#IP1803	National Institute of Standards and Technology - Non-Specified	N/A	\$ 82,707	\$ -	Y				\$ 82,399
12 900		Language Grant Program	N/A	\$ 36,889	\$ -	Y				\$ 36,889
12 905		CyberSecurity Core Curriculum	N/A	\$ 70,925	\$ -	Y				\$ 55,150
12 U01	DARPA IPA GALAMBOS 2015-2017	Defense Advanced Research Projects Agency - Non-Specified	N/A	\$ 423,733	\$ -	Y				\$ (199,512)
12 U01	IPA	Defense Advanced Research Projects Agency - Non-Specified	N/A	\$ 423,733	\$ -	Y				\$ 389,864
12 U01	IPA AGREEMENT	Defense Advanced Research Projects Agency - Non-Specified	N/A	\$ 423,733	\$ -	Y				\$ 233,381
12 U02	SP4703-17-C-0021	Defense Contract Audit Agency - Non-Specified	N/A	\$ 95,000	\$ -	Y				\$ 95,000
12 U03	7/28/2016-6/29/2018	Defense Intelligence Agency - Non-Specified	N/A	\$ 261,333	\$ -	Y				\$ 261,333
12 U04	DA IPA AGREE	Department of the Army - Non-Specified	N/A	\$ 383,220	\$ -	Y				\$ 164,516
12 U04	IPA AGREEMENT	Department of the Army - Non-Specified	N/A	\$ 383,220	\$ -	Y				\$ 218,704
12 U05	9/1/2015-8/31/2017	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 66,310
12 U05	9/1/2017-8/31/2019	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 226,969
12 U05	DALY IPA 15	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 40,884
12 U05	DN IPA AHMED 2015-2016	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ (8,973)
12 U05	IPA AGREEMENT WENCHEL 2016	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 296,012
12 U05	N49606-16-IP-002UA	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 254,506
12 U05	NONE	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 240,610
12 U05	UNNUMBERED	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 154,203
12 U05	UNNUMBERED IPA	Department of the Navy - Non-Specified	N/A	\$ 1,527,556	\$ -	Y				\$ 257,035
12 U06	H98230-17-1-0024	National Security Agency - Non-Specified	N/A	\$ 74,448	\$ -	Y				\$ 74,448
12 U07	176706	United States Marine Corps - Non-Specified	N/A	\$ 194,084	\$ -	Y				\$ 59,035
12 U07	IPA AGREEMENT	United States Marine Corps - Non-Specified	N/A	\$ 194,084	\$ -	Y				\$ (1,411)
12 U07	LONG IPA 2017	United States Marine Corps - Non-Specified	N/A	\$ 194,084	\$ -	Y				\$ 136,460
16 582		Crime Victim Assistance/Discretionary Grants	N/A	\$ 161,187	\$ -	N	Commonwealth of Pennsylvania	26563		\$ 161,187
16 726		Juvenile Mentoring Program	N/A	\$ 60,392	\$ -	N	National 4-H Council	OFFICE OF JUVENILE JUSTICE AND		\$ 60,392
16 738		Edward Byrne Memorial Justice Assistance Grant Program	N/A	\$ 121,731	\$ -	N	Commonwealth of Pennsylvania	4400015622		\$ 101,810
16 738		Edward Byrne Memorial Justice Assistance Grant Program	N/A	\$ 121,731	\$ -	N	Pennsylvania Coalition Against Domestic Violence	N/A		\$ 19,921
16 U01	208765	Department of Justice - Non-Specified	N/A	\$ 154	\$ -	N	National 4-H Council	OFFICE OF JUVENILE JUSTICE AND		\$ 154
16 U02	2016-NE-BX-K001	Office of Justice Programs - Non-Specified	N/A	\$ 735,861	\$ -	Y				\$ 735,861
17 245		Trade Adjustment Assistance	N/A	\$ 1,662,082	\$ -	N	Commonwealth of Pennsylvania	PDLI		\$ 1,662,082
17 258		WIOA Adult Program	WIOA	\$ 19,413	\$ 87,245	N	SCPa Works	N/A		\$ 19,413
17 259		WIOA Youth Activities	WIOA	\$ 67,832	\$ 87,245	N	Lchigh Valley Workforce Investment Board, Inc.	N/A		\$ 67,832
17 600		Mine Health and Safety Grants	N/A	\$ 82,857	\$ -	N	Commonwealth of Pennsylvania	4300523410		\$ 82,857
17 603		Brookwood-Sago Grant	N/A	\$ 87,691	\$ -	Y			\$ 31,027	\$ 87,691

