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

Part I Annual Report Identification Information

For calendar plan year 2022 or fiscal plan year beginning 01/01/2022 and ending 12/31/2022

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.)
- [X] 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:
- [X] 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
CALTECH BASE RETIREMENT PLAN

1b Three-digit plan number (PN) ▶ 002

1c Effective date of plan 11/01/1921

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)
CALIFORNIA INSTITUTE OF TECHNOLOGY

1200 E CALIFORNIA BLVD,
MC 161-84
PASADENA, CA 91125

2b Employer Identification Number (EIN) 95-1643307

2c Plan Sponsor's telephone number 626-395-3421

2d Business code (see instructions) 611000

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.	10/09/2023	SARAH J. PORTWOOD
	Signature of plan administrator	Date	Enter name of individual signing as plan administrator
SIGN HERE	Filed with authorized/valid electronic signature.	10/09/2023	SARAH J. PORTWOOD
	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

3a	Plan administrator's name and address [X] 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:	**4b**	EIN
a	Sponsor's name	**4d**	PN
c	Plan Name		
5	Total number of participants at the beginning of the plan year	**5**	20483
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)**	9827
a(2)	Total number of active participants at the end of the plan year	**6a(2)**	10673
b	Retired or separated participants receiving benefits	**6b**	0
c	Other retired or separated participants entitled to future benefits	**6c**	10933
d	Subtotal. Add lines **6a(2)**, **6b**, and **6c**	**6d**	21606
e	Deceased participants whose beneficiaries are receiving or are entitled to receive benefits.	**6e**	241
f	Total. Add lines **6d** and **6e**.	**6f**	21847
g	Number of participants with account balances as of the end of the plan year (only defined contribution plans complete this item)	**6g**	21282
h	Number of participants who terminated employment during the plan year with accrued benefits that were less than 100% vested	**6h**	1
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:

2F 2G 2L 2M 2S 2T

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)** [X] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] Trust
- **(4)** [ ] General assets of the sponsor

9b Plan benefit arrangement (check all that apply)

- **(1)** [X] Insurance
- **(2)** [ ] Code section 412(e)(3) insurance contracts
- **(3)** [X] 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)** [X] **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)** [X] **H** (Financial Information)
- **(2)** [ ] **I** (Financial Information – Small Plan)
- **(3)** [X] 1 **A** (Insurance Information)
- **(4)** [X] **C** (Service Provider Information)
- **(5)** [X] **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 A (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

Pension Benefit Guaranty Corporation

Insurance 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.**

▶ Insurance companies are required to provide the information pursuant to ERISA section 103(a)(2).

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
CALTECH BASE RETIREMENT PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
CALIFORNIA INSTITUTE OF TECHNOLOGY

D Employer Identification Number (EIN)
95-1643307

Part I Information Concerning Insurance Contract Coverage, Fees, and Commissions

Provide information for each contract on a separate Schedule A. Individual contracts grouped as a unit in Parts II and III can be reported on a single Schedule A.

1 Coverage Information:

(a) Name of insurance carrier
TIAA-CREF

(b) EIN	(c) NAIC code	(d) Contract or identification number	(e) Approximate number of persons covered at end of policy or contract year	Policy or contract year	
				(f) From	(g) To
13-1624203	69345	403497	12723	01/01/2022	12/31/2022

2 Insurance fee and commission information. Enter the total fees and total commissions paid. List in line 3 the agents, brokers, and other persons in descending order of the amount paid.

(a) Total amount of commissions paid	(b) Total amount of fees paid
0	0

3 Persons receiving commissions and fees. (Complete as many entries as needed to report all persons).

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		(e) Organization code
	(c) Amount	(d) Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

(a) Name and address of the agent, broker, or other person to whom commissions or fees were paid

(b) Amount of sales and base commissions paid	Fees and other commissions paid		**(e)** Organization code
	(c) Amount	**(d)** Purpose	

Part II Investment and Annuity Contract Information

Where individual contracts are provided, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

4	Current value of plan's interest under this contract in the general account at year end	4	1059323499
5	Current value of plan's interest under this contract in separate accounts at year end	5	1630339977

6 Contracts With Allocated Funds:

a State the basis of premium rates ▶

b	Premiums paid to carrier	6b	
c	Premiums due but unpaid at the end of the year	6c	
d	If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, enter amount. Specify nature of costs ▶	6d	

e Type of contract: (1) ☐ individual policies (2) ☐ group deferred annuity (3) ☐ other (specify) ▶

f If contract purchased, in whole or in part, to distribute benefits from a terminating plan, check here ▶ ☐

7 Contracts With Unallocated Funds (Do not include portions of these contracts maintained in separate accounts)

a Type of contract: (1) ☐ deposit administration (2) ☐ immediate participation guarantee (3) ☒ guaranteed investment (4) ☐ other ▶

b	Balance at the end of the previous year			7b	1035810895
c	Additions: (1) Contributions deposited during the year	7c(1)	13802239		
	(2) Dividends and credits	7c(2)			
	(3) Interest credited during the year	7c(3)	43597363		
	(4) Transferred from separate account	7c(4)	76823136		
	(5) Other (specify below)	7c(5)	1184700		
	▶ MISCELLANEOUS CREDITS, INCLUDING INVESTMENT GAINS AND TRANSFERS FROM FULLY ALLOCATED CONTRACTS				
	(6) Total additions			7c(6)	135407438
d	Total of balance and additions (add lines **7b** and **7c(6)**)			7d	1171218333
e	Deductions:				
	(1) Disbursed from fund to pay benefits or purchase annuities during year	7e(1)	46052545		
	(2) Administration charge made by carrier	7e(2)	10755		
	(3) Transferred to separate account	7e(3)	65831534		
	(4) Other (specify below) ▶	7e(4)			
	(5) Total deductions			7e(5)	111894834
f	Balance at the end of the current year (subtract line **7e(5)** from line **7d**)			7f	1059323499

Part III Welfare Benefit Contract Information

If more than one contract covers the same group of employees of the same employer(s) or members of the same employee organizations(s), the information may be combined for reporting purposes if such contracts are experience-rated as a unit. Where contracts cover individual employees, the entire group of such individual contracts with each carrier may be treated as a unit for purposes of this report.

