

# Performance Audit of the Implementation of OMB COVID-19 Flexibilities – California Institute of Technology

REPORT PREPARED BY COTTON & COMPANY LLP

NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL

May 26, 2021  
OIG 21-1-014





## AT A GLANCE

### Performance Audit of the Implementation of OMB COVID-19 Flexibilities – California Institute of Technology

Report No. OIG 21-1-014

May 26, 2021

#### AUDIT OBJECTIVE

The National Science Foundation Office of Inspector General engaged Cotton & Company LLP (C&C) to conduct a performance audit of the implementation of Office of Management and Budget (OMB) Coronavirus Disease 2019 (COVID-19) flexibilities at the California Institute of Technology (Caltech) for the period March 1 to September 30, 2020. The auditors tested approximately \$170,000 of the more than \$54.9 million of costs claimed to NSF. The objective of the audit was to determine if Caltech used the administrative COVID-19 flexibilities authorized by OMB and, if so, whether Caltech complied with the associated guidelines. See Appendix E for the audit's objective, scope, and methodology.

#### AUDIT RESULTS

The report highlights that there was one exception identified with Caltech's use of the administrative flexibilities granted through NSF's implementation of OMB Memoranda M-20-17. Specifically, the auditors questioned \$16,769 of unallowable salary charged after OMB M-20-17 expired. The auditors also identified concerns about Caltech's compliance with certain Federal and NSF regulations, NSF award terms and conditions, and Caltech policies not related to the COVID-19 flexibilities. The auditors questioned an additional \$33,952 of costs that Caltech claimed during the audit period. Specifically, the auditors identified \$31,856 in unapproved subaward expenses, \$1,515 in inaccurately applied indirect costs, and \$581 in unallowable intergovernmental personnel act expenses. The auditors also identified one compliance-related finding for which there were no questioned costs: incorrect application of indirect cost rates. C&C is responsible for the attached report and the conclusions expressed in this report. NSF OIG does not express any opinion on the conclusions presented in C&C's audit report.

#### RECOMMENDATIONS

The auditors included two areas for improvement and five findings in the report with associated recommendations for NSF to resolve the questioned costs and to ensure Caltech strengthens administrative and management controls.

#### AUDITEE RESPONSE

Caltech expressed varying levels of agreement and disagreement with the findings throughout the report. Caltech's response is attached in its entirety to the report as Appendix D.

FOR FURTHER INFORMATION, CONTACT US AT [OIGPUBLICAFFAIRS@NSF.GOV](mailto:OIGPUBLICAFFAIRS@NSF.GOV).



**National Science Foundation • Office of Inspector General**  
2415 Eisenhower Avenue, Alexandria, Virginia 22314

**MEMORANDUM**

**DATE:** May 26, 2021

**TO:** Dale Bell  
Director  
Division of Institution and Award Support

Jamie French  
Director  
Division of Grants and Agreements



**FROM:** Mark Bell  
Assistant Inspector General  
Office of Audits

**SUBJECT:** Audit Report No. 21-1-014, California Institute of Technology

This memorandum transmits the Cotton & Company LLP (C&C) report for the audit of the implementation of Office of Management and Budget (OMB) Coronavirus Disease 2019 (COVID-19) flexibilities at the California Institute of Technology (Caltech) for the period March 1 to September 30, 2020. The audit encompassed approximately \$170,000 of the more than \$54.9 million claimed to NSF during the period. The objective of the audit was to determine whether Caltech used the administrative COVID-19 flexibilities authorized by OMB and, if so, whether Caltech complied with the associated guidelines. A full description of the audit's objective, scope, and methodology is attached to the report as Appendix E.

Please coordinate with our office during the 6-month resolution period, as specified by OMB Circular A-50, to develop a mutually agreeable resolution of the audit findings. The findings should not be closed until NSF determines that all recommendations have been adequately addressed and the proposed corrective actions have been satisfactorily implemented.

**OIG Oversight of the Audit**

C&C is responsible for the attached auditors' report and the conclusions expressed in this report. We do not express any opinion on the conclusions presented in C&C's audit report. To fulfill our responsibilities, we:

- reviewed C&C's approach and planning of the audit;
- evaluated the qualifications and independence of the auditors;
- monitored the progress of the audit at key points;
- coordinated periodic meetings with C&C, as necessary, to discuss audit progress, findings, and recommendations;
- reviewed the audit report prepared by C&C; and
- coordinated issuance of the audit report.

We thank your staff for the assistance that was extended to the auditors during this audit. If you have any questions regarding this report, please contact Keith Nackerud at 703.292.7100 or [OIGpublicaffairs@nsf.gov](mailto:OIGpublicaffairs@nsf.gov).