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
17	U01	2145	Department of Labor - Non-Specified	N/A	\$ (793)	\$ -	N	Private Industry Council of Lehigh Valley, Inc.	N/A	\$ (501)
17	U01	PIC 2115	Department of Labor - Non-Specified	N/A	\$ (793)	\$ -	N	Private Industry Council of Lehigh Valley, Inc.	N/A	\$ (292)
19	040		Public Diplomacy Programs	N/A	\$ 12,000	\$ -	N	Partners of the Americas	SPE5001GR032	\$ 12,000
19	U01	S-LMAQM-16-CA-1221	Department of State - Non-Specified	N/A	\$ 388,138	\$ -	Y			\$ 120,692
19	U01	IIE0138_PSU_7.1.17	Department of State - Non-Specified	N/A	\$ 388,138	\$ -	N	Institute of International Education	U.S. DEPARTMENT OF STATE	\$ 267,446
20	106		Airport Improvement Program	N/A	\$ 1,733,129	\$ -	Y			\$ 1,733,129
39	U01	GS-21F-025CA	General Services Administration - Non-Specified	N/A	\$ 145,887	\$ -	Y			\$ 145,887
43	008		Education	N/A	\$ 660,156	\$ -	N	Texas State University	NNX14AQ30A	\$ 48,793
43	U01	NNX17AK77G	National Aeronautics and Space Administration - Non-Specified	N/A	\$ 10,000	\$ -	Y			\$ 10,000
45	024		Promotion of the Arts Grants to Organizations and Individuals	N/A	\$ 37,362	\$ -	Y			\$ 29,992
47	049		Mathematical and Physical Sciences	N/A	\$ 19,506,678	\$ -	Y			\$ 140,400
47	074		Biological Sciences	N/A	\$ 10,077,370	\$ -	Y			\$ 7,217
47	076		Education and Human Resources	N/A	\$ 7,792,011	\$ -	Y			\$ 506,886
47	U01	AGS-1723290	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 5
47	U01	AST 16-14690	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 6,023
47	U01	DEB 16-19072	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 5,000
47	U01	HRD 16-49184	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 15,084
47	U01	ICER-1736333	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 394,967
47	U01	MCB 16-15032	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	Y			\$ 101
47	U01	181223 PO081721	National Science Foundation - Non-Specified	N/A	\$ 423,926	\$ -	N	North Carolina Central University	N/A	\$ 2,746
59	037		Small Business Development Centers	N/A	\$ 2,768	\$ -	N	University of Pennsylvania	N/A	\$ 2,768
59	058		Federal and State Technology Partnership Program	N/A	\$ 959	\$ -	N	University of Pennsylvania	N/A	\$ 959
59	U01	1/1/2018-12/31/2018	Small Business Administration - Non-Specified	N/A	\$ 135,451	\$ -	N	University of Pennsylvania	SMALL BUSINESS ADMINISTRATION	\$ 49,282
59	U01	5-70945-N	Small Business Administration - Non-Specified	N/A	\$ 135,451	\$ -	N	University of Pennsylvania	U.S. SMALL BUSINESS ADMINISTRATION	\$ 86,169
64	U01	7/1/2016-12/31/2099	Department of Veterans Affairs - Non-Specified	N/A	\$ 7,246	\$ -	Y			\$ 7,246
66	436		Surveys, Studies, Investigations, Demonstrations, and Training Grants and Cooperative Agreements - Section 104(b)(3) of the Clean Water Act	N/A	\$ 14,194	\$ -	N	Rural Community Assistance Partnership	X7-83628001	\$ 13,000
66	436		Surveys, Studies, Investigations, Demonstrations, and Training Grants and Cooperative Agreements - Section 104(b)(3) of the Clean Water Act	N/A	\$ 14,194	\$ -	N	Rural Community Assistance Partnership	X7-83697601-1	\$ 1,194
66	466		Chesapeake Bay Program	N/A	\$ 582,629	\$ -	N	Juniata County Conservation District	US EPA	\$ 1,201
66	466		Chesapeake Bay Program	N/A	\$ 582,629	\$ -	N	National Fish and Wildlife Foundation	0602.15.049722	\$ 122,213
66	708		Pollution Prevention Grants Program	N/A	\$ 17,393	\$ -	Y			\$ 17,393
66	U01	NP96344901	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	Y			\$ 109,171
66	U01	188666	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Beaver County, Pennsylvania	4100073724	\$ 1
66	U01	188425 PRIME 4100073722	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Delaware County, Pennsylvania	4100073722	\$ 8,974
66	U01	200643; PRIME 4100076964	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Delaware County, Pennsylvania	N/A	\$ 48,547
66	U01	SA-2017-55	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	eXtension Foundation	X8-83698001-0	\$ 959
66	U01	4100076424	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Franklin County, Pennsylvania	7C-FA-28.0	\$ 28,146
66	U01	188429	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Northampton County, Pennsylvania	4100073588	\$ 386
66	U01	189860	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Sustainable Chesapeake	0602.16.053565	\$ 26,075
66	U01	206395	Environmental Protection Agency - Non-Specified	N/A	\$ 222,429	\$ -	N	Sustainable Chesapeake	N/A	\$ 170
81	041		State Energy Program	N/A	\$ 656,386	\$ -	N	Commonwealth of Pennsylvania	4300512838	\$ 889
81	041		State Energy Program	N/A	\$ 656,386	\$ -	N	Commonwealth of Pennsylvania	4300552873	\$ 73,734
81	041		State Energy Program	N/A	\$ 656,386	\$ -	N	Commonwealth of Pennsylvania	4300555735 4400015622	\$ 431,272
81	U01	4300512722	Department of Energy - Non-Specified	N/A	\$ 718	\$ -	N	Commonwealth of Pennsylvania	4300512722	\$ 718
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	064-170039	\$ 7,006
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	064-170040	\$ 654
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	064-180039	\$ 235,797
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	099-170001	\$ 1,771
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	099-170002	\$ 1,772
84	002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	099-170003	\$ 2,181