8 Benefit and contract type (check all applicable boxes)

- **a** ☐ Health (other than dental or vision)
- **b** ☐ Dental
- **c** ☐ Vision
- **d** ☐ Life insurance
- **e** ☐ Temporary disability (accident and sickness)
- **f** ☐ Long-term disability
- **g** ☐ Supplemental unemployment
- **h** ☐ Prescription drug
- **i** ☐ Stop loss (large deductible)
- **j** ☐ HMO contract
- **k** ☐ PPO contract
- **l** ☐ Indemnity contract
- **m** ☐ Other (specify) ▶

9 Experience-rated contracts:				
a Premiums: (1) Amount received	**9a(1)**			
(2) Increase (decrease) in amount due but unpaid	**9a(2)**			
(3) Increase (decrease) in unearned premium reserve	**9a(3)**			
(4) Earned (**(1)** + **(2)** - **(3)**)			**9a(4)**	
b Benefit charges (1) Claims paid	**9b(1)**			
(2) Increase (decrease) in claim reserves	**9b(2)**			
(3) Incurred claims (add **(1)** and **(2)**)			**9b(3)**	
(4) Claims charged			**9b(4)**	
c Remainder of premium: (1) Retention charges (on an accrual basis) --				
(A) Commissions	**9c(1)(A)**			
(B) Administrative service or other fees	**9c(1)(B)**			
(C) Other specific acquisition costs	**9c(1)(C)**			
(D) Other expenses	**9c(1)(D)**			
(E) Taxes	**9c(1)(E)**			
(F) Charges for risks or other contingencies	**9c(1)(F)**			
(G) Other retention charges	**9c(1)(G)**			
(H) Total retention			**9c(1)(H)**	
(2) Dividends or retroactive rate refunds. (These amounts were ☐ paid in cash, or ☐ credited.)			**9c(2)**	
d Status of policyholder reserves at end of year: (1) Amount held to provide benefits after retirement			**9d(1)**	
(2) Claim reserves			**9d(2)**	
(3) Other reserves			**9d(3)**	
e Dividends or retroactive rate refunds due. (Do not include amount entered in line **9c(2)**.)			**9e**	
10 Nonexperience-rated contracts:				
a Total premiums or subscription charges paid to carrier			**10a**	
b If the carrier, service, or other organization incurred any specific costs in connection with the acquisition or retention of the contract or policy, other than reported in Part I, line 2 above, report amount.			**10b**	

Specify nature of costs.

Part IV Provision of Information

11 Did the insurance company fail to provide any information necessary to complete Schedule A? ☐ Yes ☒ No

12 If the answer to line 11 is "Yes," specify the information not provided. ▶

SCHEDULE C (Form 5500)	Service Provider Information	OMB No. 1210-0110
Department of the Treasury Internal Revenue Service Department of Labor Employee Benefits Security Administration Pension Benefit Guaranty Corporation	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.**	**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	**B** Three-digit plan number (PN) ▶
CALTECH BASE RETIREMENT PLAN	002

C Plan sponsor's name as shown on line 2a of Form 5500	**D** Employer Identification Number (EIN)
CALIFORNIA INSTITUTE OF TECHNOLOGY	95-1643307

Part I Service Provider Information (see instructions)

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).. . . . . [X] 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

TIAA

13-1624203

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

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

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)

JET PROPULSION LABORATORY

95-1643307

(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?
49 50 52	NONE	269705	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

CALIFORNIA INSTITUTE OF TECHNOLOGY

95-1643307

(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?
28 35 50 52 99	NONE	256652	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

MERCER INVESTMENTS LLC

30-0282430

(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?
28 50 52	NONE	251795	Yes [ ] No [X]	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)

ANAVURE INC.

46-4190265

(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?
28 50 52	NONE	115707	Yes [ ] No [X]	Yes [ ] No [ ]		Yes [ ] No [ ]

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

TIAA

13-1624203

(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?
15 17 27 28 38 50 52 54 64 66	NONE	21555	Yes [X] No [ ]	Yes [X] No [ ]	0	Yes [ ] No [X]

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

MILLER KAPLAN ARASE LLP

95-2036255

(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 50	NONE	14000	Yes [ ] No [X]	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

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(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:	**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:

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

Explanation:

SCHEDULE D (Form 5500)

Department of the Treasury
Internal Revenue Service

Department of Labor
Employee Benefits Security Administration

DFE/Participating Plan 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
CALTECH BASE RETIREMENT PLAN

B Three-digit plan number (PN) ▶ 002

C Plan or DFE sponsor's name as shown on line 2a of Form 5500
CALIFORNIA INSTITUTE OF TECHNOLOGY

D Employer Identification Number (EIN)
95-1643307

Part I **Information on interests in MTIAs, CCTs, PSAs, and 103-12 IEs (to be completed by plans and DFEs)**
(Complete as many entries as needed to report all interests in DFEs)

a Name of MTIA, CCT, PSA, or 103-12 IE: TIAA REAL ESTATE

b Name of sponsor of entity listed in (a): TIAA-CREF

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)
13-1624203-004	P	157105767

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

a Name of MTIA, CCT, PSA, or 103-12 IE:

b Name of sponsor of entity listed in (a):

c EIN-PN	**d** Entity code	**e** Dollar value of interest in MTIA, CCT, PSA, or 103-12 IE at end of year (see instructions)

Part II Information on Participating Plans (to be completed by DFEs)

(Complete as many entries as needed to report all participating plans)

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

a Plan name

b Name of plan sponsor	**c** EIN-PN

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 01/01/2022 and ending 12/31/2022

A Name of plan
CALTECH BASE RETIREMENT PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
CALIFORNIA INSTITUTE OF TECHNOLOGY

D Employer Identification Number (EIN)
95-1643307

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)		
(2) Participant contributions	1b(2)		
(3) Other	1b(3)		
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)		
(6) Real estate (other than employer real property)	1c(6)		
(7) Loans (other than to participants)	1c(7)		
(8) Participant loans	1c(8)	6771994	6662995
(9) Value of interest in common/collective trusts	1c(9)		
(10) Value of interest in pooled separate accounts	1c(10)	145386491	157105767
(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)	3636565975	2977283520
(14) Value of funds held in insurance company general account (unallocated contracts)	1c(14)	1035810895	1059323499
(15) Other	1c(15)		

