

Form 5500 Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Annual Return/Report of Employee Benefit Plan This form is required to be filed for employee benefit plans under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and sections 6057(b) and 6058(a) of the Internal Revenue Code (the Code). ▶ Complete all entries in accordance with the instructions to the Form 5500.	OMB Nos. 1210-0110 1210-0089 2022 This Form is Open to Public Inspection
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Part I	Annual Report Identification Information
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>	
A This return/report is for:	☐ a multiemployer plan ☐ a multiple-employer plan (Filers checking this box must attach a list of participating employer information in accordance with the form instructions.) ☒ a single-employer plan ☐ a DFE (specify) ____
B This return/report is:	☐ the first return/report ☐ the final return/report ☐ an amended return/report ☐ a short plan year return/report (less than 12 months)
C If the plan is a collectively-bargained plan, check here.	☐
D Check box if filing under:	☒ Form 5558 ☐ automatic extension ☐ the DFVC program ☐ special extension (enter description)
E If this is a retroactively adopted plan permitted by SECURE Act section 201, check here.	☐

Part II Basic Plan Information —enter all requested information		
1a Name of plan <u>THE ACADEMY OF NATURAL SCIENCES PENSION PLAN</u>	1b	Three-digit plan number (PN) ▶ <u>001</u>
2a Plan sponsor's name (employer, if for a single-employer plan) Mailing address (include room, apt., suite no. and street, or P.O. Box) City or town, state or province, country, and ZIP or foreign postal code (if foreign, see instructions) <u>ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA</u> <u>THE ACADEMY OF NATURAL SCIENCES OF DREXEL UNIVERSITY</u> <u>1900 BENJAMIN FRANKLIN PARKWAY</u> <u>PHILADELPHIA, PA 19103</u>	1c	Effective date of plan <u>01/01/1957</u>
	2b	Employer Identification Number (EIN) <u>23-1352000</u>
	2c	Plan Sponsor's telephone number <u>215-299-1000</u>
	2d	Business code (see instructions) <u>712100</u>

Caution: A penalty for the late or incomplete filing of this return/report will be assessed unless reasonable cause is established.

Under penalties of perjury and other penalties set forth in the instructions, I declare that I have examined this return/report, including accompanying schedules, statements and attachments, as well as the electronic version of this return/report, and to the best of my knowledge and belief, it is true, correct, and complete.

SIGN HERE	Filed with authorized/valid electronic signature.	10/11/2023	JOYCE VUOCOLO
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE			
	Signature of employer/plan sponsor	Date	Enter name of individual signing as employer or plan sponsor
SIGN HERE			
	Signature of DFE	Date	Enter name of individual signing as DFE

For Paperwork Reduction Act Notice, see the Instructions for Form 5500.

Form 5500 (2022)
v. 220413

3a Plan administrator's name and address ☒ Same as Plan Sponsor		3b Administrator's EIN
		3c Administrator's telephone number
4 If the name and/or EIN of the plan sponsor or the plan name has changed since the last return/report filed for this plan, enter the plan sponsor's name, EIN, the plan name and the plan number from the last return/report: a Sponsor's name c Plan Name		4b EIN 4d PN
5 Total number of participants at the beginning of the plan year		5 254
6 Number of participants as of the end of the plan year unless otherwise stated (welfare plans complete only lines 6a(1) , 6a(2) , 6b , 6c , and 6d).		
a(1) Total number of active participants at the beginning of the plan year		6a(1) 27
a(2) Total number of active participants at the end of the plan year		6a(2) 25
b Retired or separated participants receiving benefits		6b 131
c Other retired or separated participants entitled to future benefits.....		6c 85
d Subtotal. Add lines 6a(2) , 6b , and 6c		6d 241
e Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.		6e 9
f Total. Add lines 6d and 6e		6f 250
g Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item).....		6g
h Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested.....		6h 0
7 Enter the total number of employers obligated to contribute to the plan (only multiemployer plans complete this item)		7
8a If the plan provides pension benefits, enter the applicable pension feature codes from the List of Plan Characteristics Codes in the instructions: 1A 1I		
b If the plan provides welfare benefits, enter the applicable welfare feature codes from the List of Plan Characteristics Codes in the instructions:		
9a Plan funding arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	9b Plan benefit arrangement (check all that apply) (1) ☐ Insurance (2) ☐ Code section 412(e)(3) insurance contracts (3) ☒ Trust (4) ☐ General assets of the sponsor	
10 Check all applicable boxes in 10a and 10b to indicate which schedules are attached, and, where indicated, enter the number attached. (See instructions)		
a Pension Schedules (1) ☒ R (Retirement Plan Information) (2) ☐ MB (Multiemployer Defined Benefit Plan and Certain Money Purchase Plan Actuarial Information) - signed by the plan actuary (3) ☒ SB (Single-Employer Defined Benefit Plan Actuarial Information) - signed by the plan actuary	b General Schedules (1) ☒ H (Financial Information) (2) ☐ I (Financial Information – Small Plan) (3) ☐ 0 A (Insurance Information) (4) ☒ C (Service Provider Information) (5) ☐ D (DFE/Participating Plan Information) (6) ☐ G (Financial Transaction Schedules)	

Part III Form M-1 Compliance Information (to be completed by welfare benefit plans)

11a If the plan provides welfare benefits, was the plan subject to the Form M-1 filing requirements during the plan year? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

If "Yes" is checked, complete lines 11b and 11c.

11b Is the plan currently in compliance with the Form M-1 filing requirements? (See instructions and 29 CFR 2520.101-2.) ☐ Yes ☐ No

11c Enter the Receipt Confirmation Code for the 2022 Form M-1 annual report. If the plan was not required to file the 2022 Form M-1 annual report, enter the Receipt Confirmation Code for the most recent Form M-1 that was required to be filed under the Form M-1 filing requirements. (Failure to enter a valid Receipt Confirmation Code will subject the Form 5500 filing to rejection as incomplete.)

Receipt Confirmation Code _____

SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). ▶ File as an attachment to Form 5500 or 5500-SF.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
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For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

▶ **Round off amounts to nearest dollar.**

▶ **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan <u>THE ACADEMY OF NATURAL SCIENCES PENSION PLAN</u>	B Three-digit plan number (PN) ▶ <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF <u>ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA</u>	D Employer Identification Number (EIN) <u>23-1352000</u>
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B	F Prior year plan size: ☐ 100 or fewer ☒ 101-500 ☐ More than 500

Part I	Basic Information
1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2022</u>	
2 Assets:	
a Market value.....	2a <u>15917446</u>
b Actuarial value	2b <u>15268935</u>
3 Funding target/participant count breakdown	(1) Number of participants (2) Vested Funding Target (3) Total Funding Target
a For retired participants and beneficiaries receiving payment	<u>132</u> <u>9662125</u> <u>9662125</u>
b For terminated vested participants.....	<u>95</u> <u>5208496</u> <u>5208496</u>
c For active participants.....	<u>27</u> <u>1995315</u> <u>1995315</u>
d Total	<u>254</u> <u>16865936</u> <u>16865936</u>
4 If the plan is in at-risk status, check the box and complete lines (a) and (b)..... ☐	
a Funding target disregarding prescribed at-risk assumptions.....	4a
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	4b
5 Effective interest rate.....	5 <u>5.34</u> %
6 Target normal cost	
a Present value of current plan year accruals.....	6a <u>0</u>
b Expected plan-related expenses	6b <u>280000</u>
c Total (line 6a + line 6b)	6c <u>280000</u>

Statement by Enrolled Actuary

To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE		<u>09/18/2023</u>
	Signature of actuary	Date
<u>MARK T. DUNGAN</u>	Type or print name of actuary	<u>23-04980</u>
		Most recent enrollment number
<u>WILLIS TOWERS WATSON US LLC</u>	Firm name	<u>215-246-7204</u>
		Telephone number (including area code)
<u>1735 MARKET STREET</u> <u>FLOOR 4</u> <u>PHILADELPHIA, PA 19103-7501</u>	Address of the firm	

If the actuary has not fully reflected any regulation or ruling promulgated under the statute in completing this schedule, check the box and see instructions ☐

Part II Beginning of Year Carryover and Prefunding Balances		
	(a) Carryover balance	(b) Prefunding balance
7 Balance at beginning of prior year after applicable adjustments (line 13 from prior year).....	0	0
8 Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9 Amount remaining (line 7 minus line 8)	0	0
10 Interest on line 9 using prior year's actual return of <u>11.13</u> %	0	0
11 Prior year's excess contributions to be added to prefunding balance:		
a Present value of excess contributions (line 38a from prior year).....		870691
b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.51</u> %.....		47975
b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
c Total available at beginning of current plan year to add to prefunding balance.....		918666
d Portion of (c) to be added to prefunding balance.....		0
12 Other reductions in balances due to elections or deemed elections	0	0
13 Balance at beginning of current year (line 9 + line 10 + line 11d – line 12).....	0	0

Part III Funding Percentages		
14 Funding target attainment percentage	14	90.53 %
15 Adjusted funding target attainment percentage	15	90.53 %
16 Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement.....	16	80.32 %
17 If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage.	17	%

Part IV Contributions and Liquidity Shortfalls					
18 Contributions made to the plan for the plan year by employer(s) and employees:					
(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
04/15/2022	360320	0			
07/15/2022	360320	0			
10/14/2022	360320	0			
01/20/2023	1600000	0			
			Totals ►	18(b)	2680960
				18(c)	0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:	
a Contributions allocated toward unpaid minimum required contributions from prior years.....	19a 0
b Contributions made to avoid restrictions adjusted to valuation date.	19b 0
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date.	19c 2565913
20 Quarterly contributions and liquidity shortfalls:	
a Did the plan have a "funding shortfall" for the prior year?..... ☒ Yes ☐ No	
b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☒ Yes ☐ No	
c If line 20a is "Yes," see instructions and complete the following table as applicable:	
Liquidity shortfall as of end of quarter of this plan year	
(1) 1st	(2) 2nd
0	0
(3) 3rd	(4) 4th
0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:			
a Segment rates:	1st segment: 4.75 %	2nd segment: 5.18 %	3rd segment: 5.92 %
			☐ N/A, full yield curve used
b Applicable month (enter code).....			21b 4
22 Weighted average retirement age			22 65
23 Mortality table(s) (see instructions) ☒ Prescribed - combined ☐ Prescribed - separate ☐ Substitute			

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment.		☐ Yes ☒ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment.		☐ Yes ☒ No
26 Demographic and benefit information		
a Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment.		☒ Yes ☐ No
b Is the plan required to provide a projection of expected benefit payments? If "Yes," see instructions regarding required attachment ...		☐ Yes ☒ No
27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment		27

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years.....	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a)	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29)	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6c).....		31a	280000
b Excess assets, if applicable, but not greater than line 31a		31b	0
32 Amortization installments:		Outstanding Balance	Installment
a Net shortfall amortization installment		1597001	161551
b Waiver amortization installment		0	0
33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount		33	
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)....		34	441551
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement.....	0	0	0
36 Additional cash requirement (line 34 minus line 35)		36	441551
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)		37	2565913
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)		38a	2124362
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances		38b	0
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)		39	0
40 Unpaid minimum required contributions for all years.....		40	0

Part IX Pension Funding Relief Under the American Rescue Plan Act of 2021 (See Instructions)

41 If an election was made to use the extended amortization rule for a plan year beginning on or before December 31, 2021, check the box to indicate the first plan year for which the rule applies. ☐ 2019 ☐ 2020 ☒ 2021
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SCHEDULE C (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Service Provider Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA). ▶ File as an attachment to Form 5500.	OMB No. 1210-0110
		2022
		This Form is Open to Public Inspection.

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan THE ACADEMY OF NATURAL SCIENCES PENSION PLAN	B Three-digit plan number (PN) ▶	001
C Plan sponsor's name as shown on line 2a of Form 5500 ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA	D Employer Identification Number (EIN) 23-1352000	

Part I	Service Provider Information (see instructions)
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You must complete this Part, in accordance with the instructions, to report the information required for **each person** who received, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of monetary value) in connection with services rendered to the plan or the person's position with the plan during the plan year. If a person received **only** eligible indirect compensation for which the plan received the required disclosures, you are required to answer line 1 but are not required to include that person when completing the remainder of this Part.