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
84 002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	099-18-0002		\$ 113,395
84 002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	099-18-0005		\$ 195,323
84 002		Adult Education - Basic Grants to States	N/A	\$ 721,491	\$ -	N	Commonwealth of Pennsylvania	FA-064-18-0040		\$ 163,592
84 021		Overseas Programs - Group Projects Abroad	N/A	\$ 8,026	\$ -	Y				\$ 8,026
84 027		Special Education Grants to States	Special Education (IDEA)	\$ 536,572	\$ 536,572	N	Commonwealth of Pennsylvania	062-170042		\$ 73,142
84 027		Special Education Grants to States	Special Education (IDEA)	\$ 536,572	\$ 536,572	N	Commonwealth of Pennsylvania	062-180042		\$ 458,097
84 027		Special Education Grants to States	Special Education (IDEA)	\$ 536,572	\$ 536,572	N	Lancaster-Lebanon IU13	N/A		\$ 5,333
84 042		TRIO Student Support Services	TRIO	\$ (156)	\$ 2,583,677	Y				\$ (156)
84 044		TRIO Talent Search	TRIO	\$ 895,256	\$ 2,583,677	Y				\$ 895,256
84 047		TRIO Upward Bound	TRIO	\$ 1,103,852	\$ 2,583,677	Y				\$ 1,102,661
84 047		TRIO Upward Bound	TRIO	\$ 1,103,852	\$ 2,583,677	N	Northwest Tri-County Intermediate Unit	N/A		\$ 1,191
84 048		Career and Technical Education - Basic Grants to States	N/A	\$ 236,422	\$ -	N	Commonwealth of Pennsylvania	119 170003		\$ 6,108
84 048		Career and Technical Education - Basic Grants to States	N/A	\$ 236,422	\$ -	N	Commonwealth of Pennsylvania	FA-119-18-0003		\$ 230,314
84 066		TRIO Educational Opportunity Centers	TRIO	\$ 315,462	\$ 2,583,677	Y				\$ 315,462
84 126		Rehabilitation Services Vocational Rehabilitation Grants to States	N/A	\$ 681,519	\$ -	N	Commonwealth of Pennsylvania	N/A		\$ 681,519
84 129		Rehabilitation Long-Term Training	N/A	\$ 241,762	\$ -	Y				\$ 241,762
84 217		TRIO McNair Post-Baccalaureate Achievement	TRIO	\$ 269,263	\$ 2,583,677	Y				\$ 269,263
84 305		Education Research, Development and Dissemination	N/A	\$ 1,630,965	\$ -	Y				\$ 853,742
84 325		Special Education - Personnel Development to Improve Services and Results for Children with Disabilities	N/A	\$ 208,972	\$ -	Y				\$ 208,972
84 365		English Language Acquisition State Grants	N/A	\$ 450,160	\$ -	Y			\$ 100,271	\$ 434,081
84 367		Supporting Effective Instruction State Grants	N/A	\$ 32,162	\$ -	N	National Writing Project	U.S. DEPARTMENT OF EDUCATION		\$ 1,829
84 367		Supporting Effective Instruction State Grants	N/A	\$ 32,162	\$ -	N	National Writing Project	U367D150004		\$ 24,139
84 407		Transition Programs for Students with Intellectual Disabilities into Higher Education	N/A	\$ 11,540	\$ -	N	Millersville University	P407A100034		\$ 11,540
84 U01 4/1/1998-12/31/2099		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	Y				\$ 64,713