		(a) Beginning of Year	(b) End of Year
1d Employer-related investments:			
(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	4824535355	4200375781
Liabilities			
g Benefit claims payable	1g		
h Operating payables	1h		
i Acquisition indebtedness	1i		
j Other liabilities	1j		
k Total liabilities (add all amounts in lines 1g through1j)	1k	0	0
Net Assets			
l Net assets (subtract line 1k from line 1f)	1l	4824535355	4200375781

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)	140518186	
(B) Participants	2a(1)(B)	13307984	
(C) Others (including rollovers)	2a(1)(C)	1971135	
(2) Noncash contributions	2a(2)		
(3) Total contributions. Add lines **2a(1)(A), (B), (C),** and line **2a(2)**	2a(3)		155797305
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)	346035	
(F) Other	2b(1)(F)	43597363	
(G) Total interest. Add lines **2b(1)(A)** through **(F)**	2b(1)(G)		43943398
(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)	71990764	
(D) Total dividends. Add lines **2b(2)(A)**, **(B)**, and **(C)**	2b(2)(D)		71990764
(3) Rents	2b(3)		
(4) Net gain (loss) on sale of assets: **(A)** Aggregate proceeds	2b(4)(A)		
(B) Aggregate carrying amount (see instructions)	2b(4)(B)		
(C) Subtract line **2b(4)(B)** from line **2b(4)(A)** and enter result	2b(4)(C)		0
(5) Unrealized appreciation (depreciation) of assets: **(A)** Real estate	2b(5)(A)		
(B) Other	2b(5)(B)		
(C) Total unrealized appreciation of assets. Add lines **2b(5)(A)** and **(B)**	2b(5)(C)		0

		(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)		12181973
(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)		-732023674
c Other income	2c		3421433
d Total income. Add all **income** amounts in column (b) and enter total	2d		-444688801
Expenses			
e Benefit payment and payments to provide benefits:			
(1) Directly to participants or beneficiaries, including direct rollovers	2e(1)	166663634	
(2) To insurance carriers for the provision of benefits	2e(2)	11761127	
(3) Other	2e(3)		
(4) Total benefit payments. Add lines **2e(1)** through **(3)**	2e(4)		178424761
f Corrective distributions (see instructions)	2f		
g Certain deemed distributions of participant loans (see instructions)	2g		133239
h Interest expense	2h		
i Administrative expenses: (1) Professional fees	2i(1)	14000	
(2) Contract administrator fees	2i(2)		
(3) Investment advisory and management fees	2i(3)	367502	
(4) Other	2i(4)	547912	
(5) Total administrative expenses. Add lines **2i(1)** through **(4)**	2i(5)		929414
j Total expenses. Add all **expense** amounts in column (b) and enter total	2j		179487414
Net Income and Reconciliation			
k Net income (loss). Subtract line **2j** from line **2d**	2k		-624176215
l Transfers of assets:			
(1) To this plan	2l(1)		16641
(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)** [X] 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) [X] 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: MILLER KAPLAN ARASE LLP **(2)** EIN: 95-2036255

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:

		Yes	No	Amount
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.)	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?	4e	X		5000000
f Did the plan have a loss, whether or not reimbursed by the plan's fidelity bond, that was caused by fraud or dishonesty?	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.)	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.)	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?	4k		X	
l Has the plan failed to provide any benefit when due under the plan?	4l		X	
m If this is an individual account plan, was there a blackout period? (See instructions and 29 CFR 2520.101-3.)	4m		X	
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 _____.

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
CALTECH BASE RETIREMENT PLAN

B Three-digit plan number (PN) ▶ 002

C Plan sponsor's name as shown on line 2a of Form 5500
CALIFORNIA INSTITUTE OF TECHNOLOGY

D Employer Identification Number (EIN)
95-1643307

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): 82-2826183

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**

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**

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

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_____

Caltech Base Retirement Plan
Financial Statements
December 31, 2022 and 2021

MILLER KAPLAN

INDEPENDENT AUDITOR'S REPORT

Plan Administrator
Caltech Base Retirement Plan

Scope and Nature of the ERISA Section 103(a)(3)(C) Audit

We were engaged to perform the audits of the accompanying financial statements of Caltech Base Retirement Plan (the "Plan"), an employee benefit plan subject to the Employee Retirement Income Security Act of 1974 (ERISA), as permitted by ERISA Section 103(a)(3)(C) ("ERISA Section 103(a)(3)(C) audit"). The financial statements comprise the statements of net assets available for benefits as of December 31, 2022 and 2021, and the related statement of changes in net assets available for benefits for the year ended December 31, 2022, and the related notes to the financial statements.

Management, having determined it is permissible in the circumstances, has elected to have the audits of the financial statements performed in accordance with ERISA Section 103(a)(3)(C) pursuant to 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. As permitted by ERISA Section 103(a)(3)(C), our audits need not extend to any statements or information related to assets held for investment of the plan ("investment information") by a bank or similar institution or insurance carrier that is regulated, supervised, and subject to periodic examination by a state or federal agency, provided that the statements or information regarding assets so held are prepared and certified to by the bank or similar institution or insurance carrier in accordance with 29 CFR 2520.103-5 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA ("qualified institution").

Management has obtained certifications from a qualified institution as of December 31, 2022 and 2021, and for the year ended December 31, 2022, stating that the certified investment information, as described in Note H to the financial statements, is complete and accurate.

Disclaimer of Opinion

We do not express an opinion on the financial statements of the Plan referred to in the first paragraph. Because of the significance of the matter described in the Basis for Disclaimer of Opinion section of our report, we have not been able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion on the financial statements.

Basis for Disclaimer of Opinion

The Plan does not have sufficient accounting records and supporting documents relating to certain individual participant account balances accumulated from the Plan's inception to satisfy ourselves as to the basis on which participant accounts are stated as of December 31, 2022, or the propriety of the distributions to participants during the year then ended. Accordingly, we were unable to apply auditing procedures sufficient to determine the extent to which the accompanying financial statements may have been affected by these conditions.