Attachment

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**PERFORMANCE AUDIT OF THE  
CALIFORNIA INSTITUTE OF TECHNOLOGY'S  
IMPLEMENTATION OF THE  
OFFICE OF MANAGEMENT AND BUDGET  
CORONAVIRUS DISEASE 2019 FLEXIBILITIES**

**NATIONAL SCIENCE FOUNDATION  
OFFICE OF INSPECTOR GENERAL**

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**NATIONAL SCIENCE FOUNDATION  
PERFORMANCE AUDIT OF THE CALIFORNIA INSTITUTE OF TECHNOLOGY’S  
IMPLEMENTATION OF THE OFFICE OF MANAGEMENT AND BUDGET  
CORONAVIRUS DISEASE 2019 FLEXIBILITIES**

**I. BACKGROUND**

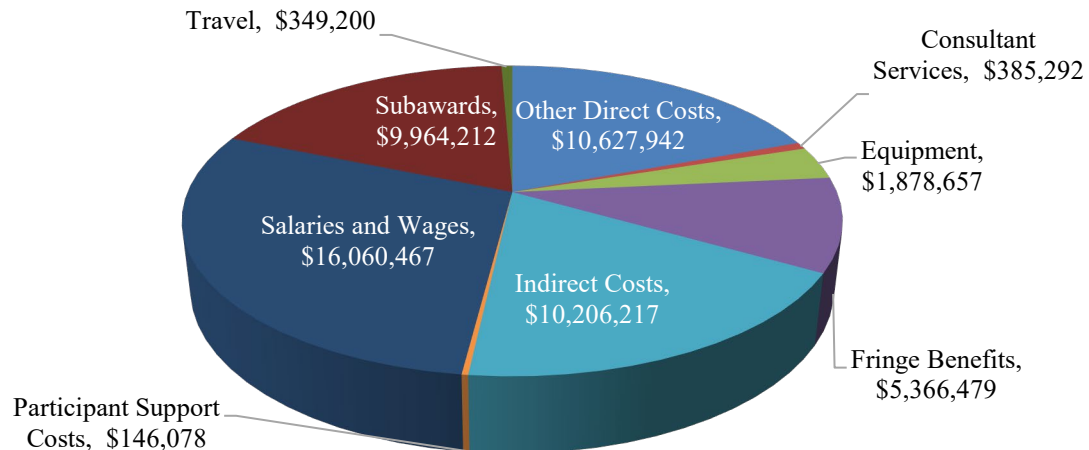
The National Science Foundation is an independent Federal agency created by Congress in 1950 “[t]o promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense; and for other purposes” (Pub. L. No. 81-507).

In response to the Coronavirus Disease 2019 (COVID-19) pandemic, the Office of Management and Budget (OMB) issued memoranda that provided temporary administrative flexibilities for Federal financial assistance awards. Subsequently, NSF published a variety of additional guidance for NSF awardees regarding how to implement these flexibilities, as outlined in the Objectives, Scope, and Methodology section of this report (**Appendix E**).

Recognizing the need to ensure NSF award recipients properly implemented these flexibilities, the NSF Office of Inspector General engaged Cotton & Company LLP (referred to as “we”) to conduct a limited-scope performance audit to determine whether the California Institute of Technology (Caltech) implemented the administrative flexibilities and, if so, whether it complied with the associated guidelines.

In performing this audit, we gathered and reviewed general ledger detail that supported more than \$54.9 million in expenses that Caltech claimed on 225 NSF awards during our audit period of performance of March 1 to September 30, 2020, as illustrated in Figure 1.

**Figure 1. Costs Claimed by NSF Budget Category, March 1 through September 30, 2020**



*Source:* Auditor analysis of accounting data provided by Caltech.

This performance audit, conducted under Order No. 140D0420F0654, was designed to meet the objectives identified in the Objectives, Scope, and Methodology section of this report (**Appendix E**) and was conducted in accordance with *Generally Accepted Government Auditing Standards* (GAGAS), 2018 Revision, issued by the Comptroller General of the United States. We communicated the results of our audit and the related findings and recommendations to Caltech and NSF OIG. We included Caltech’s response to this report in its entirety in **Appendix D**.

## II. AUDIT RESULTS

We determined that Caltech implemented the administrative flexibilities granted in OMB Memoranda M-20-17, M-20-20, and M-20-26 (referred to as “COVID-19 flexibilities”), as detailed in **Appendix A**. Within the limited scope of our testing, we were able to gain an understanding of Caltech’s implementation of the COVID-19 flexibilities and identified one instance in which Caltech did not comply with the associated guidelines, as summarized below.