84 U01 H325D170024		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	Y				\$ 130,355
84 U01 H325K170130		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	Y				\$ 88,281
84 U01 P335A170009		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	Y				\$ 125,873
84 U01 T365Z110200_ACTION 8		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	Y			\$ 4,177	\$ 24,085
84 U01 064-170039		Department of Education - Non-Specified	N/A	\$ 433,093	\$ -	N	Commonwealth of Pennsylvania	064-170039		\$ (214)
93 107		Area Health Education Centers	N/A	\$ 696,726	\$ -	Y			\$ 545,476	\$ 696,726
93 113		Environmental Health	N/A	\$ 2,406,949	\$ -	Y				\$ 27,976
93 241		State Rural Hospital Flexibility Program	N/A	\$ 391,107	\$ -	Y				\$ 391,107
93 243		Substance Abuse and Mental Health Services Projects of Regional and National Significance	N/A	\$ 10,252	\$ -	N	York/Adams MH-IDD Program	1-U79-SM061750-01		\$ 10,252
93 262		Occupational Safety and Health Program	N/A	\$ 172,283	\$ -	N	Marshfield Clinic Research Institute	5U54OH009568-08		\$ 25,185
93 262		Occupational Safety and Health Program	N/A	\$ 172,283	\$ -	N	Marshfield Clinic Research Institute	5U54OH009568-09		\$ 31,797
93 273		Alcohol Research Programs	N/A	\$ 2,463,125	\$ -	Y				\$ 2,818
93 279		Drug Abuse and Addiction Research Programs	N/A	\$ 6,412,110	\$ -	Y				\$ 31,912
93 350		National Center for Advancing Translational Sciences	N/A	\$ 4,264,750	\$ -	Y				\$ 98,815
93 358		Advanced Education Nursing Traineeships	N/A	\$ 313	\$ -	Y				\$ 313
93 398		Cancer Research Manpower	N/A	\$ 306,105	\$ -	Y				\$ 210,818
93 558		Temporary Assistance for Needy Families	TANF	\$ 36,329	\$ 36,329	N	Lchigh Valley Workforce Investment Board, Inc.	1502PATANF		\$ 36,329
93 563		Child Support Enforcement	N/A	\$ 3,372,691	\$ -	N	Commonwealth of Pennsylvania	4000018811		\$ 3,372,691
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Berks County Intermediate Unit	U.S. DEPARTMENT OF HEALTH AND		\$ 528,294
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Child Care Consultants, Inc.	DHHS		\$ 7,733
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Child Care Consultants, Inc.	N/A		\$ 121,680
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Georgia Department of Early Care and Learning	N/A		\$ 23,021
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Georgia Department of Early Care and Learning	U.S. DEPARTMENT OF HEALTH AND		\$ 18,498
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Northwest Institute of Research	4100029171		\$ 1
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Public Health Management Corporation	N/A		\$ (1,185)
93 575		Child Care and Development Block Grant	CCDF	\$ 729,540	\$ 714,989	N	Vermont Department for Children and Families	10601VTCCDF		\$ 16,947