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. Management's election of the ERISA Section 103(a)(3)(C) audit does not affect management's responsibility for the financial statements.

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.

Auditor's Responsibilities for the Audit of the Financial Statements

Our responsibility is to conduct an audit of the Plan's financial statements in accordance with auditing standards generally accepted in the United States of America and to issue an auditor's report. However, because of the matter described in the Basis for Disclaimer of Opinion section of our report, we were not able to obtain sufficient appropriate audit evidence to provide a basis for an audit opinion on these financial statements.

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 audits.

Supplemental Schedule Required by ERISA

The supplemental schedule of assets (held at end of year) as of December 31, 2022 is presented for purposes of additional analysis and is not a required part of the financial statements but is 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. Because of the significance of the matter described in the Basis for

Plan Administrator
Caltech Base Retirement Plan

Disclaimer of Opinion section of our report it is inappropriate to and we do not express an opinion on the supplemental schedules referred to above.

Miller Kaplan Arase LLP

MILLER KAPLAN ARASE LLP
North Hollywood, California
September 28, 2023

Caltech Base Retirement Plan
Statements of Net Assets Available for Benefits
At December 31, 2022 and 2021
(Dollars in Thousands)

	2022	2021
ASSETS		
Investments at fair value	$ 4,193,713	$ 4,817,763
Notes receivable from participants	6,663	6,772
Total assets	$ 4,200,376	$ 4,824,535
LIABILITIES		
Total liabilities	-	-
NET ASSETS AVAILABLE FOR BENEFITS	$ 4,200,376	$ 4,824,535

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

Caltech Base Retirement Plan
Statement of Changes in Net Assets Available for Benefits
For the Year Ended December 31, 2022
(Dollars in Thousands)

	2022
Additions:	
Additions to net assets attributed to:	
Investment income (loss):	
Net (depreciation) in fair value of investments	$ (719,841)
Interest and dividends	115,919
Total investment (loss)	(603,922)
Plan servicing credit	3,437
Contributions:	
Employer	140,523
Participants	13,303
Rollovers	1,970
Total contributions	155,796
Total additions	(444,689)
Deductions:	
Benefits paid	178,558
Administrative expenses	929
Total deductions	179,487
Net decrease	(624,176)
Transfers:	17
Net assets available for benefits:	
Beginning of year	4,824,535
End of year	$ 4,200,376

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

A. Description of the Plan

The following description of the Caltech Base Retirement Plan ("Plan") provides only general information. Participants should refer to the Plan document and/or the California Institute of Technology's employee handbook for a more complete description of the Plan's provisions.

Prior to a name change during the year ended December 31, 2017, the Plan was named the "California Institute of Technology TIAA-CREF Defined Contribution Retirement Plan."

General

The Plan is a defined contribution plan covering eligible employees of the California Institute of Technology ("Institute"). The Institute is the Plan administrator and is responsible for the overall governance of the Plan. The Plan was formed on November 1, 1921. The accompanying Plan financial statements include benefits for employees of both the Institute's main campus and satellite facilities ("Campus"), as well as the Jet Propulsion Laboratory ("JPL"), a Federally Funded Research and Development Center managed by the Institute for the National Aeronautics and Space Administration ("NASA"). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), as amended.

Teachers Insurance and Annuity Association ("TIAA") and College Retirement Equities Fund ("CREF") (collectively, "TIAA-CREF") are the Plan's providers of financial services and custodians of the investments. TIAA and CREF, subsidiaries of TIAA-CREF, manage the Plan's investments. TIAA-CREF and its affiliates also provide administrative and recordkeeping services as well as valuation of investments according to the service provider agreement. TIAA-CREF sets all investment policies for its funds.

Contributions

The Institute contributes to the Plan based on two eligible employment categories: Faculty/Key Staff and Staff (including postdoctoral scholars). Initial eligibility provisions vary by employment category from the month following hire up to two years of service. The amount that the Institute contributes for Faculty/Key Staff employees is a percentage of the employee's salary based on the employee's age and varies for salary in excess of the Social Security taxable wage base. Key Staff employees are required to contribute to the Plan if their salary exceeds the Social Security wage base in a given plan year. The amount that the Institute contributes for Staff employees (including postdoctoral scholars) is a percentage of the employee's salary and is based on the employee's age and years of service. The total of all contributions made on any participant's behalf is subject to the current year's Internal Revenue Code ("IRC") limitations. Institute contributions for disabled employees cease after six months of disability.

Contributions to the Plan are earned at the completion of each of the Plan administrator's applicable pay periods. Cash remitted by the Plan administrator in a period prior to the completion of such pay periods is recorded as unearned revenue. Contributions earned by

participants but not yet remitted to the Plan are recorded as a receivable from the Plan administrator.

The Plan was amended in 2021 to apply a new benefit formula prospectively to eligible employees hired or re-hired on or after January 1, 2022. The benefit formula in effect for eligible employees with employment start dates before January 1, 2022 remains unchanged.

Investment options
The Plan offers various investment options as determined by the Plan administrator. Participants select the allocation of contributions to the available options. There are no non-participant-directed investments. If a participant does not provide investment direction upon initial enrollment, the employer and where applicable, employee mandatory contribution amounts will automatically default to a Lifecycle Fund based on the employee's date of birth and an estimated retirement date. Participants can subsequently reallocate Lifecycle Fund balances to other available investment options. Refer to Note D for a description of each investment option.

Participant Accounts
Participant accounts are credited with the Institute's contribution and each participant's required contribution, if applicable, either biweekly or monthly depending upon the participant's pay schedule. The Plan's investment income, less incurred expenses, is allocated to each participant's account according to each fund's prospectus. The benefit to which a participant is entitled is equal to the benefit that can be provided from the participant's balance.

Vesting
Participants hired before January 1, 2022 are fully and immediately vested in benefits arising from contributions made to each participant's account. Eligible employees hired or rehired on or after January 1, 2022 are subject to a three-year graded vesting schedule: 33% vesting after one year of service; 66% vesting after two years of service, and 100% vesting after three years of service.