We gained an understanding of how Caltech implemented these COVID-19 flexibilities, including how the implementation process fit within Caltech’s overall grant management environment, by conducting a series of interviews with Caltech staff. Specifically, because Caltech encouraged its personnel to track expenses incurred under the COVID-19 flexibilities within its accounting system,<sup>1</sup> Caltech was able to identify a minimum of \$494,329 in costs that it incurred under the COVID-19 flexibilities. Based on this understanding and Caltech’s responses to the OMB flexibilities survey included in **Appendix B**, we tailored our data analytics sampling approach to enable us to select 40 transactions that Caltech incurred in accordance with the COVID-19 flexibilities, or that we identified as high risk for other related reasons.

We tested the 40 transactions sampled, which represented \$170,347<sup>2</sup> in costs that Caltech charged to NSF awards during the audit period, and identified 9 examples in which Caltech appears to have appropriately used the COVID-19 flexibilities granted by OMB and implemented by NSF, as follows:

- Caltech charged NSF Award No. [REDACTED] for \$1,403 in expenses that the Principal Investigator (PI) incurred to purchase an Apple iPad Pro so they could work remotely.
- Caltech charged NSF Award No. [REDACTED] for \$1,062 in expenses incurred to purchase tools to enable all Laser Interferometer Gravitational-Wave Observatory (LIGO) employees to be able to safely operate doors, handles, and elevators without having to physically touch the surfaces.

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<sup>1</sup> Caltech used task numbers for five NSF-sponsored projects that it anticipated would incur additional costs in response to the COVID-19 pandemic and NSF’s implementation of the COVID-19 flexibilities.

<sup>2</sup> The \$170,347 represents the total value of the 40 transactions selected for transaction-based testing. It does not represent the dollar base of the total costs reviewed during the audit.



- Caltech charged NSF Award No. [REDACTED] for \$3,319 in expenses incurred to purchase washable computer equipment for employees to use at home and in the lab, to enable staff to interact safely on campus and to enable employees to transition to a remote-work environment.
- Caltech charged NSF Award No. [REDACTED] for \$13,767 in expenses incurred to purchase air-purifying systems to reduce the threat of the COVID-19 virus within the labs.
- Caltech charged NSF Award No. [REDACTED] for \$3,210 in student stipends paid out as part of the Research Experiences for Undergraduates (REU) program. Caltech transitioned the program to a virtual format and continued to pay the full stipend to the participating students.
- Caltech charged NSF Award No. [REDACTED] for \$2,481 in salary expenses that included the salary for an employee who was unable to work as a result of the COVID-19 pandemic.
- Caltech charged NSF Award No. [REDACTED] for \$1,802 incurred to cancel a lease held by fellowship participants at the LIGO Livingston location, as these individuals were no longer able to participate in the program in person.
- Caltech charged NSF Award No. [REDACTED] for \$1,218 in salary expenses for an employee who was unable to work as a result of the COVID-19 pandemic.
- Caltech charged NSF Award No. [REDACTED] for \$46 in symposium registration fees that the conference provider did not refund after the symposium was cancelled.<sup>3</sup>

While these expenses are not typically allowable on NSF awards, we did not note an exception with these costs as they appear allowable under the COVID-19 flexibilities. Specifically, costs related to the cancellation of events and other activities that were necessary and reasonable for the performance of an award are allowable under Flexibility 7 of OMB Memorandum M-20-17,<sup>4</sup> and costs related to continued salary/stipends payments for idle employees are allowable under Flexibility 6 of OMB Memorandum M-20-17.<sup>5</sup> However, we did identify two areas in which Caltech could improve its administration of expenses charged to NSF awards under these flexibilities, as follows:

- Monitoring of employee-booked travel credits.

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<sup>3</sup> We verified that Caltech originally charged NSF Award No. [REDACTED] for \$1,565 in symposium registration fees but credited the award for \$1,519 that the conference provider refunded. The remaining \$46 represented a nonrefundable management fee.

<sup>4</sup> Flexibility seven of OMB Memorandum M-20-17 states that recipients who incur costs related to the cancellation of events, travel, or other activities that were necessary and reasonable for the performance of the award, or the pausing and restarting of grant-funded activities, due to the public health emergency are authorized to charge these costs to their award without regard to 2 Code of Federal Regulations (CFR) § 200.403, *Factors affecting allowability of costs*; 2 CFR § 200.404, *Reasonable costs*; and 2 CFR § 200.405, *Allocable costs*.

<sup>5</sup> Flexibility six of OMB Memorandum M-20-17 states that recipients are authorized to continue to charge salaries, stipends, and benefits to currently active NSF awards consistent with the recipient's policy of paying salaries from all funding sources, Federal and non-Federal, under unexpected or extraordinary circumstances.

- Monitoring of supply costs incurred in response to the COVID-19 pandemic.

We also identified and questioned \$16,769 of unallowable direct and indirect costs that Caltech inappropriately claimed under the COVID-19 flexibilities during the audit period, including:

- \$16,769 in unallowable salary expenses that Caltech charged after OMB M-20-17 expired.