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

CFDA Number	Additional Award Identification	Name of Federal Award	Cluster Name	Federal Program Total	Cluster Total	Direct Award	Name of Pass-through Entity	Identifying number assigned by the Pass-through Entity	Amount Passed Through to Subrecipients	Amount Expended
93 758		Preventive Health and Health Services Block Grant funded solely with Prevention and Public Health Funds (PPHF)	N/A	\$ 264,183	\$ -	N	Commonwealth of Pennsylvania	4100074815		\$ 264,183
93 837		Cardiovascular Diseases Research	N/A	\$ 5,398,140	\$ -	Y				\$ 29,076
93 847		Diabetes, Digestive, and Kidney Diseases Extramural Research	N/A	\$ 6,190,000	\$ -	N	University of South Florida	N/A		\$ 2,580
93 855		Allergy and Infectious Diseases Research	N/A	\$ 13,822,178	\$ -	Y				\$ 31,088
93 859		Biomedical Research and Research Training	N/A	\$ 13,787,948	\$ -	Y				\$ 215,656
93 879		Medical Library Assistance	N/A	\$ 238,925	\$ -	Y				\$ 198,307
93 879		Medical Library Assistance	N/A	\$ 238,925	\$ -	N	University of Pittsburgh	5UG4LM012342-03		\$ 7,309
93 884		Grants for Primary Care Training and Enhancement	N/A	\$ 492,352	\$ -	Y				\$ 492,352
93 913		Grants to States for Operation of State Offices of Rural Health	N/A	\$ 170,139	\$ -	Y				\$ 170,139
93 940		HIV Prevention Activities Health Department Based	N/A	\$ 625,397	\$ -	N	Commonwealth of Pennsylvania	4400015622 4300536547	\$ 43,369	\$ 375,581
93 940		HIV Prevention Activities Health Department Based	N/A	\$ 625,397	\$ -	N	Commonwealth of Pennsylvania	4400015622 4300570616		\$ 249,816
93 945		Assistance Programs for Chronic Disease Prevention and Control	N/A	\$ 189,851	\$ -	N	Commonwealth of Pennsylvania	4100074815		\$ 189,851
93 976		Primary Care Medicine and Dentistry Clinician Educator Career Development Awards Program	N/A	\$ 150,688	\$ -	Y				\$ 150,688
93 989		International Research and Research Training	N/A	\$ 444,021	\$ -	Y			\$ 28,184	\$ 96,283
93 994		Maternal and Child Health Services Block Grant to the States	N/A	\$ 6,718	\$ -	N	Commonwealth of Pennsylvania	4100065723		\$ 6,718
93 U01	4400015622 4300557862 1	Centers for Disease Control and Prevention - Non-Specified	N/A	\$ 5,417	\$ -	N	Commonwealth of Pennsylvania	4400015622 4300557862 1		\$ 5,417
93 U02	HHSP233201750005A LINE ITEM #1	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	Y				\$ 19,292
93 U02	ATB-202	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	AtoxBio	U.S. DEPARTMENT OF HEALTH AND		\$ 14,270
93 U02	4100062657	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	Commonwealth of Pennsylvania	4100062657		\$ (58)
93 U02	1C1CMS331021-01-00	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	Joslin Diabetes Center	N/A		\$ 75,593
93 U02	200773	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	Northwest Institute of Research	4100029171		\$ 16,107
93 U02	200868	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	Northwest Institute of Research	4100029171		\$ 8,603