Plan Loans
Loans are available to participants through TIAA. Loans issued prior to January 1, 2019 are neither Plan assets nor Plan liabilities and loan defaults are treated as distributions from the Plan. Effective January 1, 2019, TIAA implemented *Retirement Plan Loans*, a non-collateralized loan program that replaces the former collateralized loan program. The maximum number of loans outstanding a participant may have under the new program is one, with a maximum outstanding balance of $50. Prior to 2019, the limit was four outstanding loans, aggregated to a maximum outstanding balance of $50. Participants may not obtain loans after termination of their employment with the Institute. Generally, the minimum individual loan amount under the *Retirement Plan Loans* program is $1, and the maximum depends on the participant's accumulated balance and whether there were other outstanding loans from any other plans maintained by the Institute within the last year.

For loans issued prior to January 1, 2019, a portion of a participant's TIAA account balance is reserved in the Insurance Company General Contract, or held as collateral, to cover 110% of the outstanding loan amount of collateralized loans for the period of time the loans are outstanding. The term of both loan programs is 5 to 30 years, depending on the loan purpose. The loan term may not extend beyond April 1 following the calendar year in which the participant attains age 72. The loans bear an adjustable interest rate determined by TIAA. The maximum allowable interest rate for the *Retirement Plan Loans* is the then current prime rate +1%; the collateralized loans are based on the Moody's Corporate Bond Yield Average. Participants should refer to the loan agreement document provided by TIAA for a complete description of loan provisions. Refer to Note D for a description of the Insurance Company General Contract.

At December 31, 2022 and 2021, participants had outstanding collateralized Plan loan balances due to TIAA totaling $2,120 and $3,450, respectively. Collateral for applicable loans, comprised of Insurance Company General Contract account balances, totaled $2,332 and $3,795 as of December 31, 2022 and 2021, respectively. At December 31, 2022 and 2021, participants had outstanding non-collateralized Plan loan balances due to the Plan in the amount of $6,663 and $6,772, respectively. During the year ended December 31, 2022, accumulations totaling $176 were used to satisfy Plan loan defaults and were recorded as benefits paid in the statement of changes in net assets available for benefits.

Payment of Benefits
Upon termination of service, a participant or beneficiary has several distribution options, including annuity income, a combination of annuity and cash, payments over a fixed period, or a lump-sum distribution. In-service distributions are allowed at age 59 ½ for any participant that is not eligible for employer contributions. A participant who has attained the age of 72 is required to take annual minimum distributions according to Internal Revenue Service ("IRS") regulations.

B. Summary of Accounting Policies

Basis of Presentation
The financial statements of the Plan are prepared on the accrual basis of accounting, in accordance with accounting principles generally accepted in the United States of America.

Use of Estimates
The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Investment Valuation and Income Recognition
Investments are reported at fair value. 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 Institute's Retirement Plan Investment Oversight Committee monitors the Plan's valuation approach utilizing information provided by TIAA-CREF and an investment adviser.

Investment income (loss) includes interest and dividends, realized gains and losses, and unrealized gains and losses. Net (depreciation) includes the Plan's realized gains and losses on investments sold as well as unrealized gains and losses on investments held at year end.

Purchases and sales of securities are recorded on a trade date basis. There were no securities in transit at December 31, 2022 or 2021.

Payment of Benefits
Benefits are recorded when paid. Benefits paid during the year ended December 31, 2022 include $11,761 that was annuitized and paid to insurance carriers for the provision of benefits.

Administrative Expenses
The Plan's administrative expenses include the costs of recordkeeping, participant communication, audits, investment performance monitoring, third party compliance consulting, and other administration costs. These expenses are included in administrative expenses in the statement of changes in net assets available for benefits and are funded by the Plan servicing credit, as described in Note C.

The Institute pays other direct administrative expenses on behalf of the Plan, as well as salaries and benefits of certain employees who provide support to the Plan. The amount of these expenses is minimal in relation to total Plan assets and the expenses are not included in the financial statements. Investment-related expenses are included in the net depreciation or appreciation in fair value of investments.

Available Information
In November 2007, the Department of Labor ("DOL") issued amended regulations eliminating an exemption granted to 403(b) plans from the annual Form 5500 reporting and disclosure requirements under Part 1 of Subtitle B of Title I of the ERISA. Prior to the amended regulations, the Plan was not viewed as a separate reporting entity, but rather as a collection of individual contracts with which participants could engage in a range of actions with limited involvement by the Plan sponsor. Accordingly, various records related to the Plan's 403(b) annuity contracts and custodial account issued to current and former employees prior to January 1, 2009 were not maintained by the Plan in accordance with the aforementioned DOL requirements. The financial statements have been prepared based on available records analyzed by Plan management. As certain records were not available from

the inception of the Plan, the effect, if any, on the completeness or accuracy of the Plan's financial statements cannot be determined.

C. Plan Servicing Credit

Certain Plan investments maintain revenue sharing arrangements with TIAA-CREF. Under these arrangements, a percentage of the asset management fees earned by those investments are transferred to the Plan and held in a revenue credit account.

The revenue credit account is used to offset certain permitted Plan administration expenses, including those incurred for TIAA-CREF recordkeeping, Plan participant communications, audits, investment performance monitoring, third-party compliance consulting, and other administration costs. The TIAA-CREF recordkeeping expenses are limited to an annual per-participant maximum amount as negotiated with the Plan sponsor. The Plan administrator may also direct TIAA-CREF to return any unused revenue credit account balances to participants. During the year ended December 31, 2022, TIAA-CREF transferred $3,437 in revenue credits to the Plan and paid $929 in Plan administration expenses at the Plan administrator's direction. During the year ended December 31, 2022, TIAA-CREF, at the Plan administrator's direction, allocated unused revenue credits of $2,375 to Plan participants that hold investments that involve revenue sharing arrangements.

D. Investments

Investments consisted of the following at December 31, 2022 and 2021:

	2022	2021
Registered Investment Companies	$ 2,977,284	$ 3,636,566
Pooled Separate Account	157,106	145,386
Insurance Company General Contract	1,059,323	1,035,811
Total investments	$ 4,193,713	$ 4,817,763

Cash and cash equivalents held in Registered Investment Companies and the Pooled Separate Accounts are presented as part of the value of those funds.