1 Information on Persons Receiving Only Eligible Indirect Compensation

- a Check "Yes" or "No" to indicate whether you are excluding a person from the remainder of this Part because they received only eligible indirect compensation for which the plan received the required disclosures (see instructions for definitions and conditions)..... ☒ Yes ☐ No
- b If you answered line 1a "Yes," enter the name and EIN or address of each person providing the required disclosures for the service providers who received only eligible indirect compensation. Complete as many entries as needed (see instructions).

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
VANGUARD GROUP, INC.
23-1945930

(b) Enter name and EIN or address of person who provided you disclosures on eligible indirect compensation
--

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2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

PRICEWATERHOUSECOOPERS LLP

13-4008324

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
10	NONE	57810	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

TOWERS WATSON PENNSYLVANIA, INC.

23-1159360

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11	NONE	38000	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

USI CONSULTING GROUP

06-1053228

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
13 38 15 50 17 64	RECORDKEEPER	29402	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

2. Information on Other Service Providers Receiving Direct or Indirect Compensation. Except for those persons for whom you answered "Yes" to line 1a above, complete as many entries as needed to list each person receiving, directly or indirectly, \$5,000 or more in total compensation (i.e., money or anything else of value) in connection with services rendered to the plan or their position with the plan during the plan year. (See instructions).

(a) Enter name and EIN or address (see instructions)

PNC BANK

25-1211909

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
21 51 27 50	TRUSTEE	25484	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

USI ADVISORS, INC

95 GLASTONBURY BLVD
SUITE 102
GLASTONBURY, CT 06033-6503

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
11 27 51	NONE	24063	Yes ☐ No ☒	Yes ☐ No ☐		Yes ☐ No ☐

(a) Enter name and EIN or address (see instructions)

(b) Service Code(s)	(c) Relationship to employer, employee organization, or person known to be a party-in-interest	(d) Enter direct compensation paid by the plan. If none, enter -0-.	(e) Did service provider receive indirect compensation? (sources other than plan or plan sponsor)	(f) Did indirect compensation include eligible indirect compensation, for which the plan received the required disclosures?	(g) Enter total indirect compensation received by service provider excluding eligible indirect compensation for which you answered "Yes" to element (f). If none, enter -0-.	(h) Did the service provider give you a formula instead of an amount or estimated amount?
			Yes ☐ No ☐	Yes ☐ No ☐		Yes ☐ No ☐

Part I Service Provider Information (continued)

3. If you reported on line 2 receipt of indirect compensation, other than eligible indirect compensation, by a service provider, and the service provider is a fiduciary or provides contract administrator, consulting, custodial, investment advisory, investment management, broker, or recordkeeping services, answer the following questions for (a) each source from whom the service provider received \$1,000 or more in indirect compensation and (b) each source for whom the service provider gave you a formula used to determine the indirect compensation instead of an amount or estimated amount of the indirect compensation. Complete as many entries as needed to report the required information for each source.

(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	
(a) Enter service provider name as it appears on line 2	(b) Service Codes (see instructions)	(c) Enter amount of indirect compensation
(d) Enter name and EIN (address) of source of indirect compensation	(e) Describe the indirect compensation, including any formula used to determine the service provider's eligibility for or the amount of the indirect compensation.	

Part II Service Providers Who Fail or Refuse to Provide Information

4 Provide, to the extent possible, the following information for each service provider who failed or refused to provide the information necessary to complete this Schedule.

(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide
(a) Enter name and EIN or address of service provider (see instructions)	(b) Nature of Service Code(s)	(c) Describe the information that the service provider failed or refused to provide

Part III	Termination Information on Accountants and Enrolled Actuaries (see instructions) (complete as many entries as needed)
a Name:	CHRISTOPHER S. ZUKAS
b EIN:	23-1352000
c Position:	ENROLLED ACTUARY
d Address:	WILLIS TOWERS WATSON US LLC 1735 MARKET STREET FLOOR 4 PHILADELPHIA, PA 19103
e Telephone:	215-246-6104

Explanation: ACTUARY RETIRED

a Name:	
b EIN:	
c Position:	
d Address:	
e Telephone:	

Explanation:

a Name:	
b EIN:	
c Position:	
d Address:	
e Telephone:	

Explanation:

a Name:	
b EIN:	
c Position:	
d Address:	
e Telephone:	

Explanation:

a Name:	
b EIN:	
c Position:	
d Address:	
e Telephone:	

Explanation:

SCHEDULE H (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Financial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA), and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
For calendar plan year 2022 or fiscal plan year beginning <u>01/01/2022</u> and ending <u>12/31/2022</u>		
A Name of plan <u>THE ACADEMY OF NATURAL SCIENCES PENSION PLAN</u>		B Three-digit plan number (PN) ► <u>001</u>
C Plan sponsor's name as shown on line 2a of Form 5500 <u>ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA</u>		D Employer Identification Number (EIN) <u>23-1352000</u>

Part I Asset and Liability Statement			
1 Current value of plan assets and liabilities at the beginning and end of the plan year. Combine the value of plan assets held in more than one trust. Report the value of the plan's interest in a commingled fund containing the assets of more than one plan on a line-by-line basis unless the value is reportable on lines 1c(9) through 1c(14). Do not enter the value of that portion of an insurance contract which guarantees, during this plan year, to pay a specific dollar benefit at a future date. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 1b(1), 1b(2), 1c(8), 1g, 1h, and 1i. CCTs, PSAs, and 103-12 IEs also do not complete lines 1d and 1e. See instructions.			
Assets		(a) Beginning of Year	(b) End of Year
a Total noninterest-bearing cash.....	1a		
b Receivables (less allowance for doubtful accounts):			
(1) Employer contributions.....	1b(1)	524186	1600000
(2) Participant contributions.....	1b(2)		
(3) Other.....	1b(3)	13793	16137
c General investments:			
(1) Interest-bearing cash (include money market accounts & certificates of deposit).....	1c(1)		
(2) U.S. Government securities	1c(2)		
(3) Corporate debt instruments (other than employer securities):			
(A) Preferred	1c(3)(A)		
(B) All other	1c(3)(B)		
(4) Corporate stocks (other than employer securities):			
(A) Preferred	1c(4)(A)		
(B) Common.....	1c(4)(B)		
(5) Partnership/joint venture interests	1c(5)	15153	17216
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants).....	1c(7)		
(8) Participant loans.....	1c(8)		
(9) Value of interest in common/collective trusts.....	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)		
(11) Value of interest in master trust investment accounts.....	1c(11)		
(12) Value of interest in 103-12 investment entities	1c(12)		
(13) Value of interest in registered investment companies (e.g., mutual funds).....	1c(13)	14051675	13509017
(14) Value of funds held in insurance company general account (unallocated contracts).....	1c(14)		
(15) Other	1c(15)	1337595	0

1d Employer-related investments:		(a) Beginning of Year	(b) End of Year
(1) Employer securities	1d(1)		
(2) Employer real property	1d(2)		
e Buildings and other property used in plan operation	1e		
f Total assets (add all amounts in lines 1a through 1e)	1f	15942402	15142370

Liabilities

g Benefit claims payable	1g		
h Operating payables	1h	114939	90670
i Acquisition indebtedness	1i		
j Other liabilities	1j		
k Total liabilities (add all amounts in lines 1g through 1j)	1k	114939	90670

Net Assets

l Net assets (subtract line 1k from line 1f)	1l	15827463	15051700
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Part II Income and Expense Statement

2 Plan income, expenses, and changes in net assets for the year. Include all income and expenses of the plan, including any trust(s) or separately maintained fund(s) and any payments/receipts to/from insurance carriers. Round off amounts to the nearest dollar. MTIAs, CCTs, PSAs, and 103-12 IEs do not complete lines 2a, 2b(1)(E), 2e, 2f, and 2g.

Income

		(a) Amount	(b) Total
a Contributions:			
(1) Received or receivable in cash from: (A) Employers	2a(1)(A)	2680960	
(B) Participants	2a(1)(B)		
(C) Others (including rollovers)	2a(1)(C)		
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines 2a(1)(A) , (B) , (C) , and line 2a(2)	2a(3)		2680960
b Earnings on investments:			
(1) Interest:			
(A) Interest-bearing cash (including money market accounts and certificates of deposit)	2b(1)(A)		
(B) U.S. Government securities	2b(1)(B)		
(C) Corporate debt instruments	2b(1)(C)		
(D) Loans (other than to participants)	2b(1)(D)		
(E) Participant loans	2b(1)(E)		
(F) Other	2b(1)(F)		
(G) Total interest. Add lines 2b(1)(A) through (F)	2b(1)(G)		0
(2) Dividends: (A) Preferred stock	2b(2)(A)		
(B) Common stock	2b(2)(B)		
(C) Registered investment company shares (e.g. mutual funds)	2b(2)(C)	603866	
(D) Total dividends. Add lines 2b(2)(A) , (B) , and (C)	2b(2)(D)		603866
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: (A) Aggregate proceeds	2b(4)(A)	321083	
(B) Aggregate carrying amount (see instructions)	2b(4)(B)	562414	
(C) Subtract line 2b(4)(B) from line 2b(4)(A) and enter result	2b(4)(C)		-241331
(5) Unrealized appreciation (depreciation) of assets: (A) Real estate	2b(5)(A)		
(B) Other	2b(5)(B)	164467	
(C) Total unrealized appreciation of assets. Add lines 2b(5)(A) and (B)	2b(5)(C)		164467

		(a) Amount	(b) Total
(6) Net investment gain (loss) from common/collective trusts	2b(6)		
(7) Net investment gain (loss) from pooled separate accounts	2b(7)		
(8) Net investment gain (loss) from master trust investment accounts	2b(8)		
(9) Net investment gain (loss) from 103-12 investment entities.....	2b(9)		
(10) Net investment gain (loss) from registered investment companies (e.g., mutual funds)	2b(10)		-2554395
c Other income	2c		
d Total income. Add all income amounts in column (b) and enter total	2d		653567
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	1081154	
(2) To insurance carriers for the provision of benefits	2e(2)		
(3) Other	2e(3)		
(4) Total benefit payments. Add lines 2e(1) through (3)	2e(4)		1081154
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	118284	
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)	23362	
(4) Other	2i(4)	206530	
(5) Total administrative expenses. Add lines 2i(1) through (4)	2i(5)		348176
j Total expenses. Add all expense amounts in column (b) and enter total	2j		1429330
Net Income and Reconciliation			
k Net income (loss). Subtract line 2j from line 2d	2k		-775763
l Transfers of assets:			
(1) To this plan	2l(1)		
(2) From this plan	2l(2)		

Part III Accountant's Opinion

3 Complete lines 3a through 3c if the opinion of an independent qualified public accountant is attached to this Form 5500. Complete line 3d if an opinion is not attached.

a The attached opinion of an independent qualified public accountant for this plan is (see instructions):

(1) ☒ Unmodified (2) ☐ Qualified (3) ☐ Disclaimer (4) ☐ Adverse

b Check the appropriate box(es) to indicate whether the IQPA performed an ERISA section 103(a)(3)(C) audit. Check both boxes (1) and (2) if the audit was performed pursuant to both 29 CFR 2520.103-8 and 29 CFR 2520.103-12(d). Check box (3) if pursuant to neither.

(1) ☐ DOL Regulation 2520.103-8 (2) ☐ DOL Regulation 2520.103-12(d) (3) ☒ neither DOL Regulation 2520.103-8 nor DOL Regulation 2520.103-12(d).

c Enter the name and EIN of the accountant (or accounting firm) below:

(1) Name: PRICEWATERHOUSECOOPERS LLP

(2) EIN: 13-4008324

d The opinion of an independent qualified public accountant is **not attached** because:

(1) ☐ This form is filed for a CCT, PSA, or MTIA. (2) ☐ It will be attached to the next Form 5500 pursuant to 29 CFR 2520.104-50.

Part IV Compliance Questions

4 CCTs and PSAs do not complete Part IV. MTIAs, 103-12 IEs, and GIAs do not complete lines 4a, 4e, 4f, 4g, 4h, 4k, 4m, 4n, or 5. 103-12 IEs also do not complete lines 4j and 4l. MTIAs also do not complete line 4l.