93 U02	178209	Department of Health and Human Services - Non-Specified	N/A	\$ 156,523	\$ -	N	Pennsylvania Association of Community Health Centers	N/A		\$ 22,716
93 U03	4300564573 4400015622	Food and Drug Administration - Non-Specified	N/A	\$ 8,324	\$ -	N	Commonwealth of Pennsylvania	4300564573 4400015622		\$ 8,324
93 U04	1 F30 CA214010-01	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	Y				\$ 30,509
93 U04	1 TL1 TR002016-01	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	Y				\$ 35,206
93 U04	2 R13 DA020334-11	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	Y				\$ 18,684
93 U04	219446	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	Daiichi Sankyo, Inc.	DS1040-A-U103		\$ 3,703
93 U04	RAD-1FN-CS-003	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	FKD Therapies Oy	CTO 1833 LOG 186214		\$ 1,800
93 U04	LTS13930	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	Genzyme Corporation	CTO1677		\$ 5,135
93 U04	BRE 15-016	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	Hoosier Cancer Research Network	CTO #1825		\$ 42,358
93 U04	MK-3475-062-0047	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	Merck & Co., Inc.	180069 CTO 1835		\$ 2,000
93 U04	TRINITI-CLEEX11XUS29	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	Novartis	139556		\$ 20,103
93 U04	0039845 (127931)	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	University of Pittsburgh	5R01AA023260-02		\$ 1,000
93 U04	0039845 (127931)	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	University of Pittsburgh	5R01AA023260-03		\$ 1,338
93 U04	0039845 (127931)	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	University of Pittsburgh	5R01AA0232603-03		\$ 2,000
93 U04	0050256(129197-24)	National Institutes of Health - Non-Specified	N/A	\$ 165,336	\$ -	N	University of Pittsburgh	5UG4LM012342-02		\$ 1,500
97 U01	6/7/2016-7/31/2017	Department of Homeland Security - Non-Specified	N/A	\$ 5,575	\$ -	Y				\$ 5,575
98 001		USAID Foreign Assistance for Programs Overseas	N/A	\$ 1,552,822	\$ -	N	Michigan State University	AID-OAA-A-13-00006	\$ 15,653	\$ 28,188
98 U01	001	Agency for International Development - Non-Specified	N/A	\$ 15,008	\$ -	N	Cultivating New Frontiers in Agriculture	U.S. AGENCY FOR INTERNATIONAL		\$ 15,008
99 U01	PC-15-8-067	Peace Corps - Non-Specified	N/A	\$ 11,252	\$ -	Y				\$ 11,252
99 U02	199405	United States Government - Non-Specified	N/A	\$ 114,776	\$ -	N	Child Care Consultants, Inc.	DHS		\$ 21,200
99 U02	CUDC-907-201	United States Government - Non-Specified	N/A	\$ 114,776	\$ -	N	Curis, Inc.	CUDC-907-201		\$ 4,000
99 U02	4100076981	United States Government - Non-Specified	N/A	\$ 114,776	\$ -	N	Lancaster County, Pennsylvania	N/A		\$ 3,000
99 U02	R2810-ONC-1423	United States Government - Non-Specified	N/A	\$ 114,776	\$ -	N	Regeneron Pharmaceuticals, Inc.	PSHC1 15-053		\$ 86,576
								Total	\$ 77,731,659	\$ 1,297,045,039