Registered Investment Companies consist of mutual funds and CREF variable annuities. The mutual funds consist of money market, equity, fixed income, and TIAA-CREF Lifecycle funds. The money market funds consist of funds with weighted-average maturities of 60 days or less, when purchased. The equity funds consist of domestic and foreign funds that invest in stocks of entities with large, medium, and small market capitalization. The fixed income funds consist of domestic and foreign funds that invest in a broad range of fixed income securities. Each Lifecycle fund is a "fund of funds" that invests in institutional-class shares of other TIAA-CREF funds and may invest in other investment pools or investment products.

The Lifecycle fund's asset allocation strategy varies based on individual participants' targeted retirement dates.

CREF variable annuities classified as Registered Investment Companies consist of eight funds: Money Market, Growth, Global Equities, Equity Index, Social Choice, Stock, Bond Market, and Inflation-Linked Bond. The CREF Money Market fund's assets are invested in securities that mature within approximately one year. The fund maintains a dollar-weighted average maturity of 60 days or less and a dollar-weighted average life-to-maturity of 120 days or less. The CREF Growth fund invests at least 80% of its assets in common stocks and other equity securities. The CREF Global Equities fund invests at least 80% of its assets in equity securities of foreign and domestic companies. The CREF Equity Index fund is designed to track the U.S. stock market as a whole and invests in stocks in its benchmark index, the Russell 3000 Index. The CREF Social Choice fund invests in a diversified set of domestic and foreign stocks and other equity securities, bonds, and other fixed-income securities, as well as money market instruments and other short-term debt instruments. The fund invests only in companies that are suitable from a financial perspective and whose activities are consistent with certain environmental, social and governance criteria. The CREF Stock fund invests at least 80% of its assets in a broadly diversified portfolio of common stocks. The CREF Bond Market fund invests at least 80% of its assets in a broad range of fixed-income securities. The CREF Inflation-Linked Bond fund invests at least 80% of its assets in U.S. Treasury inflation-indexed securities.

The CREF Stock, Global Equities, Equity Index, Growth, Bond Market and Inflation-Linked Bond funds may invest in derivatives and similar financial instruments so long as these derivatives and financial instruments are consistent with each fund's investment objectives and restrictions, policies, and current regulations. The value of any such derivatives is included in the fair value of the respective fund.

At December 31, 2022 and 2021, CREF Stock represented 14.7% and 16.5%, respectively, of the Plan's total investments.

Each CREF Annuity investment fund classified as a Registered Investment Company may lend its securities to brokers and dealers that are not affiliated with TIAA and to certain other financial institutions. All loans are fully collateralized by cash, securities issued or guaranteed by the U.S. Government (i.e., Treasury securities), or other collateral permitted by applicable law. Cash collateral received by a fund will generally be invested in high-quality short-term instruments, or in one or more funds maintained by the securities lending agent for the purpose of investing cash collateral. There was no securities lending activity during the year.

The Pooled Separate Account invests primarily in real estate and real estate-related investments. The account seeks long-term returns primarily through rental income and appreciation of its real estate investments.

The Insurance Company General Contract accounts consist of Retirement Annuity ("RA"), Group Retirement Annuity ("GRA"), and Retirement Choice Annuity ("RC") fixed annuity contracts that are fully and unconditionally guaranteed by TIAA's general fund. During the accumulation phase, the annuities provide a guarantee of principal, a guaranteed minimum rate of interest as specified by the contract, and the potential for additional interest if declared by TIAA. Together, the guaranteed minimum and additional amounts make up the "crediting rate" in the accumulation phase of the participant's account. Investment yields tend to change over time and are grouped into various vintages for the purpose of determining the crediting rate. The guaranteed minimum rate of interest for the RC contract is between 1% and 3% and the RA and GRA contracts are both guaranteed a minimum rate of 3%. The RA and GRA crediting rates as of December 31, 2022 and 2021 were 6.60% and 3.70%, respectively. The RC crediting rates of interest as of December 31, 2022 and 2021 were 6.85% and 3.95%, respectively.

At December 31, 2022 and 2021, the Insurance Company General Contract represented 25.2% and 21.5%, respectively, of the Plan's total investments.

E. Fair Value Measurements

Fair value is defined as the price that the Plan would receive upon selling an asset or would pay to settle a liability in an orderly transaction between market participants. The Plan evaluates the fair value of financial instruments using an established hierarchy that ranks the inputs to valuation techniques used to measure fair value. Inputs refer broadly to the assumptions that market participants would use in such fair value determinations, including assumptions regarding various risks. A financial instrument's level within the fair value hierarchy is based on the least-transparent level of any input that is significant to the fair value measurement. The classification of financial instruments within the hierarchy is based upon the transparency of the inputs to valuation techniques used to measure fair value and does not necessarily correspond to the Plan's perceived risk of those instruments. The three levels of the fair value hierarchy are as described below.

Level 1 fair value measurements are based upon unadjusted quoted prices for identical assets or liabilities in active, accessible markets. Market price data is generally obtained from exchange dealer markets.

Level 2 fair value measurements are generally based on quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant assumptions are observable in the market or can be corroborated by observable market data for substantially the full term of the instruments. Inputs to Level 2 measurements include, but are not limited to, interest rates, credit risk adjustments, and prices for similar instruments, and are obtained from various sources, including market participants, dealers, and brokers.

Level 3 fair value measurements are those that use significant inputs that are unobservable. Instruments classified in Level 3 are valued according to investment managers' estimates using industry-standard methodologies and independent appraisals. The Plan regularly monitors the adequacy of these fair value measurements.

The following is a description of the valuation methodologies used for assets measured at fair value. There have been no significant changes in the methodologies used at December 31, 2022 and 2021.

- Mutual funds classified as Registered Investment Companies are publicly traded, open-ended mutual funds that are registered with the Securities and Exchange Commission. These funds publish a daily net asset value ("NAV") and transact daily at ending NAV. Accordingly, the fair values of mutual funds are valued at the daily closing NAV reported by the fund and are classified as Level 1 in the fair value hierarchy.

- The CREF variable annuities classified as Registered Investment Companies or Pooled Separate Accounts are non-publicly traded and valued based on daily NAV, which is readily available to the Plan. Investments may be redeemed at daily NAV. Information distributed to the Plan administrator and client investors provides sufficient corroborative evidence to ascertain the relationship between each fund's NAV and the values of individual underlying holdings. Underlying holdings are primarily valued using market quotations or prices obtained from independent pricing sources. There are no unfunded commitments from participants in the Plan who invest in these accounts. Accordingly, the fair values of CREF variable annuities are classified as Level 2 of the fair value hierarchy.