During the plan year:

a Was there a failure to transmit to the plan any participant contributions within the time period described in 29 CFR 2510.3-102? Continue to answer "Yes" for any prior year failures until fully corrected. (See instructions and DOL's Voluntary Fiduciary Correction Program.)

	Yes	No	Amount
4a		X	

	Yes	No	Amount
b Were any loans by the plan or fixed income obligations due the plan in default as of the close of the plan year or classified during the year as uncollectible? Disregard participant loans secured by participant's account balance. (Attach Schedule G (Form 5500) Part I if "Yes" is checked.)			
4b		X	
c Were any leases to which the plan was a party in default or classified during the year as uncollectible? (Attach Schedule G (Form 5500) Part II if "Yes" is checked.)			
4c		X	
d Were there any nonexempt transactions with any party-in-interest? (Do not include transactions reported on line 4a. Attach Schedule G (Form 5500) Part III if "Yes" is checked.)			
4d		X	
e Was this plan covered by a fidelity bond?	X		2000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?		X	
4f		X	
g Did the plan hold any assets whose current value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4g		X	
h Did the plan receive any noncash contributions whose value was neither readily determinable on an established market nor set by an independent third party appraiser?			
4h		X	
i Did the plan have assets held for investment? (Attach schedule(s) of assets if "Yes" is checked, and see instructions for format requirements.)	X		
4i	X		
j Were any plan transactions or series of transactions in excess of 5% of the current value of plan assets? (Attach schedule of transactions if "Yes" is checked and see instructions for format requirements.)	X		
4j	X		
k Were all the plan assets either distributed to participants or beneficiaries, transferred to another plan, or brought under the control of the PBGC?		X	
4k		X	
l Has the plan failed to provide any benefit when due under the plan?		X	
4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)			
4m			
n If 4m was answered "Yes," check the "Yes" box if you either provided the required notice or one of the exceptions to providing the notice applied under 29 CFR 2520.101-3.			
4n			

5a Has a resolution to terminate the plan been adopted during the plan year or any prior plan year? ☐ Yes ☒ No
If "Yes," enter the amount of any plan assets that reverted to the employer this year _____.

5b If, during this plan year, any assets or liabilities were transferred from this plan to another plan(s), identify the plan(s) to which assets or liabilities were transferred. (See instructions.)

5b(1) Name of plan(s)	5b(2) EIN(s)	5b(3) PN(s)

5c Was the plan a defined benefit plan covered under the PBGC insurance program at any time during this plan year? (See ERISA section 4021 and instructions.) ☒ Yes ☐ No ☐ Not determined
If "Yes" is checked, enter the My PAA confirmation number from the PBGC premium filing for this plan year 4078656.

SCHEDULE R (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Retirement Plan Information This schedule is required to be filed under sections 104 and 4065 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6058(a) of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection.
For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022		
A Name of plan THE ACADEMY OF NATURAL SCIENCES PENSION PLAN		B Three-digit plan number (PN) 001
C Plan sponsor's name as shown on line 2a of Form 5500 ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA		D Employer Identification Number (EIN) 23-1352000
Part I Distributions		
All references to distributions relate only to payments of benefits during the plan year.		
1 Total value of distributions paid in property other than in cash or the forms of property specified in the instructions.....		1 0
2 Enter the EIN(s) of payor(s) who paid benefits on behalf of the plan to participants or beneficiaries during the year (if more than two, enter EINs of the two payors who paid the greatest dollar amounts of benefits): EIN(s): 25-1211909		
Profit-sharing plans, ESOPs, and stock bonus plans, skip line 3.		
3 Number of participants (living or deceased) whose benefits were distributed in a single sum, during the plan year.....		3 0
Part II Funding Information (If the plan is not subject to the minimum funding requirements of section 412 of the Internal Revenue Code or ERISA section 302, skip this Part.)		
4 Is the plan administrator making an election under Code section 412(d)(2) or ERISA section 302(d)(2)? ☐ Yes ☒ No ☐ N/A If the plan is a defined benefit plan, go to line 8.		
5 If a waiver of the minimum funding standard for a prior year is being amortized in this plan year, see instructions and enter the date of the ruling letter granting the waiver. Date: Month _____ Day _____ Year _____ If you completed line 5, complete lines 3, 9, and 10 of Schedule MB and do not complete the remainder of this schedule.		
6 a Enter the minimum required contribution for this plan year (include any prior year accumulated funding deficiency not waived).....		6a
b Enter the amount contributed by the employer to the plan for this plan year.....		6b
c Subtract the amount in line 6b from the amount in line 6a. Enter the result (enter a minus sign to the left of a negative amount).....		6c
If you completed line 6c, skip lines 8 and 9.		
7 Will the minimum funding amount reported on line 6c be met by the funding deadline? ☐ Yes ☐ No ☐ N/A		
8 If a change in actuarial cost method was made for this plan year pursuant to a revenue procedure or other authority providing automatic approval for the change or a class ruling letter, does the plan sponsor or plan administrator agree with the change? ☐ Yes ☐ No ☒ N/A		
Part III Amendments		
9 If this is a defined benefit pension plan, were any amendments adopted during this plan year that increased or decreased the value of benefits? If yes, check the appropriate box. If no, check the "No" box..... ☐ Increase ☐ Decrease ☐ Both ☒ No		
Part IV ESOPs (see instructions). If this is not a plan described under section 409(a) or 4975(e)(7) of the Internal Revenue Code, skip this Part.		
10 Were unallocated employer securities or proceeds from the sale of unallocated securities used to repay any exempt loan?..... ☐ Yes ☐ No		
11 a Does the ESOP hold any preferred stock?..... ☐ Yes ☐ No		
b If the ESOP has an outstanding exempt loan with the employer as lender, is such loan part of a "back-to-back" loan? (See instructions for definition of "back-to-back" loan.)..... ☐ Yes ☐ No		
12 Does the ESOP hold any stock that is not readily tradable on an established securities market?..... ☐ Yes ☐ No		
For Paperwork Reduction Act Notice, see the Instructions for Form 5500.		
Schedule R (Form 5500) 2022 v. 220413		

Part V Additional Information for Multiemployer Defined Benefit Pension Plans

13 Enter the following information for each employer that (1) contributed more than 5% of total contributions to the plan during the plan year or (2) was one of the top-ten highest contributors (measured in dollars). See instructions. *Complete as many entries as needed to report all applicable employers.*

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

a Name of contributing employer

b EIN

c Dollar amount contributed by employer

d Date collective bargaining agreement expires (If employer contributes under more than one collective bargaining agreement, check box ☐ and see instructions regarding required attachment. Otherwise, enter the applicable date.) Month _____ Day _____ Year _____

e Contribution rate information (If more than one rate applies, check this box ☐ and see instructions regarding required attachment. Otherwise, complete lines 13e(1) and 13e(2).)

(1) Contribution rate (in dollars and cents) _____

(2) Base unit measure: ☐ Hourly ☐ Weekly ☐ Unit of production ☐ Other (specify): _____

14	Enter the number of deferred vested and retired participants (inactive participants), as of the beginning of the plan year, whose contributing employer is no longer making contributions to the plan for:		
	a The current plan year. Check the box to indicate the counting method used to determine the number of inactive participants: ☐ last contributing employer ☐ alternative ☐ reasonable approximation (see instructions for required attachment).....	14a	
	b The plan year immediately preceding the current plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14b	
	c The second preceding plan year. ☐ Check the box if the number reported is a change from what was previously reported (see instructions for required attachment)	14c	
15	Enter the ratio of the number of participants under the plan on whose behalf no employer had an obligation to make an employer contribution during the current plan year to:		
	a The corresponding number for the plan year immediately preceding the current plan year.....	15a	
	b The corresponding number for the second preceding plan year.....	15b	
16	Information with respect to any employers who withdrew from the plan during the preceding plan year:		
	a Enter the number of employers who withdrew during the preceding plan year	16a	
	b If line 16a is greater than 0, enter the aggregate amount of withdrawal liability assessed or estimated to be assessed against such withdrawn employers.....	16b	
17	If assets and liabilities from another plan have been transferred to or merged with this plan during the plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐		

Part VI	Additional Information for Single-Employer and Multiemployer Defined Benefit Pension Plans
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18	If any liabilities to participants or their beneficiaries under the plan as of the end of the plan year consist (in whole or in part) of liabilities to such participants and beneficiaries under two or more pension plans as of immediately before such plan year, check box and see instructions regarding supplemental information to be included as an attachment ☐
19	If the total number of participants is 1,000 or more, complete lines (a) through (c) a Enter the percentage of plan assets held as: Stock: _____% Investment-Grade Debt: _____% High-Yield Debt: _____% Real Estate: _____% Other: _____% b Provide the average duration of the combined investment-grade and high-yield debt: ☐ 0-3 years ☐ 3-6 years ☐ 6-9 years ☐ 9-12 years ☐ 12-15 years ☐ 15-18 years ☐ 18-21 years ☐ 21 years or more c What duration measure was used to calculate line 19(b)? ☐ Effective duration ☐ Macaulay duration ☐ Modified duration ☐ Other (specify): _____
20	PBGC missed contribution reporting requirements. If this is a multiemployer plan or a single-employer plan that is not covered by PBGC, skip line 20. a Is the amount of unpaid minimum required contributions for all years from Schedule SB (Form 5500) line 40 greater than zero? ☐ Yes ☐ No b If line 20a is "Yes," has PBGC been notified as required by ERISA sections 4043(c)(5) and/or 303(k)(4)? Check the applicable box: ☐ Yes. ☐ No. Reporting was waived under 29 CFR 4043.25(c)(2) because contributions equal to or exceeding the unpaid minimum required contribution were made by the 30th day after the due date. ☐ No. The 30-day period referenced in 29 CFR 4043.25(c)(2) has not yet ended, and the sponsor intends to make a contribution equal to or exceeding the unpaid minimum required contribution by the 30th day after the due date. ☐ No. Other. Provide explanation _____

The Academy of Natural Sciences Pension Plan

Financial Statements as of
December 31, 2022 and 2021
Supplemental Schedules as of and for the year ended
December 31, 2022, and
Report of Independent Auditors

The Academy of Natural Sciences Pension Plan

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December 31, 2022 and 2021

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*Note: All other schedules required by Section 2520.103-10 of the Department of Labor’s Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 (“ERISA”) have been omitted because they are not applicable.



Report of Independent Auditors

To the Administrator of The Academy of Natural Sciences Pension Plan

Opinion

We have audited the accompanying financial statements of The Academy of Natural Sciences Pension Plan (the "Plan"), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), which comprise the statements of net assets available for benefits as of December 31, 2022 and 2021, and the related statements of changes in net assets available for benefits for the years then ended, including the related notes (collectively referred to as the "financial statements").

In our opinion, the accompanying financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2022 and 2021, and the changes in its net assets available for benefits for the years then ended, in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Plan and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for one year after the date the financial statements are available to be issued.

Management is also responsible for maintaining a current plan instrument, including all plan amendments, administering the plan, and determining that the plan's transactions that are presented and disclosed in the financial statements are in conformity with the plan's provisions, including maintaining sufficient records with respect to each of the participants, to determine the benefits due or which may become due to such participants.



Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with US GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit 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 Plan's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Plan's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Supplemental Schedules Required by ERISA

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. Schedule H, line 4i - Schedule of Assets (Held at End of Year) as of December 31, 2022 and Schedule H, line 4j - Schedule of Reportable Transactions for the year ended December 31, 2022 ("supplemental schedules") are presented for purposes of additional analysis and are not a required part of the financial statements but are supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. 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 financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with US GAAS.



In forming our opinion on the supplemental schedules, we evaluated whether the supplemental schedules, including their form and content, are presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

In our opinion, the information in the accompanying supplemental schedules is fairly stated, in all material respects, in relation to the financial statements as a whole, and the form and content are presented in conformity with the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA.

A handwritten signature in cursive script that reads "PricewaterhouseCoopers LLP".