See notes to schedule of expenditures of federal awards.

THE PENNSYLVANIA STATE UNIVERSITY
NOTES TO SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
FOR THE YEAR ENDED JUNE 30, 2018

1. BASIS OF PRESENTATION AND ACCOUNTING

The purpose of the Schedule of Expenditures of Federal Awards ("the Schedule") is to present a summary of the activities of The Pennsylvania State University ("the University") for the year ended June 30, 2018 which have been financed by the United States Government. The federal award information is presented in accordance with the provisions of Office of Management and Budget ("OMB") Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* ("Uniform Guidance"). The Schedule is prepared on the accrual basis of accounting.

Expenditures for federal awards are determined using the cost accounting principles and procedures set forth in OMB Circular A-21, *Cost Principles for Educational Institutions*, and the uniform administrative requirements as set forth in OMB Circular A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations*, or the administrative and cost principles contained in Uniform Guidance, as applicable. Amounts passed through to subrecipients represent amounts paid to a third party for effort performed in support of the University's federal awards. The University has not elected to use the 10% de minimis indirect cost rate.

Because the Schedule presents only a selected portion of the activities of the University, it is not intended to, and does not, present the financial position, results of operations or cash flows of the University.

The University's consolidated financial statements are prepared on the accrual basis of accounting in conformity with accounting principles generally accepted in the United States of America (GAAP). The Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) is the source of Authoritative GAAP. The University's consolidated financial statements include statements of financial position, activities and cash flows. In accordance with FASB ASC requirements, net assets and the changes in net assets are classified as permanently restricted, temporarily restricted or unrestricted.

Negative amounts shown on the Schedule represent adjustments or credits made in the normal course of business to amounts reported as expenditures in prior years. Pass-through entity identifying numbers are presented where available.

2. FEDERAL LOAN PROGRAMS

The University administers the following federal loan programs:

Title	CFDA No.	Federal Capital Contribution for the Year Ended June 30, 2018	Loan Expenditures And Disbursements	Outstanding Balance at June 30, 2018
Federal Perkins Loan Program	84.038	\$ -	\$ -	\$ 42,719,297
Health Professions Student Loan Program	93.342	-	-	20,518

The above expenditures for the loan programs include disbursements and expenditures such as loans to students and administrative expenditures. The Schedule only includes administrative allowances charged to the loan program.

3. FEDERAL DIRECT LOAN PROGRAM

The University participates in the Federal Direct Student Loan Program (CFDA No. 84.268) including Federal Stafford Loans and Federal PLUS Loans. Loan disbursements under the program for the year ended June 30, 2018 totaled \$526,047,591.

4. SUMMARY SCHEDULE

Programs:	CFDA No.	Subcontract Expenditures	Expenditures
Research and development cluster:			
Direct funding		\$ 55,661,536	\$ 505,441,576
Pass-through funds – Commonwealth of Pennsylvania		147,336	2,641,087
Pass-through funds – other institutions		<u>3,148,024</u>	<u>62,315,113</u>
Total research and development cluster		<u>58,956,896</u>	<u>570,397,776</u>
Student financial aid cluster (direct):			
Department of Education:			
Federal Supplemental Educational Opportunity Grant	84.007	-	4,468,786
Federal Work Study Program	84.033	-	2,459,834
Federal Perkins Loan Program	84.038	-	42,719,297
Federal Pell Grant Program	84.063	-	84,642,733
Federal Direct Loan Program	84.268	-	526,047,591
Department of Health and Human Services:			
Health Professions Student Loan Program	93.342	-	<u>20,518</u>
Total student financial aid cluster		-	<u>660,358,759</u>
Other programs:			
TRIO cluster		-	2,583,677
Child Support Enforcement	93.563	-	3,372,691
Other direct funding		799,286	25,146,774
Other pass-through funds – Commonwealth of Pennsylvania		17,935,971	32,413,472
Other pass-through funds – other institutions		<u>39,506</u>	<u>2,771,890</u>
Total other programs		<u>18,774,763</u>	<u>66,288,504</u>
Total programs		<u>\$ 77,731,659</u>	<u>\$1,297,045,039</u>

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

To the Board of Trustees of
The Pennsylvania State University
University Park, Pennsylvania

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the consolidated financial statements of The Pennsylvania State University and subsidiaries (the "University"), which comprise the consolidated statement of financial position as of June 30, 2018, and the related consolidated statements of activities and cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated October 23, 2018.

The consolidated financial statements of the University include various subsidiaries as outlined in Note 1 to the consolidated financial statements. The Penn State Health subsidiaries, including Saint Joseph's Regional Health Network and Medical Group, Nittany Health, Inc., Penn State Community Medical Group, Central PA Health Network, and 4814 Development Assoc., Inc. and The Corporation for Penn State subsidiaries, including Penn State Recycling Markets Center, Research Park Management Corporation, The Pennsylvania State University Philanthropic Fund, Ben Franklin Technology Center of Central & Northern PA, Penn State Research Foundation, Research Park Hotel Corporation, and Nittany Insurance Company, are audited in accordance with generally accepted auditing standards, but were not audited in accordance with *Government Auditing Standards* and accordingly this report does not include reporting on internal control over financial reporting or instances of reportable noncompliance associated with these entities.

Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered the University's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable

possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's consolidated financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of consolidated financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Deloitte & Touche LLP

October 23, 2018



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INDEPENDENT AUDITORS' REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM; REPORT ON INTERNAL CONTROL OVER COMPLIANCE; AND REPORT ON SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS REQUIRED BY THE UNIFORM GUIDANCE

To the Board of Trustees of
The Pennsylvania State University
University Park, Pennsylvania

Report on Compliance for Each Major Federal Program

We have audited The Pennsylvania State University and subsidiaries (the "University") compliance with the types of compliance requirements described in the OMB Compliance Supplement that could have a direct and material effect on each of the University's major federal programs for the year ended June 30, 2018. The University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

Our audit, described below, did not include the operations of the Penn State Health subsidiaries, including Saint Joseph's Regional Health Network and Medical Group, Nittany Health, Inc., Penn State Community Medical Group, Central PA Health Network, and 4814 Development Assoc., Inc. and The Corporation for Penn State subsidiaries, including Penn State Recycling Markets Center, Research Park Management Corporation, The Pennsylvania State University Philanthropic Fund, Ben Franklin Technology Center of Central & Northern PA, Penn State Research Foundation, Research Park Hotel Corporation, and Nittany Insurance Company, because these subsidiaries did not receive federal awards subject to audit in accordance with the Uniform Grant Guidance. The University's consolidated financial statements include the Pennsylvania College of Technology ("PCT"), which received \$55,247,872 in federal awards which are not included in the University's Schedule of Expenditures of Federal Awards during the year ended June 30, 2018. Our audit, described below, did not include the operation of the PCT because PCT engaged other auditors to perform an audit in accordance with OMB Compliance Supplement for the year ended June 30, 2018.

Management's Responsibility

Management is responsible for compliance with the federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for each of the University's major federal programs based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in

Government Auditing Standards, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination of the University's compliance.

Opinion on Each Major Federal Program

In our opinion, the University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2018.

Report on Internal Control Over Compliance

Management of the University is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the University's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of University's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. *A material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency in internal control over compliance* is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the

requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the consolidated financial statements of the University as of and for the year ended June 30, 2018, and have issued our report thereon dated October 23, 2018, which contained an unmodified opinion on those consolidated financial statements. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditure of federal awards is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

Deloitte & Touche LLP

March 15, 2019

THE PENNSYLVANIA STATE UNIVERSITY

SCHEDULE OF FINDINGS AND QUESTIONED COSTS FOR THE YEAR ENDED JUNE 30, 2018

SECTION I—SUMMARY OF AUDITORS' RESULTS		
<i>Financial Statements</i>		
Type of report the auditor issued on whether the financial statements audited were prepared in accordance with GAAP: UNMODIFIED		
Internal control over financial reporting:		
• Material weakness (es) identified?	☐ yes	☒ no
• Significant deficiency (ies) identified?	☐ yes	☒ none reported
Noncompliance material to financial statements noted?	☐ yes	☒ no
Federal Awards		
Internal control over major federal programs:		
• Material weakness (es) identified?	☐ yes	☒ no
• Significant deficiency (ies) identified?	☐ yes	☒ none reported
Type of auditor's report issued on compliance for major federal programs: Unmodified.		
Any audit findings disclosed that are required to be reported in accordance with 2 CFR 200.516(a)?	☐ yes	☒ no
Identification of major federal programs:		
• Research and Development Cluster - (See "Schedule of Expenditures of Federal Awards" for Cluster CFDA) • Child Support Enforcement – CFDA 93.563 • TRIO Cluster – (See "Schedule of Expenditures of Federal Awards" for Cluster CFDA)		
Dollar threshold used to distinguish between Type A and Type B programs:	\$ 3,891,135	
Auditee qualified as low-risk auditee?	☒ yes	☐ no

SECTION II — FINANCIAL STATEMENT FINDINGS

The audit disclosed no items required to be disclosed in this section.

SECTION III—FEDERAL AWARD FINDINGS AND QUESTIONED COSTS

The audit disclosed no items required to be disclosed in this section.

THE PENNSYLVANIA STATE UNIVERSITY

SCHEDULE OF STATUS ON PRIOR YEAR FINDINGS FOR THE YEAR ENDED JUNE 30, 2018

Prior year audit Schedule of Findings and Questioned Costs did not contain any findings; therefore no items required to be reported in this section.