- Investments in the Insurance Company General Contract accounts are reported at contract value, which approximates fair value. Contract value represents accumulated contributions, plus interest credited, less any withdrawals. Crediting rates are a combination of the guaranteed rate and an annually established discretionary rate. Contract value approximates the value of discounted cash flows and is calculated using an appropriate risk-adjusted discount rate which correlates closely with historical crediting rates. As these investments are contract-based, observable prices for identical or similar investments do not exist and certain contracts carry liquidity restrictions. Therefore, the Insurance Company General Contract is classified as Level 3 in the fair value hierarchy.

The methods described above may produce fair value calculations that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Plan believes its valuation methods are appropriate and consistent with those of other market participants, the use of different methodologies or assumptions to determine fair value of certain financial instruments could result in different estimates of fair value.

The following is a summary of the levels within the fair value hierarchy for the Plan's investments as of December 31, 2022 and 2021:

2022:	Level 1	Level 2	Level 3	Total
Registered Investment Companies	$ 1,504,050	$ 1,473,234	$ -	$ 2,977,284
Pooled Separate Account	-	157,106	-	157,106
Insurance Company General Contract	-	-	1,059,323	1,059,323
Total investments	$ 1,504,050	$ 1,630,340	$ 1,059,323	$ 4,193,713

2021:	Level 1	Level 2	Level 3	Total
Registered Investment Companies	$ 1,736,151	$ 1,900,415	$ -	$ 3,636,566
Pooled Separate Account	-	145,386	-	145,386
Insurance Company General Contract	-	-	1,035,811	1,035,811
Total investments	$ 1,736,151	$ 2,045,801	$ 1,035,811	$ 4,817,763

The following table presents the Plan's Level 3 investments, fair value, the valuation techniques used to measure fair value, the significant unobservable inputs, and the ranges of values for those inputs as of December 31, 2022 and 2021:

2022:

Investment	Fair Value	Valuation Technique	Significant Unobservable Inputs	Range of Input Values by Contract
Insurance Company General Contract	$1,059,323	Discounted cash flow	Risk-adjusted discount rate	RA: 3.70% to 6.25% GRA: 3.70% to 6.25% RC: 3.95% to 6.50%

2021:

Investment	Fair Value	Valuation Technique	Significant Unobservable Inputs	Range of Input Values by Contract
Insurance Company General Contract	$1,035,811	Discounted cash flow	Risk-adjusted discount rate	RA: 3.00% to 3.80% GRA: 3.00% to 3.80% RC: 2.75% to 3.90%

The following table summarizes changes in the fair value of the Plan's Level 3 investments for the year ended December 31, 2022:

Balance, beginning of year	$	1,035,811
Investment income		43,621
Purchases		91,887
Sales		(111,996)
Balance, end of year	$	1,059,323

Transfers in and out of levels are recognized as of the beginning of the reporting period. During the year ended December 31, 2022, there were no transfers among Level 1, Level 2, or Level 3. The investment income related to Level 3 investments is included in interest and dividends in the statement of changes in net assets available for benefits.

F. Plan Termination

While it is expected that the Plan will continue indefinitely, the Institute has the right under the Plan to amend, modify, or terminate the Plan, or to discontinue its contributions at any time subject to the provisions of ERISA and the IRC.

G. 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 risk associated with 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 changes could materially affect participants' account balances and the amounts reported in the statement of net assets available for benefits.

H. Information Certified by the Custodians

The Plan administrator has elected the method of annual reporting compliance permitted by 29 CFR 2520.103-8 of the Department of Labor's Rules and Regulations for Reporting and Disclosure under ERISA. Accordingly, TIAA and CREF have certified on behalf of (1) TIAA and CREF, insurance carriers and issuers of certain annuity contract investment assets of the Plan, custodians of the Plan's assets and (2) TIAA, FSB, a federal savings association, that the following data included in the accompanying financial statements and supplemental schedule are complete and accurate:

- Investments, as shown in the statements of net assets available for benefits as of December 31, 2022 and 2021.
- Investment income, as shown in the statement of changes in net assets available for benefits for the year ended December 31, 2022.
- Investments, as shown in Note D as of December 31, 2022 and 2021.
- IRS Form 5500, Schedule H, line 4(i)-schedule of assets (held at end of year) as of December 31, 2022.

The Plan's independent certified public accountants did not perform auditing procedures with respect to this information, except for comparing such information to the related information included in the financial statements and supplemental schedule.

I. Tax Status

The Plan has been designed to qualify under Section 403(b) of the IRC. The terms of the Plan have been prepared to conform to the sample language provided by the IRS in Revenue Procedure 2007-71. The IRS currently has no formal process for granting determination letters. The Plan is required to operate in conformity with the IRC to maintain the tax-exempt status for Plan participants under Section 403(b). The Plan administrator believes that the Plan is currently designed and operating in accordance with the applicable requirements of Section 403(b) of the IRC and, therefore, believes that the Plan is qualified, and the related accounts are exempt from taxation. Therefore, no provision for income taxes has been included in the Plan's financial statements.

Accounting principles generally accepted in the United States of America require Plan management to evaluate tax positions taken by the Plan and to recognize a tax liability if the organization has taken an uncertain position that more likely than not would not be sustained upon examination by the IRS. The Plan has no reporting requirements for uncertain tax positions for the year ended December 31, 2022. The Plan administrator believes that the Plan should not be subject to income tax examination for years prior to December 31, 2019.

J. Related Parties

The Institute is the Plan administrator and is responsible for the overall governance of the Plan. The Institute pays certain direct administrative expenses on behalf of the Plan, as well as salaries and benefits of certain employees who provide support to the Plan. The amount of these expenses is minimal in relation to Plan assets and the expenses are not included in the financial statements.