Philadelphia, Pennsylvania
October 6, 2023

The Academy of Natural Sciences Pension Plan
Statements of Net Assets Available for Benefits
December 31, 2022 and 2021

	<u>2022</u>	<u>2021</u>
Assets		
Investments, at fair value:		
Mutual funds	\$ 13,509,017	\$ 14,051,675
Hedge funds	-	1,337,595
Real assets fund	17,216	15,153
Total investments, at fair value	<u>13,526,233</u>	<u>15,404,423</u>
Receivables:		
Contribution receivable	1,600,000	524,186
Dividend Receivable	16,137	13,793
Total receivables	<u>1,616,137</u>	<u>537,979</u>
Total assets	<u>15,142,370</u>	<u>15,942,402</u>
Liabilities		
Accrued expenses	90,670	114,939
Net assets available for benefits	\$ <u>15,051,700</u>	\$ <u>15,827,463</u>

The accompanying notes are an integral part of these financial statements.

The Academy of Natural Sciences Pension Plan
Statements of Changes in Net Assets Available for Benefits
December 31, 2022 and 2021

	2022	2021
Additions to Net Assets		
Investment income (loss):		
Net appreciation (depreciation) in fair value of investments	\$ (2,631,259)	\$ 803,777
Dividends	511,834	433,515
Capital Gains Distribution	92,032	383,803
Other Income	-	4,229
Net investment income (loss)	<u>(2,027,393)</u>	<u>1,625,324</u>
Contributions	<u>2,680,960</u>	<u>1,510,212</u>
Total net additions	<u>653,567</u>	<u>3,135,536</u>
Deductions from Net Assets		
Benefits paid directly to participants	1,081,154	1,026,672
Administrative expenses	<u>348,176</u>	<u>332,999</u>
Total deductions	<u>1,429,330</u>	<u>1,359,671</u>
Increase (decrease) in Net Assets	(775,763)	1,775,865
Net Assets Available for Benefits		
Beginning of year	15,827,463	14,051,598
End of year	<u>\$ 15,051,700</u>	<u>\$ 15,827,463</u>

The accompanying notes are an integral part of these financial statements.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

1. Description of the Plan

The following brief description of the Academy of Natural Sciences Pension Plan (the “Plan”) is provided for general information purposes only. Participants should refer to the Plan agreement for more complete information.

General

The Plan is a defined benefit pension plan sponsored by The Academy of Natural Sciences of Philadelphia (the “Academy”), a non-profit subsidiary of Drexel University. Its investment portfolio is determined and overseen by the Investment Committee of Drexel University.

The Plan was frozen to new participants on December 31, 2009. Plan participants were given an option to participate in the new defined contribution 403(b) plan effective January 1, 2010. This Plan covers all full-time employees of the Academy with a minimum of one year of service prior to it being frozen. The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA). Any employee, retired employee or former employee who participated in the Plan on December 31, 2009, and who had rights to benefits at that time, continues to be a member of the Plan as of January 1, 2010, but will no longer accrue further benefits.

Benefits

As a result of the Setting Every Community Up for Retirement Act (“SECURE”) Act, the required minimum distribution age was increased to age 72 effective January 2020 and as a result, terminated participants must begin taking minimum distributions in April of the year following the year they turn age 72. However, for terminated participants who were age 70 ½ in 2019 or earlier, the required minimum distribution age of 70 ½ is unchanged.

Participants with five or more years of service are fully vested.

Eligible participants are entitled to annual pension benefits beginning at normal retirement age (65) equal to (1) minus (2) but not less than \$600 where:

- (1) 2% of final average annual compensation multiplied by years of credited service up to 25 years; plus .5% of final average annual compensation multiplied by years of credited service in excess of 25 years.
- (2) Past Social Security benefit multiplied by the ratio of past years of credited service, up to 25 years, to years of credited service at termination, up to 25 years; plus 2% of present Social Security benefit multiplied by the difference between a participant’s years of credited service, up to 25 years and past years of credited service up to 25 years.

Final average compensation is defined as the highest average annual compensation received by a participant for any five consecutive calendar years.

The Plan permits early retirement at age 55 with ten or more years of vested service. The annual benefit calculated is equal to the actuarial equivalent of the accrued benefit computed as noted above but based on final average compensation and years of credited service at date of determination and based on past and present Social Security benefits, assuming such date of determination is the termination date.

The Plan also allows for a lump sum distribution for any participant whose employment terminates with the Academy on or after January 1, 1985, and the lump sum present value of the participant’s

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

vested accrued benefit is \$5,000 or less. The lump sum benefit payment is made within 60 days of the end of the Plan year in which the employment terminates.

Death Benefits

If an active employee dies while eligible for vesting and was married throughout the one-year period before the employee's death, a death benefit is paid to the employee's spouse. The benefit payable to the spouse is equal to the amount which would have been paid to the employee if they retired on the later of their date of death or the date of their earliest possible retirement, having elected a 50% joint and survivor annuity with the spouse named as the survivor.

2. Summary of Significant Accounting Policies

Basis of Accounting

The accompanying financial statements are prepared on the accrual basis of accounting in conformity with generally accepted accounting principles in the United States of America ("GAAP"). Certain reclassifications of prior year's data have been made to conform to current year's presentation.

Estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, and changes therein; disclosure of contingent assets and liabilities; and the actuarial present value of accumulated Plan benefits at the date of the financial statements, and changes therein. Actual results could differ from those estimates.

Funding Policy

The Plan's funding policy is for the Academy to contribute an amount which will meet or exceed the annual ERISA minimum funding requirement. During 2022 and 2021, the Academy made contributions of \$2,680,960 and \$1,510,212, respectively. The Academy's contributions for 2022 and 2021 exceeded minimum funding requirements of ERISA.

Administrative Expenses

The Plan's expenses are paid by the Plan or the Academy, as provided by the Plan document. Expenses incurred in connection with the general administration of the Plan that are paid by the Plan are recorded as deductions in the accompanying Statements of Changes in Net Assets Available for Benefits. The Plan reimburses the Academy for administrative expenses that are paid directly by the Academy and are recorded as deductions in the accompanying Statements of Changes in Net Assets Available for Benefits. In addition, certain investment-related expenses are included in net appreciation of fair value of investments presented in the accompanying Statements of Changes in Net Assets Available for Benefits.

Benefits Paid

Benefit payments to participants are recorded upon distribution.

Valuation of Investments and Income Recognition

Investments are stated at fair value, as defined by Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 820. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The Investment Committee of Drexel University determines the Plan's valuation policies.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

2. Summary of Significant Accounting Policies (Continued)

The Plan presents in the Statements of Changes in Net Assets Available for Benefits the net appreciation in the fair value of its investments which consist of the realized gains or losses and the unrealized appreciation on those investments.

Purchases and sales of securities are recorded on a trade date basis. Investment income is recorded on an accrual basis. Dividends are recorded on the ex-dividend date.

3. Fair Value Measurements

FASB ASC 820, *Fair Value Measurement*, establishes a framework for measuring fair value. That framework provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). The three levels of the fair value hierarchy under FASB ASC 820 are described as follows:

- | | |
|---------|--|
| Level 1 | Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that the Plan has the ability to access. |
| Level 2 | Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable for the asset or liability, 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 for the asset or liability, including situations where there is little, if any, market activity for the asset or liability. Instruments categorized in Level 3 primarily consist of trusts and annuities. |

The asset's or liability's fair value measurement level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement. Valuation techniques used need to maximize the use of observable inputs and minimize the use of unobservable inputs.

The following is a description of the valuation methodologies used for assets at fair value.

Mutual Funds: Valued at the net asset value of shares held by the Plan at year end.

Hedge, Commingled, and Real Asset Funds: Valued at the net asset value (NAV) of shares held by the Plan at year end as a practical expedient.

The preceding methods may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, although the Academy believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

3. Fair Value Measurements (Continued)

The following tables present the financial instruments carried at fair value as of December 31, 2022 and 2021 according to the valuation hierarchy defined above:

Assets at fair value as of December 31, 2022

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds	\$ 13,509,017	\$ -	\$ -	\$ 13,509,017
*Investments measured at net asset value	-	-	-	17,216
	<u>\$ 13,509,017</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 13,526,233</u>

Assets at fair value as of December 31, 2021

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Mutual funds	\$ 14,051,675	\$ -	\$ -	\$ 14,051,675
*Investments measured at net asset value	-	-	-	1,352,748
	<u>\$ 14,051,675</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 15,404,423</u>

*In accordance with Subtopic 820-10, certain investments that were measured at net asset value per share (or its equivalent) have not been classified in the fair value hierarchy. The fair value amounts presented in this table are intended to permit reconciliation of the fair value hierarchy to the line items presented in the Statements of Net Assets Available for Benefits.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

3. Fair Value Measurements (Continued)

The following tables summarize investments measured at fair value based on the Net Asset Value per share used as a practical expedient as of December 31, 2022 and 2021:

December 31, 2022				
	Fair Value	Unfunded Commitments	Redemption Frequency (if Eligible)	Redemption Notice Period (If Applicable)
Real assets fund:				
Verdis Real Assets Fund, LP	17,216	61,721	Not Eligible	N/A
	<u>17,216</u>	<u>61,721</u>		
December 31, 2021				
	Fair Value	Unfunded Commitments	Redemption Frequency (if Eligible)	Redemption Notice Period (If Applicable)
Hedge funds:				
Voya Mortgage Investment Fund	1,337,595	N/A	Quarterly	65 days
Real assets fund:				
Verdis Real Assets Fund, LP	15,153	61,721	Not Eligible	N/A
	<u>1,352,748</u>	<u>61,721</u>		

4. Commitments

Capital commitments have been made to the remaining real estate fund of which \$61,721 was unfunded as of December 31, 2022.

5. Actuarial Valuation

Actuarial Present Value of Accumulated Plan Benefits

Accumulated plan benefits are those future periodic payments, including lump sum distributions, that are attributable under the Plan's provisions to the service employees have rendered. Accumulated plan benefits include benefits expected to be paid to (a) retired or terminated employees or their beneficiaries, (b) beneficiaries of employees who have died, and (c) present employees or their beneficiaries.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

5. Actuarial Valuation (Continued)

The actuarial present value of accumulated plan benefits is determined by an actuary from Willis Towers Watson. The amount results from applying actuarial assumptions to adjust the accumulated plan benefits to reflect the time value of money and the probability of payment between the valuation date and the expected valuation date of payment. The significant actuarial assumptions used in the valuation as of January 1, 2022 are as follows:

Cost Method – Unit Credit Cost Method

Interest Rate – 5.75% as of January 1, 2022

Mortality Basis – PRI-2012 mortality tables for employees and annuitants projected on a generational basis using Scale MP-2021 as of January 1, 2022.

Retirement Age – Age 65, or age on valuation date if greater than 65

The actuarial losses of \$111,213 were driven by changes in demographic data for participants in the Plan.

There were no changes in the actuarial assumptions from the prior year.

Were the Plan to terminate, different actuarial assumptions and other factors might be applicable in determining the actuarial present value of accumulated Plan benefits. The computations of the actual present value of accumulated Plan benefits were made as of January 1, 2022.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

5. Actuarial Valuation (Continued)

The actuarial present value of accumulated Plan benefits as of the beginning of the Plan year beginning January 1, 2022 were as follows:

	<u>January 1, 2022</u>
Vested benefits	
Participants currently receiving payments	\$ 9,316,953
Other participants	6,945,368
Total actuarial present value of accumulated plan benefits	<u>\$ 16,262,321</u>
	<u>January 1, 2021 - January 1, 2022</u>
Actuarial present value of accumulated plan benefits at January 1, 2021	<u>\$ 16,271,285</u>
Increase (decrease) during the year attributable to:	
Decrease in discount period	906,495
Benefits paid	(1,026,672)
Actuarial losses	111,213
Net decrease	<u>(8,964)</u>
Actuarial present value of accumulated plan benefits at January 1, 2022	<u>\$ 16,262,321</u>

6. Termination of Plan

Although it has not expressed any intention to do so, the Academy has the right under the Plan to discontinue its contributions at any time and to terminate the Plan subject to the provisions set forth in ERISA. However, if it should be terminated, the net assets of the Plan will be allocated and distribution will be made in accordance with the provisions of ERISA, generally to provide the following benefits in the order indicated:

- a. Annuity benefits that former employees or their beneficiaries have been receiving for at least three years, or that employees eligible to retire for that three-year period would have been receiving if they had retired with benefits in the normal form of annuity under the Plan.
- b. Other vested benefits insured by the Pension Benefit Guaranty Corporation ("PBGC"), a U.S. Governmental agency, up to the applicable limitations.
- c. All other vested benefits (that is, vested benefits not insured by the PBGC).
- d. All non-vested benefits.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

6. Termination of Plan (Continued)

Benefits to be provided via contracts under which the Academy is obligated to pay the benefits would be excluded for allocation purposes.

Certain benefits under the Plan are insured by the PBGC if the Plan terminates. Generally, the PBGC guarantees most vested normal age retirement benefits, early retirement benefits, and certain disability and survivor's pensions. However, PBGC does not guarantee all types of benefits under the Plan, and the amount of benefit protection is subject to certain limitations. Vested benefits under the Plan are guaranteed at the level in effect on the date of the Plan's termination.

Whether all participants receive their benefits should the Plan terminate at some future time will depend on the sufficiency, at that time, of the Plan's net assets to provide for accumulated benefit obligations and may also depend on the financial condition of the Plan sponsor and the level of benefits guaranteed by the PBGC.

7. Tax Status

The Plan has received a determination letter from the Internal Revenue Service ("IRS") dated November 7, 2016, stating that the Plan is qualified under Section 401(a) of the Internal Revenue Code ("the Code") and, therefore, the related trust is exempt from taxation. Once qualified, the Plan is required to operate in conformity with the Code to maintain its qualified status. The Plan Administrator believes the Plan is being operated in compliance with the applicable requirements of the Code and therefore believes the Plan is qualified and the related trust is tax-exempt.

GAAP requires Plan management to evaluate tax positions taken by the Plan and recognize a tax liability (or asset) if the Plan has taken an uncertain position that more likely than not would not be sustained upon examination by the Internal Revenue Service. The Plan Sponsor has analyzed tax positions taken by the Plan, and has concluded that as of December 31, 2022, there are no uncertain positions taken or expected to be taken that would require recognition of a liability (or asset) or disclosure in the financial statements. The Plan is subject to routine audits by taxing jurisdictions; however, there are currently no audits for any tax periods in progress. The Plan Sponsor believes it is no longer subject to the income tax examinations for years prior to 2019.

8. Risks and Uncertainties

The Plan invests in various investment securities. Investment securities are exposed to various risks such as interest rate, market, and credit risks. Due to the level of risks associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such change would materially affect the amounts in the statements of net assets available for benefits.

Plan contributions are made, and the actuarial present value of accumulated Plan benefits are reported based on certain assumptions pertaining to interest rates, inflation rates and employee demographics all of which are subject to change. Due to uncertainties inherent in the estimations and assumptions, it is at least reasonably possible that changes in the near term would be material to the financial statements.

The Academy of Natural Sciences Pension Plan

Notes to Financial Statements

December 31, 2022 and 2021

9. Party in Interest and Related-Party Transactions

Certain Plan investments are deposits in a money market account managed by PNC Bank. PNC Bank is a custodian and trustee as defined by the Plan and, therefore, these transactions qualify as party-in-interest transactions.

As mentioned in Note 2, plan administrative expenses are paid for by the Plan or by the Plan sponsor on behalf of the Plan. Expenses incurred by the Plan sponsor are reimbursed by the Plan. As of the plan year ended December 31, 2022 and 2021, the administrative expenses paid by the Plan Sponsor on behalf of the Plan were \$264,684 and \$214,748.

10. Subsequent Events

Subsequent events have been evaluated through October 6, 2023, the date the financial statements were available to be issued. It has been determined that no material events occurred which require additional disclosures in the financial statements.

Supplemental Schedules

The Academy of Natural Sciences Pension Plan
Schedule H, Line 4(i) – Schedule of Assets (Held at End of Year)
as of December 31, 2022

(a) Party in Interest	(b) Identity of Issue	(c) Description of Investment	(d) Cost	(e) Current Value
	Artisan International Value Fund	Mutual fund	1,775,230	2,305,522
	Brandywine Global Flexible Fund	Mutual fund	623,228	534,108
	PIMCO Real Return Bond Fund	Mutual fund	763,249	648,753
	Federated Treasury Obligation Institutional Shares Fund	Mutual fund	455,910	455,910
	Columbia Convertible Securities Fund	Mutual fund	1,147,950	756,689
	Van Eck CM Commodity Index Fund	Mutual fund	1,135,610	1,058,335
	Vanguard 500 Index Fund	Mutual fund	1,148,103	2,053,297
	Vanguard Reit Index Fund	Mutual fund	1,013,352	954,895
	Vanguard Extended Market Fund	Mutual fund	632,208	849,533
	Vanguard Intermediate Term Fund	Mutual fund	3,374,687	2,836,918
	Voya Securitized Credit Fund	Mutual fund	1,108,955	1,055,057
	Total Mutual Funds		13,178,482	13,509,017
	Verdis Real Assets Fund, LP	Real asset	24,603	17,216
	Total Real Assets Fund		24,603	17,216
			<u>\$ 13,203,085</u>	<u>\$ 13,526,233</u>

The Academy of Natural Sciences Pension Plan
Schedule H, Line 4(j) – Schedule of Reportable Transactions
for the year ended December 31, 2022

(a) Identity of Party Involved	(b) Description of Assets	(c) Purchase Price	(d) Selling Price	(e) Cost of Assets	(f) Current Value of Asset on Transaction Date	(g) Net Gain or (Loss)
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Category (i) - Individual Transactions in Excess of 5% of Plan Assets

See attached schedules

Category (iii) - Series of Transactions in Excess of 5% of Plan Assets

See attached schedules

Detail

5% Report by asset-single transaction

5% Report by asset-single transaction

							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
FEDERATED HERMES TREASURY OBLIGATIONS FUND FUND #68 TOIXX ERISA & DISC IRA	PUR	07/25/22	1,258,668.710	\$1,258,668.71	\$0.00	\$0.00	\$1,258,668.71	\$1,258,668.71	\$0.00
FEDERATED HERMES TREASURY OBLIGATIONS FUND FUND #68 TOIXX ERISA & DISC IRA	SAL	09/14/22	1,100,000.000	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	\$0.00
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	\$0.00
VOYA MORTGAGE INVESTMENT FUND US DOLLAR INST CLASS MARCH 2021 SERIES	SAL	06/30/22	6,730.514	1,258,668.71	0.00	0.00	1,500,000.00	1,337,594.76	- \$241,331.29
2 PURCHASES FOR				\$2,358,668.71	TOTAL ISSUE AGGREGATE		\$4,717,337.42		
2 SALES FOR				\$2,358,668.71					

ACADEMY NATURAL SCIENCES DB PENS
DB TRUST STATEMENT

Account number 20-35-002-***8744

January 1, 2022 - December 30, 2022

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Detail

5% Report by asset-aggregate

5% Report by asset-aggregate							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	PUR	10/03/22	249.760	2,247.84	0.00	0.00	2,247.84	2,247.84	0.00
	PUR	11/01/22	382.346	3,376.12	0.00	0.00	3,376.12	3,376.12	0.00
	PUR	12/01/22	380.672	3,330.88	0.00	0.00	3,330.88	3,330.88	0.00
4 PURCHASES FOR				\$1,108,954.84	TOTAL ISSUE AGGREGATE		\$1,108,954.84		
0 SALES FOR				\$0.00					
FEDERATED HERMES TREASURY	SAL	01/03/22	85,417.700	\$85,417.70	\$0.00	\$0.00	\$85,417.70	\$85,417.70	\$0.00
OBLIGATIONS FUND FUND #68 TOIXX	PUR	01/14/22	324,288.000	324,288.00	0.00	0.00	324,288.00	324,288.00	0.00
ERISA & DISC IRA	SAL	01/18/22	44,240.000	44,240.00	0.00	0.00	44,240.00	44,240.00	0.00
	SAL	01/21/22	12,535.750	12,535.75	0.00	0.00	12,535.75	12,535.75	0.00
	SAL	01/25/22	7,097.970	7,097.97	0.00	0.00	7,097.97	7,097.97	0.00
	SAL	02/01/22	84,312.150	84,312.15	0.00	0.00	84,312.15	84,312.15	0.00
	SAL	02/08/22	5,971.000	5,971.00	0.00	0.00	5,971.00	5,971.00	0.00
	PUR	02/25/22	7,097.970	7,097.97	0.00	0.00	7,097.97	7,097.97	0.00
	SAL	03/01/22	82,983.450	82,983.45	0.00	0.00	82,983.45	82,983.45	0.00
	SAL	03/02/22	250.000	250.00	0.00	0.00	250.00	250.00	0.00
	PUR	03/09/22	1,105.710	1,105.71	0.00	0.00	1,105.71	1,105.71	0.00
	SAL	03/15/22	6,767.730	6,767.73	0.00	0.00	6,767.73	6,767.73	0.00
	PUR	03/30/22	1,221.650	1,221.65	0.00	0.00	1,221.65	1,221.65	0.00
	PUR	03/31/22	0.180	0.18	0.00	0.00	0.18	0.18	0.00
	SAL	04/01/22	94,974.550	94,974.55	0.00	0.00	94,974.55	94,974.55	0.00
	PUR	04/15/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	04/19/22	9,500.000	9,500.00	0.00	0.00	9,500.00	9,500.00	0.00
	SAL	04/25/22	6,244.160	6,244.16	0.00	0.00	6,244.16	6,244.16	0.00
	SAL	04/26/22	3,276.750	3,276.75	0.00	0.00	3,276.75	3,276.75	0.00
	SAL	05/02/22	84,235.450	84,235.45	0.00	0.00	84,235.45	84,235.45	0.00
	SAL	05/09/22	855.120	855.12	0.00	0.00	855.12	855.12	0.00
	SAL	05/13/22	6,918.600	6,918.60	0.00	0.00	6,918.60	6,918.60	0.00
	SAL	06/01/22	87,718.350	87,718.35	0.00	0.00	87,718.35	87,718.35	0.00
	PUR	06/27/22	74.470	74.47	0.00	0.00	74.47	74.47	0.00
	SAL	07/01/22	85,579.480	85,579.48	0.00	0.00	85,579.48	85,579.48	0.00
	PUR	07/15/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	07/18/22	12,510.250	12,510.25	0.00	0.00	12,510.25	12,510.25	0.00
	PUR	07/21/22	297.880	297.88	0.00	0.00	297.88	297.88	0.00

ACADEMY NATURAL SCIENCES DB PENS
DB TRUST STATEMENT

Account number 20-35-002-***8744

January 1, 2022 - December 30, 2022

Page 53 of 56

Detail

5% Report by asset-aggregate (continued)							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
	PUR	07/25/22	1,258,668.710	1,258,668.71	0.00	0.00	1,258,668.71	1,258,668.71	0.00
	SAL	07/26/22	6,627.230	6,627.23	0.00	0.00	6,627.23	6,627.23	0.00
	SAL	08/01/22	88,760.950	88,760.95	0.00	0.00	88,760.95	88,760.95	0.00
	SAL	08/08/22	5,971.000	5,971.00	0.00	0.00	5,971.00	5,971.00	0.00
	PUR	08/30/22	1,328.600	1,328.60	0.00	0.00	1,328.60	1,328.60	0.00
	SAL	09/01/22	86,082.080	86,082.08	0.00	0.00	86,082.08	86,082.08	0.00
	SAL	09/14/22	1,100,000.000	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	0.00
	PUR	09/15/22	199,898.000	199,898.00	0.00	0.00	199,898.00	199,898.00	0.00
	SAL	10/03/22	109,647.700	109,647.70	0.00	0.00	109,647.70	109,647.70	0.00
	PUR	10/14/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	10/18/22	13,740.000	13,740.00	0.00	0.00	13,740.00	13,740.00	0.00
	SAL	10/19/22	173,558.000	173,558.00	0.00	0.00	173,558.00	173,558.00	0.00
	SAL	10/26/22	6,253.280	6,253.28	0.00	0.00	6,253.28	6,253.28	0.00
	SAL	11/01/22	90,057.200	90,057.20	0.00	0.00	90,057.20	90,057.20	0.00
	SAL	11/10/22	7,843.500	7,843.50	0.00	0.00	7,843.50	7,843.50	0.00
	SAL	12/01/22	95,157.070	95,157.07	0.00	0.00	95,157.07	95,157.07	0.00
	SAL	12/06/22	46,886.000	46,886.00	0.00	0.00	46,886.00	46,886.00	0.00
	SAL	12/12/22	3,355.000	3,355.00	0.00	0.00	3,355.00	3,355.00	0.00
13 PURCHASES FOR				\$2,874,941.17	TOTAL ISSUE AGGREGATE		\$5,430,268.64		
33 SALES FOR				\$2,555,327.47					
VOYA MORTGAGE INVESTMENT FUND	SAL	06/30/22	6,730.514	\$1,258,668.71	\$0.00	\$0.00	\$1,500,000.00	\$1,337,594.76	- \$241,331.29
0 PURCHASES FOR				\$0.00	TOTAL ISSUE AGGREGATE		\$1,258,668.71		
1 SALES FOR				\$1,258,668.71					