TIAA and CREF, subsidiaries of TIAA-CREF, are the Plan's providers of financial services and custodians of the investments. TIAA-CREF manages the Plan's investments. TIAA-CREF and its affiliates also provide administrative and recordkeeping services as well as valuation of investments according to the service provider agreement. The amount of these expenses is minimal in relation to Plan assets and the expenses are not included in the financial statements. TIAA-CREF sets all investment policies for its funds.

K. Plan Amendment

On December 22, 2022, the Plan was amended to adopt and implement the provisions of the CARES Act.

L. Subsequent Events

Subsequent events were evaluated from December 31, 2022 through September 28, 2023, which was the date the financial statements were available to be issued. There are no material events that require recognition or additional disclosures in the Plan's financial statements.

Caltech Base Retirement Plan
Supplemental Schedule
Form 5500-Schedule H, Line 4(i)

Caltech Base Retirement Plan
EIN: 95-1643307
PLAN NO.: 002
Schedule H, Line 4(i) – Schedule of Assets (Held at End of Year)
December 31, 2022

	Identity of issue, borrower, lessor or similar party	Classification	Cost**	Current Value
*	TIAA Traditional Non Benefit Responsive	Insurance Company General Contract		$ 1,059,323,499
*	TIAA Real Estate	Pooled Separate Account		157,105,767
*	CREF Stock R3	Registered Investment Company		618,819,127
*	CREF Money Market R3	Registered Investment Company		32,300,868
*	CREF Social Choice R3	Registered Investment Company		125,963,950
*	CREF Global Equities R3	Registered Investment Company		205,788,666
*	CREF Growth R3	Registered Investment Company		221,601,200
*	CREF Equity Index R3	Registered Investment Company		137,465,785
*	CREF Inflation-Linked Bond R3	Registered Investment Company		55,911,543
*	CREF Core Bond R3	Registered Investment Company		75,383,071
*	TIAA-CREF Lfcyle Rtmt Inc-Inst	Registered Investment Company		3,831,521
*	TIAA-CREF Lifecycle 2010-Inst	Registered Investment Company		9,929,573
*	TIAA-CREF Lifecycle 2015-Inst	Registered Investment Company		9,601,807
*	TIAA-CREF Lifecycle 2020-Inst	Registered Investment Company		23,016,398
*	TIAA-CREF Lifecycle 2025-Inst	Registered Investment Company		44,877,122
*	TIAA-CREF Lifecycle 2030-Inst	Registered Investment Company		50,171,760
*	TIAA-CREF Lifecycle 2035-Inst	Registered Investment Company		50,510,843
*	TIAA-CREF Lifecycle 2040-Inst	Registered Investment Company		79,260,976
*	TIAA-CREF Lifecycle 2045-Inst	Registered Investment Company		54,720,134
*	TIAA-CREF Lifecycle 2050-Inst	Registered Investment Company		45,793,603
*	TIAA-CREF Lifecycle 2055-Inst	Registered Investment Company		23,560,825
*	TIAA-CREF Lifecycle 2060-Inst	Registered Investment Company		7,784,576
*	TIAA-CREF Lifecycle 2065-Inst	Registered Investment Company		404,781
*	TIAA-CREF Social Ch Eq-Inst	Registered Investment Company		43,677,961
	Allspring Emerging Growth Inst	Registered Investment Company		17,889,357
	American Fd New Perspective R6	Registered Investment Company		81,715,235
	Cohen & Steers Global Realty Z	Registered Investment Company		26,516,758
	Dodge & Cox Global Bond Fund I	Registered Investment Company		18,741,650
	Dodge & Cox Intl Stock Fund I	Registered Investment Company		45,278,798
	Dodge & Cox Stock Fund I	Registered Investment Company		65,443,661
	Invesco Global R6	Registered Investment Company		13,030,544
	Matthews Asia Growth Fund Inst	Registered Investment Company		6,956,425
	PGIM Jennison Growth Z	Registered Investment Company		22,836,809
	PGIM Jennison Mid Cap Grw R6	Registered Investment Company		12,590,080
	PIMCO Real Return Inst Class	Registered Investment Company		19,261,860
	PIMCO Total Return Instl	Registered Investment Company		14,631,776
	Transamerica Mid Cap Val OppR6	Registered Investment Company		67,615,659
	Vanguard Extend MkIdx Inst Pl	Registered Investment Company		83,691,099
	Vanguard Inst Idx Inst Plus	Registered Investment Company		225,190,288
	Vanguard Short-Trm Bd Idx Inst	Registered Investment Company		32,918,909
	Vanguard Total Int St Ix IsPls	Registered Investment Company		98,558,009
	Vanguard Treasury MoneyMkt Inv	Registered Investment Company		113,354,813
	Vanguard Ttl Bd Mkt Idx InstPl	Registered Investment Company		60,440,287
	Victory Integrity Sm-Cp Val R6	Registered Investment Company		30,245,413
*	Participant Loans	4.00% to 8.50%		6,662,995
	Total Investment			$ 4,200,375,781

* Indicates a party-in-interest to the Plan
** Cost omitted as all investments are participant-directed

Plan Name	**Caltech Base Retirement Plan**
Plan Sponsor EIN	**95-1643307**
ERISA Plan #	**002**
Plan Year Ending	**December 31, 2022**

The required attachment marked with an "X" in the Attachment column is included within the Accountant's Opinion attachment to Sch. H, Part III, Line 3, which consists of the entire audit report issued by the plan's Independent Qualified Public Accountant (IQPA).

Form/Schedule	Line #	Description	Attachment
5500 Sch. H	Line 3	Financial statements used in formulating the IQPA's opinion	X
5500 Sch. H	Line 4i	Schedule of Assets (Held at End of Year)	X
5500 Sch. H	Line 4i	Schedule of Assets (Acquired and Disposed of Within Year)	
5500 Sch. H	Line 4j	Schedule of Reportable Transactions	
5500 Sch. H	Line 4a	Schedule of Delinquent Participant Contributions	

Plan Name	**Caltech Base Retirement Plan**
Plan Sponsor EIN	**95-1643307**
ERISA Plan #	**002**
Plan Year Ending	**December 31, 2022**

The required attachment marked with an "X" in the Attachment column is included within the Accountant's Opinion attachment to Sch. H, Part III, Line 3, which consists of the entire audit report issued by the plan's Independent Qualified Public Accountant (IQPA).

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