Detail

Broker commission report

Broker/party	Tran			Purchase/sale	Broker	Other		Previous	
Asset description	type	Settle date	Shares/units	Cost/proceeds	commission	expense	Cost of asset	annual market	Net gain/loss

NO
ACTIVITY
THIS PERIOD

Detail

5% Report by broker-securities

								Valuation	Threshold
								\$15,417,486.79	\$770,874.33
Broker/party	Tran	Settle date	Shares/units	Purchase/sale	Broker	Other	Cost of asset	Previous	Net gain/loss
Asset description	type			Cost/proceeds	commission	expense		annual market	
MUTUAL FUND AGENT									
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	1	PURCHASES FOR		\$1,100,000.00		TOTAL ISSUE AGGREGATE		\$1,100,000.00	
	0	SALES FOR		\$0.00					

Detail

5% Report by broker-nonsecurities

								Valuation	Threshold
								\$15,417,486.79	\$770,874.33
Broker/party asset description	Tran type	Settle date	Shares/units	Purchase/sale cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
MUTUAL FUND AGENT									
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.000.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	1	PURCHASES FOR		\$1,100,000.00	TOTAL ISSUE AGGREGATE			\$1,100,000.00	
	0	SALES FOR		\$0.00					

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 26a Schedule of Active Participant Data as of January 1, 2022

Attained Age	Attained Years of Credited Service ¹										Total
	Under 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
Under 25	0	0	0	0	0	0	0	0	0	0	0
25-29	0	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0	0
35-39	0	0	0	0	0	0	0	0	0	0	0
40-44	0	1	4	0	0	0	0	0	0	0	5
45-49	0	1	1	1	0	0	0	0	0	0	3
50-54	0	1	1	1	1	0	0	0	0	0	4
55-59	0	1	0	1	0	0	0	0	0	0	2
60-64	0	0	2	2	1	2	2	0	0	0	9
65-69	0	0	0	0	1	0	0	1	0	0	2
70 & over	0	0	0	1	0	0	0	0	1	0	2
Total	0	4	8	6	3	2	2	1	1	0	27

¹ Age and service for purposes of determining category are based on exact (not rounded) values.
Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

SCHEDULE SB ATTACHMENTS

Schedule SB, Part V Statement of Actuarial Assumptions/Methods

Actuarial Assumptions and Methods - Contributions

Economic Assumptions

Interest rate basis:

- | | |
|-----------------------|-----------------|
| ■ Applicable month | September |
| ■ Interest rate basis | 3-Segment Rates |

Interest rates:

	Reflecting Stabilization	Not Reflecting Stabilization
■ First segment rate	4.75%	1.07%
■ Second segment rate	5.18%	2.68%
■ Third segment rate	5.92%	3.36%
■ Effective interest rate	5.34%	2.81%

Annual rates of increase:

- | | |
|-------------------------------------|-----|
| ■ Compensation | N/A |
| ■ Future Social Security wage bases | N/A |
| ■ Statutory limits on compensation | N/A |

Plan-related expenses: \$280,000

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

SCHEDULE SB ATTACHMENTS

Demographic Assumptions

Inclusion date The valuation date coincident with or next following the date on which the employee becomes a participant.

New or rehired employees It was assumed there will be no new or rehired employees.

Mortality

■ Healthy Single blended table of rates for non-annuitants (based on RP-2014 "Employees" table without collar or amount adjustments, adjusted backward to 2006 with MP-2014, and then projected forward with a static projection as specified in the regulations under §1.430(h)(3)-1 using Scale MP-2020) and annuitants (based on RP-2014 "Healthy Annuitants" table without collar or amount adjustments, adjusted backward to 2006 with MP-2014, and then projected forward with a static projection as specified in the regulations under §1.430(h)(3)-1 using Scale MP-2020).

■ Disabled None

Termination Rates varying by age (sample rates shown below)

Age	Rate
25	0.154
35	0.041
45	0.026
55	0.026

Disability None

Retirement Age 65 or age on valuation date if greater than 65.

Benefit commencement date:

■ Preretirement death benefit Immediate upon death

■ Deferred vested benefit Age 65

■ Disability benefit Not applicable

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

SCHEDULE SB ATTACHMENTS

■ Retirement benefit	Immediate upon retirement
Form of payment	Single Life Annuity
Percent married	70%
Spouse age	Wife three years younger than husband
Covered pay	Annual rate of pay as of the valuation date
Timing of benefit payments	Annuity payments are payable monthly at the beginning of the month and lump sum payments are payable on date of decrement.

Methods

Valuation date	First day of plan year
Funding target	Present value of accrued benefits as required by regulations under IRC §430.
Actuarial value of assets	Average of the fair market value of assets on the valuation date and 12 and 24 months preceding the valuation date, adjusted for contributions, benefits, administrative expenses and expected earnings (with such expected earnings limited as described in IRS Notice 2009-22). The average asset value must be within 10% of market value, including discounted contributions receivable (discounted using the effective interest rate for the prior plan year). The method of computing the actuarial value of assets complies with rules governing the calculation of such values under the Pension Protection Act of 2006 (PPA). These rules produce smoothed values that reflect the underlying market value of plan assets but fluctuate less than the market value. As a result, the actuarial value of assets will be lower than the market value in some years and greater in other years. However, over the long term under PPA's smoothing rules, the method has a significant bias to produce an actuarial value of assets that is below the market value of assets.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN:	23-1352000/001
Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Benefits not valued

Willis Towers Watson has reviewed the plan provisions with The Academy and, based on that review, is not aware of any other significant benefits required to be valued that were not.

Sources of Data and Other Information

The plan sponsor furnished participant data as of January 1, 2022. Information on assets, contributions, and plan provisions was supplied by the plan sponsor. Data and other information were reviewed for reasonableness and consistency, but no audit was performed. Based on discussions with the plan sponsor, assumptions or estimates were made when data were not available.

We are not aware of any errors or omissions in the data that would have a significant effect on the results of our calculations. No data adjustments were made and we are unaware of any data adjustments made by the data provider.

Assumptions Rationale - Significant Demographic Assumptions

Discount rate	The basis chosen was selected by the plan sponsor from among choices prescribed by law, all of which are based on observed market data over certain periods of time.
Healthy mortality	Assumptions used for funding purposes are as prescribed by IRC §430(h).
Retirement	Retirement assumption represents a best estimate of future experience and is informed by prior experience.
Termination	Termination rates represent a best estimate of future experience.
Benefit commencement date – deferred vested benefit	Assumption represents a best estimate of future experience and is informed by past experience.
Benefit commencement date – retirement benefit	Assumption represents a best estimate of future experience and is informed by past experience.
Form of payment	Assumption represents the best estimate of future experience.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN:	23-1352000/001
Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Plan-related expenses

As required by regulations, plan-related expenses are calculated by estimating the expenses to be paid from the trust during the coming year (including, for example, expected PBGC premiums and actuarial, accounting, legal, administration and trustee fees to be paid from the trust).

Prescribed Methods

Funding methods

The methods used for funding purposes as described in Appendix A, including the method of determining plan assets, are “prescribed methods set by law”, as defined in the actuarial standards of practice (ASOPs). These methods are required by IRC §430, or were selected by the plan sponsor from a range of methods permitted by IRC §430.

Changes in Assumptions and Methods

Change in assumptions and methods since prior valuation

- The segment interest rates used to calculate the funding target and target normal cost were updated from an applicable month of September 2020 to September 2021.
- The mortality projection scale used to calculate the funding target and target normal cost was updated from Scale MP-2019 to Scale MP-2020, as required by IRC §430.
- Plan-related administrative expense estimate increased from \$270,000 to \$280,000

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

Detail

5% Report by asset-single transaction

5% Report by asset-single transaction

							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
FEDERATED HERMES TREASURY OBLIGATIONS FUND FUND #68 TOIXX ERISA & DISC IRA	PUR	07/25/22	1,258,668.710	\$1,258,668.71	\$0.00	\$0.00	\$1,258,668.71	\$1,258,668.71	\$0.00
FEDERATED HERMES TREASURY OBLIGATIONS FUND FUND #68 TOIXX ERISA & DISC IRA	SAL	09/14/22	1,100,000.000	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	\$0.00
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	\$0.00
VOYA MORTGAGE INVESTMENT FUND US DOLLAR INST CLASS MARCH 2021 SERIES	SAL	06/30/22	6,730.514	1,258,668.71	0.00	0.00	1,500,000.00	1,337,594.76	- \$241,331.29
2 PURCHASES FOR				\$2,358,668.71	TOTAL ISSUE AGGREGATE		\$4,717,337.42		
2 SALES FOR				\$2,358,668.71					

Detail

5% Report by asset-aggregate

5% Report by asset-aggregate

							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	PUR	10/03/22	249.760	2,247.84	0.00	0.00	2,247.84	2,247.84	0.00
	PUR	11/01/22	382.346	3,376.12	0.00	0.00	3,376.12	3,376.12	0.00
	PUR	12/01/22	380.672	3,330.88	0.00	0.00	3,330.88	3,330.88	0.00
4 PURCHASES FOR				\$1,108,954.84	TOTAL ISSUE AGGREGATE		\$1,108,954.84		
0 SALES FOR				\$0.00					
FEDERATED HERMES TREASURY	SAL	01/03/22	85,417.700	\$85,417.70	\$0.00	\$0.00	\$85,417.70	\$85,417.70	\$0.00
OBLIGATIONS FUND FUND #68 TOIXX	PUR	01/14/22	324,288.000	324,288.00	0.00	0.00	324,288.00	324,288.00	0.00
ERISA & DISC IRA	SAL	01/18/22	44,240.000	44,240.00	0.00	0.00	44,240.00	44,240.00	0.00
	SAL	01/21/22	12,535.750	12,535.75	0.00	0.00	12,535.75	12,535.75	0.00
	SAL	01/25/22	7,097.970	7,097.97	0.00	0.00	7,097.97	7,097.97	0.00
	SAL	02/01/22	84,312.150	84,312.15	0.00	0.00	84,312.15	84,312.15	0.00
	SAL	02/08/22	5,971.000	5,971.00	0.00	0.00	5,971.00	5,971.00	0.00
	PUR	02/25/22	7,097.970	7,097.97	0.00	0.00	7,097.97	7,097.97	0.00
	SAL	03/01/22	82,983.450	82,983.45	0.00	0.00	82,983.45	82,983.45	0.00
	SAL	03/02/22	250.000	250.00	0.00	0.00	250.00	250.00	0.00
	PUR	03/09/22	1,105.710	1,105.71	0.00	0.00	1,105.71	1,105.71	0.00
	SAL	03/15/22	6,767.730	6,767.73	0.00	0.00	6,767.73	6,767.73	0.00
	PUR	03/30/22	1,221.650	1,221.65	0.00	0.00	1,221.65	1,221.65	0.00
	PUR	03/31/22	0.180	0.18	0.00	0.00	0.18	0.18	0.00
	SAL	04/01/22	94,974.550	94,974.55	0.00	0.00	94,974.55	94,974.55	0.00
	PUR	04/15/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	04/19/22	9,500.000	9,500.00	0.00	0.00	9,500.00	9,500.00	0.00
	SAL	04/25/22	6,244.160	6,244.16	0.00	0.00	6,244.16	6,244.16	0.00
	SAL	04/26/22	3,276.750	3,276.75	0.00	0.00	3,276.75	3,276.75	0.00
	SAL	05/02/22	84,235.450	84,235.45	0.00	0.00	84,235.45	84,235.45	0.00
	SAL	05/09/22	855.120	855.12	0.00	0.00	855.12	855.12	0.00
	SAL	05/13/22	6,918.600	6,918.60	0.00	0.00	6,918.60	6,918.60	0.00
	SAL	06/01/22	87,718.350	87,718.35	0.00	0.00	87,718.35	87,718.35	0.00
	PUR	06/27/22	74.470	74.47	0.00	0.00	74.47	74.47	0.00
	SAL	07/01/22	85,579.480	85,579.48	0.00	0.00	85,579.48	85,579.48	0.00
	PUR	07/15/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	07/18/22	12,510.250	12,510.25	0.00	0.00	12,510.25	12,510.25	0.00
	PUR	07/21/22	297.880	297.88	0.00	0.00	297.88	297.88	0.00

Detail

5% Report by asset-aggregate (continued)							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
	PUR	07/25/22	1,258,668.710	1,258,668.71	0.00	0.00	1,258,668.71	1,258,668.71	0.00
	SAL	07/26/22	6,627.230	6,627.23	0.00	0.00	6,627.23	6,627.23	0.00
	SAL	08/01/22	88,760.950	88,760.95	0.00	0.00	88,760.95	88,760.95	0.00
	SAL	08/08/22	5,971.000	5,971.00	0.00	0.00	5,971.00	5,971.00	0.00
	PUR	08/30/22	1,328.600	1,328.60	0.00	0.00	1,328.60	1,328.60	0.00
	SAL	09/01/22	86,082.080	86,082.08	0.00	0.00	86,082.08	86,082.08	0.00
	SAL	09/14/22	1,100,000.000	1,100,000.00	0.00	0.00	1,100,000.00	1,100,000.00	0.00
	PUR	09/15/22	199,898.000	199,898.00	0.00	0.00	199,898.00	199,898.00	0.00
	SAL	10/03/22	109,647.700	109,647.70	0.00	0.00	109,647.70	109,647.70	0.00
	PUR	10/14/22	360,320.000	360,320.00	0.00	0.00	360,320.00	360,320.00	0.00
	SAL	10/18/22	13,740.000	13,740.00	0.00	0.00	13,740.00	13,740.00	0.00
	SAL	10/19/22	173,558.000	173,558.00	0.00	0.00	173,558.00	173,558.00	0.00
	SAL	10/26/22	6,253.280	6,253.28	0.00	0.00	6,253.28	6,253.28	0.00
	SAL	11/01/22	90,057.200	90,057.20	0.00	0.00	90,057.20	90,057.20	0.00
	SAL	11/10/22	7,843.500	7,843.50	0.00	0.00	7,843.50	7,843.50	0.00
	SAL	12/01/22	95,157.070	95,157.07	0.00	0.00	95,157.07	95,157.07	0.00
	SAL	12/06/22	46,886.000	46,886.00	0.00	0.00	46,886.00	46,886.00	0.00
	SAL	12/12/22	3,355.000	3,355.00	0.00	0.00	3,355.00	3,355.00	0.00
13 PURCHASES FOR				\$2,874,941.17	TOTAL ISSUE AGGREGATE		\$5,430,268.64		
33 SALES FOR				\$2,555,327.47					
VOYA MORTGAGE INVESTMENT FUND	SAL	06/30/22	6,730.514	\$1,258,668.71	\$0.00	\$0.00	\$1,500,000.00	\$1,337,594.76	- \$241,331.29
0 PURCHASES FOR				\$0.00	TOTAL ISSUE AGGREGATE		\$1,258,668.71		
1 SALES FOR				\$1,258,668.71					

Detail

Broker commission report

Broker/party Asset description	Tran type	Settle date	Shares/units	Purchase/sale Cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
NO ACTIVITY THIS PERIOD									

Detail

5% Report by broker-securities

								Valuation	Threshold
								\$15,417,486.79	\$770,874.33
Broker/party	Tran	Settle date	Shares/units	Purchase/sale	Broker	Other	Cost of asset	Previous	Net gain/loss
Asset description	type			Cost/proceeds	commission	expense		annual market	
MUTUAL FUND AGENT									
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	1	PURCHASES FOR		\$1,100,000.00	TOTAL ISSUE AGGREGATE			\$1,100,000.00	
	0	SALES FOR		\$0.00					

Detail

5% Report by broker-nonsecurities

5% Report by broker-nonsecurities

							Valuation	Threshold	
							\$15,417,486.79	\$770,874.33	
Broker/party asset description	Tran type	Settle date	Shares/units	Purchase/sale cost/proceeds	Broker commission	Other expense	Cost of asset	Previous annual market	Net gain/loss
MUTUAL FUND AGENT									
VOYA SECURITIZED CREDIT FUND	PUR	09/14/22	119,565.217	\$1,100,000.00	\$0.00	\$0.000.00	\$1,100,000.00	\$1,100,000.00	\$0.00
	1	PURCHASES FOR		\$1,100,000.00	TOTAL ISSUE AGGREGATE			\$1,100,000.00	
	0	SALES FOR		\$0.00					

SCHEDULE SB (Form 5500) Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	Single-Employer Defined Benefit Plan Actuarial Information This schedule is required to be filed under section 104 of the Employee Retirement Income Security Act of 1974 (ERISA) and section 6059 of the Internal Revenue Code (the Code). ► File as an attachment to Form 5500 or 5500-SF.	OMB No. 1210-0110 2022 This Form is Open to Public Inspection
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For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

► **Round off amounts to nearest dollar.**
 ► **Caution:** A penalty of \$1,000 will be assessed for late filing of this report unless reasonable cause is established.

A Name of plan The ACADEMY OF NATURAL SCIENCES PENSION PLAN	B Three-digit plan number (PN) ►	001
C Plan sponsor's name as shown on line 2a of Form 5500 or 5500-SF ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA	D Employer Identification Number (EIN) 23-1352000	
E Type of plan: ☒ Single ☐ Multiple-A ☐ Multiple-B		
F Prior year plan size: ☐ 100 or fewer ☒ 101-500 ☐ More than 500		

Part I Basic Information			
1 Enter the valuation date: Month <u>01</u> Day <u>01</u> Year <u>2022</u>			
2 Assets:			
a Market value	2a	15,917,446	
b Actuarial value	2b	15,268,935	
3 Funding target/participant count breakdown	(1) Number of participants	(2) Vested Funding Target	(3) Total Funding Target
a For retired participants and beneficiaries receiving payment	132	9,662,125	9,662,125
b For terminated vested participants	95	5,208,496	5,208,496
c For active participants	27	1,995,315	1,995,315
d Total	254	16,865,936	16,865,936
4 If the plan is in at-risk status, check the box and complete lines (a) and (b) ☐			
a Funding target disregarding prescribed at-risk assumptions	4a		
b Funding target reflecting at-risk assumptions, but disregarding transition rule for plans that have been in at-risk status for fewer than five consecutive years and disregarding loading factor	4b		
5 Effective interest rate	5	5.34%	
6 Target normal cost			
a Present value of current plan year accruals	6a	0	
b Expected plan-related expenses	6b	280,000	
c Total (line 6a + line 6b)	6c	280,000	

Statement by Enrolled Actuary
 To the best of my knowledge, the information supplied in this schedule and accompanying schedules, statements and attachments, if any, is complete and accurate. Each prescribed assumption was applied in accordance with applicable law and regulations. In my opinion, each other assumption is reasonable (taking into account the experience of the plan and reasonable expectations) and such other assumptions, in combination, offer my best estimate of anticipated experience under the plan.

SIGN HERE	Mark T. Dungan Signature of actuary	<u>9/18/2023</u> Date 2304980 Most recent enrollment number 215-246-7204 Telephone number (including area code)
Mark T. Dungan Type or print name of actuary WILLIS TOWERS WATSON US LLC Firm name 1735 MARKET STREET FLOOR 4 PHILADELPHIA PA 19103-7501 Address of the firm		

Part II		Beginning of Year Carryover and Prefunding Balances	
		(a) Carryover balance	(b) Prefunding balance
7	Balance at beginning of prior year after applicable adjustments (line 13 from prior year)	0	0
8	Portion elected for use to offset prior year's funding requirement (line 35 from prior year)	0	0
9	Amount remaining (line 7 minus line 8)	0	0
10	Interest on line 9 using prior year's actual return of <u>11.13</u> %	0	0
11	Prior year's excess contributions to be added to prefunding balance:		
	a Present value of excess contributions (line 38a from prior year)		870,691
	b(1) Interest on the excess, if any, of line 38a over line 38b from prior year Schedule SB, using prior year's effective interest rate of <u>5.51</u> %		47,975
	b(2) Interest on line 38b from prior year Schedule SB, using prior year's actual return		0
	c Total available at beginning of current plan year to add to prefunding balance		918,666
	d Portion of (c) to be added to prefunding balance		0
12	Other reductions in balances due to elections or deemed elections	0	0
13	Balance at beginning of current year (line 9 + line 10 + line 11d – line 12)	0	0

Part III		Funding Percentages	
14	Funding target attainment percentage	14	90.53 %
15	Adjusted funding target attainment percentage	15	90.53 %
16	Prior year's funding percentage for purposes of determining whether carryover/prefunding balances may be used to reduce current year's funding requirement	16	80.32 %
17	If the current value of the assets of the plan is less than 70 percent of the funding target, enter such percentage	17	%

Part IV		Contributions and Liquidity Shortfalls			
18 Contributions made to the plan for the plan year by employer(s) and employees:					
(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees	(a) Date (MM-DD-YYYY)	(b) Amount paid by employer(s)	(c) Amount paid by employees
04/15/2022	360,320	0			
07/15/2022	360,320	0			
10/14/2022	360,320	0			
01/20/2023	1,600,000	0			
Totals ▶			18(b)	2,680,960	18(c)
					0

19 Discounted employer contributions – see instructions for small plan with a valuation date after the beginning of the year:			
a Contributions allocated toward unpaid minimum required contributions from prior years	19a	0	
b Contributions made to avoid restrictions adjusted to valuation date	19b	0	
c Contributions allocated toward minimum required contribution for current year adjusted to valuation date	19c	2,565,913	
20 Quarterly contributions and liquidity shortfalls:			
a Did the plan have a "funding shortfall" for the prior year? ☒ Yes ☐ No			
b If line 20a is "Yes," were required quarterly installments for the current year made in a timely manner? ☒ Yes ☐ No			
c If line 20a is "Yes," see instructions and complete the following table as applicable:			
Liquidity shortfall as of end of quarter of this plan year			
(1) 1st	(2) 2nd	(3) 3rd	(4) 4th
0	0	0	0

Part V Assumptions Used to Determine Funding Target and Target Normal Cost

21 Discount rate:				
a Segment rates:	1st segment: 4.75 %	2nd segment: 5.18 %	3rd segment: 5.92 %	☐ N/A, full yield curve used
b Applicable month (enter code)				21b 4
22 Weighted average retirement age				22 65
23 Mortality table(s) (see instructions) ☒ Prescribed - combined ☐ Prescribed - separate ☐ Substitute				

Part VI Miscellaneous Items

24 Has a change been made in the non-prescribed actuarial assumptions for the current plan year? If "Yes," see instructions regarding required attachment.....	☐ Yes ☒ No
25 Has a method change been made for the current plan year? If "Yes," see instructions regarding required attachment.....	☐ Yes ☒ No
26 Demographic and benefit information	
a Is the plan required to provide a Schedule of Active Participants? If "Yes," see instructions regarding required attachment.	☒ Yes ☐ No
b Is the plan required to provide a projection of expected benefit payments? If "Yes," see instructions regarding required attachment ...	☐ Yes ☒ No
27 If the plan is subject to alternative funding rules, enter applicable code and see instructions regarding attachment.....	27

Part VII Reconciliation of Unpaid Minimum Required Contributions For Prior Years

28 Unpaid minimum required contributions for all prior years	28	0
29 Discounted employer contributions allocated toward unpaid minimum required contributions from prior years (line 19a).....	29	0
30 Remaining amount of unpaid minimum required contributions (line 28 minus line 29).....	30	0

Part VIII Minimum Required Contribution For Current Year

31 Target normal cost and excess assets (see instructions):			
a Target normal cost (line 6c)	31a	280,000	
b Excess assets, if applicable, but not greater than line 31a	31b	0	
32 Amortization installments:	Outstanding Balance	Installment	
a Net shortfall amortization installment	1,597,001	161,551	
b Waiver amortization installment	0	0	
33 If a waiver has been approved for this plan year, enter the date of the ruling letter granting the approval (Month _____ Day _____ Year _____) and the waived amount	33		
34 Total funding requirement before reflecting carryover/prefunding balances (lines 31a - 31b + 32a + 32b - 33)....	34	441,551	
	Carryover balance	Prefunding balance	Total balance
35 Balances elected for use to offset funding requirement	0	0	0
36 Additional cash requirement (line 34 minus line 35)	36	441,551	
37 Contributions allocated toward minimum required contribution for current year adjusted to valuation date (line 19c)	37	2,565,913	
38 Present value of excess contributions for current year (see instructions)			
a Total (excess, if any, of line 37 over line 36)	38a	2,124,362	
b Portion included in line 38a attributable to use of prefunding and funding standard carryover balances	38b	0	
39 Unpaid minimum required contribution for current year (excess, if any, of line 36 over line 37)	39	0	
40 Unpaid minimum required contributions for all years	40	0	

Part IX Pension Funding Relief Under the American Rescue Plan Act of 2021 (See Instructions)

41 If an election was made to use the extended amortization rule for a plan year beginning on or before December 31, 2021, check the box to indicate the first plan year for which the rule applies. ☐ 2019 ☐ 2020 ☒ 2021
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SCHEDULE SB ATTACHMENTS

Schedule SB, Line 22
Description of Weighted Average Retirement Age
as of January 1, 2022

Each participant is assumed to retire at a single retirement age 65 (Normal Retirement Age) or current age if older.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN:	23-1352000/001
Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Schedule SB – Statement by Enrolled Actuary

Plan Sponsor	Academy of Natural Sciences of Philadelphia
EIN/PN	23-1352000/001
Plan Name	The Academy of Natural Sciences of Philadelphia Pension Plan
Valuation Date	January 1, 2022
Enrolled Actuary	Mark T. Dungan
Enrollment Number	23-04980

The actuarial assumptions that are not mandated by IRC § 430 and regulations, represent the enrolled actuary's best estimate of anticipated experience under the plan, subject to the following conditions:

The actuarial valuation, on which the information in this Schedule SB is based, has been prepared in reliance upon the employee and financial data furnished by the plan administrator and the trustee. The enrolled actuary has not made a rigorous check of the accuracy of this information but has accepted it after reviewing it and concluding it is reasonable in relation to similar information furnished in previous years. The amounts of contributions and dates paid shown in Item 18 of Schedule SB were listed in reliance on information provided by the plan administrator and/or trustee.

SCHEDULE SB ATTACHMENTS

Schedule SB, Part V Summary of Plan Provisions

Plan Provisions

Effective date	January 1, 1957. Amended as of December 31, 2009.
Covered employees	All Participants of the plan in effect as of December 31, 1983 shall remain Participants. All other employees shall become plan Participants upon the later of attainment of age 25 (attainment of age 21, effective January 1, 1985) and the first anniversary of employment. The plan was closed to new entrants as of December 31, 2009.

Definitions

Compensation	All compensation received by an employee during the calendar year through December 31, 2009. If the total compensation is over the Social Security wage base for the year, bonuses, overtime, etc., are included only until such total compensation equals the Social Security wage base.
Final average annual compensation	The annual average of the highest five consecutive calendar years of Compensation received by a Participant during the last 10 years immediately preceding the earlier of termination or retirement. Final average compensation was frozen on December 31, 2009.
Years of service	(i) Prior to January 1, 1976: All continuous service (years and completed months) as a full-time employee of The Academy. (ii) On or after January 1, 1976: For each calendar year commencing after 1975, an employee will be credited with one Year of Service for each year in which he has completed 1,000 or more hours of service.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN:	23-1352000/001
Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Years of credited service

- (i) Prior to January 1, 1976: All continuous service (years and completed months) as a full-time employee of The Academy.
- (ii) On or after January 1, 1976: Participants are credited with one Year of Credited Service for each calendar year after 1975 during which they have completed 1,000 or more hours of service.

Credited service was frozen as of December 31, 2009.

Past years of credited service Years of Credited Service prior to January 1, 1980

Years of vesting service Years of Service excluding Years of Service ending prior to the attainment of age 22 (age 18 if the Participant has at least one hour of service after January 1, 1985).

Past social security benefit The maximum annual Primary Insurance Amount payable at age 65 under the Federal Social Security Act in effect December 31, 1964 multiplied by the ratio of Years of Credited Service at termination to Years of Credited Service at Normal Retirement Date.

Present social security benefit The estimated annual Primary Insurance Amount payable to a Participant at the later of age 65 or actual retirement age under the Social Security Act, as amended, in effect on the earlier of his retirement date, the date his employment with the employer ceases, or December 31, 2009, assuming that his compensation for the calendar year preceding such termination or retirement continues unchanged until the date on which his Present Social Security Benefit would be fully payable.

For Participants who terminate prior to normal retirement date or December 31, 2009, this amount is multiplied by the ratio, not to exceed one, of (i) to (ii):

- (i) the greater of the Participant's Years of Credited Service or 25 years;
- (ii) the Years of Credited Service the Participant would have accrued at Normal Retirement Date.

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

SCHEDULE SB ATTACHMENTS

Pension Benefits at Normal Retirement

Participants eligible	First day of the month coincident with or next following age 65 and 5 years of service.
Pension benefit	An annual benefit equal to the greater of (i) or (ii) but not less than (iii): (i) (1) minus (2) below: (1) 2% of Final Average Annual Compensation multiplied by Years of Credited Service up to 25 years plus 1/2% of Final Average Annual Compensation multiplied by Years of Credited Service in excess of 25 years. (2) Past Social Security Benefit multiplied by the ratio of Past Years of Credited Service, up to 25 years, to Years of Credited Service at termination, up to 25 years plus 2% of Present Social Security Benefit multiplied by the difference between a Participant's Years of Credited Service, up to 25 years, and Past Years of Credited Service, up to 25 years. (ii) The Participant's accrued benefit determined as of December 31, 1979: (1) minus (2) below: (1) 2% of Final Average Annual Compensation as of January 1, 1980 multiplied by Past Years of Credited Service up to 25. (2) Maximum annual Primary Insurance Amount payable at age 65 under the Federal Social Security Act in effect December 31, 1964. (iii) Minimum annual benefit: \$600 For all participants, benefits were frozen as of December 31, 2009.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN:	23-1352000/001
Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Pension Benefit at Postponed Retirement

Participants eligible	All Participants who retire after their normal retirement dates.
Pension benefit	The Pension Benefit, but based on Final Average Compensation and Years of Credited Service at postponed retirement date.

Pension Benefit at Early Retirement

Participants eligible	All Participants who have attained age 55 and have completed 10 or more Years of Vesting Service.
Pension benefit payable at normal retirement date	The Pension Benefit, but based on Final Average Compensation and Years of Credited Service at date of termination.
Pension benefit payable at early retirement date	The actuarial equivalent of the benefit payable at normal retirement date, using 7% interest and the 1971 TPF & C Mortality Table with a 2-year setback.

Vested Benefits

Participants eligible	All Participants who have completed five or more Years of Vesting Service or attained normal retirement age.
Vested pension benefit payable at normal retirement date	Pension Benefit, but based on Final Average Compensation and Years of Credited Service at date of termination.
Early commencement of benefits	If the Participant completed 10 or more Years of Vesting Service prior to termination, the Participant may elect to have a benefit, actuarially reduced from normal retirement date, commence on or after the attainment of age 55.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
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Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Preretirement Spouse's Death Benefits

Spouses eligible	Spouses of active Participants who die while eligible for vesting who were married throughout the one-year period before the Participant's death.
Spouse's benefit	The amount which would have been payable to the spouse had the Participant retired on the later of his date of death or the date of his earliest possible retirement, having elected a 50% joint and survivor annuity with the spouse named as the survivor.
Duration of benefit	Monthly payments will begin as of the first day of the month following the Participant's death or, if later, as of the first day of any month following the date of his earliest possible retirement, and will continue for the spouse's life.

Other Plan Provisions

Disability benefit	None
Employee contributions	None
Forms of payment	Normal form for single Participants is a life annuity. Married Participants receive the basic benefits described above actuarially reduced to provide for a 50% contingent annuitant option with the spouse as the contingent annuitant. All Participants may elect any of the following optional forms of payment: ■ Life annuity ■ 50%, 66 2/3%, 75% and 100% contingent annuitant options ■ 10-year certain and continuous option ■ The single life annuity is converted to an optional form of payment using 7% interest and the 1971 TPF & C Mortality Table with a 2-year setback for members and a 4-year setback for beneficiaries.

Plan Name:	The Academy of Natural Sciences of Philadelphia Pension Plan
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Plan Sponsor:	Academy of Natural Sciences of Philadelphia
Valuation Date:	January 1, 2022

SCHEDULE SB ATTACHMENTS

Maximum on benefits and pay

As required by the Employee Retirement Income Security Act of 1974.

Increases in the dollar limits are assumed for determining pension cost but not for determining contributions.

Future Plan Changes

Willis Towers Watson is not aware of any future plan changes which are required to be reflected.

Changes in Benefits Valued Since Prior Year

There have been no changes in benefits valued since the prior year.

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022

Plan Name: The Academy of Natural Sciences Pension Plan

Plan Sponsor: Academy of Natural Sciences of Philadelphia

EIN/PN: 23-1352000 001

Schedule H, Line 4(i) - Schedule of Assets (Held at End of Year) as of December 31, 2022

(a) Party in Interest	(b) Identity of Issue	(c) Description of Investment	(d) Cost	(e) Current Value
	Artisan International Value Fund	Mutual fund	1,775,230	2,305,522
	Brandywine Global Flexible Fund	Mutual fund	623,228	534,108
	PIMCO Real Return Bond Fund	Mutual fund	763,249	648,753
	Federated Treasury Obligation Institutional Shares Fund	Mutual fund	455,910	455,910
	Columbia Convertible Securities Fund	Mutual fund	1,147,950	756,689
	Van Eck CM Commodity Index Fund	Mutual fund	1,135,610	1,058,335
	Vanguard 500 Index Fund	Mutual fund	1,148,103	2,053,297
	Vanguard Reit Index Fund	Mutual fund	1,013,352	954,895
	Vanguard Extended Market Fund	Mutual fund	632,208	849,533
	Vanguard Intermediate Term Fund	Mutual fund	3,374,687	2,836,918
	Voya Securitized Credit Fund	Mutual fund	1,108,955	1,055,057
	Total Mutual Funds		13,178,482	13,509,017
	Verdis Real Assets Fund, LP	Real asset	24,603	17,216
	Total Real Assets Fund		24,603	17,216
			\$ 13,203,085	\$ 13,526,233

SCHEDULE SB ATTACHMENTS

Schedule SB, Line 32
Schedule of Amortization Bases
as of January 1, 2022

Type of Base	Date Established	Initial Amount	Remaining Amortization Period (Years)	Outstanding Balance	Amortization Payment
Shortfall	01/01/2022	(1,569,252)	15.00000	(1,569,252)	(145,017)
Shortfall	01/01/2021	3,287,885	14.00000	3,166,253	306,568
Total				1,597,001	161,551

Plan Name: The Academy of Natural Sciences of Philadelphia Pension Plan
EIN / PN: 23-1352000/001
Plan Sponsor: Academy of Natural Sciences of Philadelphia
Valuation Date: January 1, 2022