In addition, we determined that Caltech needs improved oversight of expenses charged to NSF awards to ensure costs not related to the COVID-19 flexibilities are reasonable, allocable, and allowable in accordance with all relevant Federal and NSF regulations, NSF award terms and conditions, and Caltech policies. Specifically, we identified and questioned \$33,952 of direct and indirect costs that Caltech inappropriately claimed during the audit period, including:

- \$31,856 in unapproved subaward expenses.
- \$1,515 in inaccurately applied indirect costs.
- \$581 in unallowable intergovernmental personnel act expenses.

Lastly, we identified one compliance-related finding, for which we did not question any costs:

- Incorrect application of indirect cost rates.

We discuss the two areas for improvement, one finding related to the COVID-19 flexibilities, and four findings not related to the COVID-19 flexibilities in the *Areas for Improvement*, *Audit Finding Related to the COVID-19 Flexibilities*, and *Audit Findings Not Related to the COVID-19 Flexibilities* sections below.

### **III. AREAS FOR IMPROVEMENT**

For the purposes of this report, an “area for improvement” is a condition that does not necessarily constitute a policy violation but that warrants Caltech’s and NSF’s attention to ensure future costs claimed comply with all relevant regulations.

#### **Area for Improvement 1: Monitoring of Employee-Booked Travel Credits**

Under Caltech’s current monitoring procedures, employees could use travel credits to pay for travel that does not benefit the project(s) to which they charged the original travel expense.<sup>6</sup> Specifically:

- Although Caltech implemented controls to track the use of credits issued for travel booked through its centralized travel system, it did not develop a process for centrally tracking credits issued for travel that employees booked using their personal credit cards. Specifically, although Caltech required personnel who booked travel using their personal

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<sup>6</sup> According to 2 CFR § 200.403 and § 200.405, absent the COVID-19 flexibilities granted by OMB, for costs to be allowable, grantees must charge costs to Federal awards in accordance with the relative benefits received.

credit cards to sign a statement certifying that they would notify grant personnel if they used any travel credits for a purpose other than the originally intended use,<sup>7</sup> it did not develop a procedure for centrally tracking or monitoring those travel credits.

If grantees do not receive or use travel credits, expenses associated with cancelled travel are allowable under Flexibility 7 of OMB Memorandum M-20-17.<sup>8</sup> However, because Caltech does not centrally monitor credits that employees receive for personally booked travel, Caltech employees could use travel credits to book travel that does not benefit the NSF award(s) to which they charged the original travel expense.

### ***Consideration***

We suggest that NSF's Director of the Division of Institution and Award Support consider:

1. Directing Caltech to implement additional monitoring procedures to ensure that employees who used their personal credit cards to book travel use any travel credits received to benefit the NSF award(s) to which they charged the original travel expense. For cases in which employees use a travel credit to benefit other project(s), Caltech should monitor to ensure that the employees transfer the original travel expense to the appropriate funding source.

**California Institute of Technology Response:** Caltech disagreed with this suggested area for improvement, stating that it believes its process for monitoring travel credits meets the requirements outlined in OMB Memorandum M-20-17, Flexibility 7. Specifically, Caltech believes its certification process, which required employees to certify they would use travel credits for the expense's original purpose, was reasonable given the uncertainty regarding the length of the pandemic and the fact that airlines were not providing cash refunds.

**Auditors' Additional Comments:** Our position regarding this suggested area for improvement has not changed. Although Caltech's certification statements require individuals to certify they will make every effort to use travel credits received to benefit the originally intended source, because Caltech does not track travel credit certifications or monitor the associated expenses to ensure that personnel use the travel credits to benefit the original award(s) charged, our position regarding this suggested area for improvement has not changed.

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<sup>7</sup> Caltech required employees to use its "Certification Statement Regarding Non-Use of a Credit Provided by Travel Vendor for a Non-Refundable Travel Cost for Caltech Employee" form to document airline credits for employees who purchased a non-refundable airline ticket using their personal credit card. This form outlines the employee's responsibility for making every effort to use the credit for its originally intended purpose, rather than for personal use. The form also states that, in the event that the employee receives a credit for federally funded travel and uses this credit for a business purpose other than its original intended use, the employee must notify grant personnel to transfer the cost to the award that benefited from the travel.

<sup>8</sup> OMB Memorandum M-20-17, Flexibility 7. *Allowability of Costs not Normally Chargeable to Awards* states that recipients who incur costs related to the cancellation of events, travel, or other activities that were necessary and reasonable for the performance of the award, as well as costs related to the pausing and restarting of grant-funded activities, as a result of the public health emergency are authorized to charge these costs to their award without regard to 2 CFR § 200.403, *Factors affecting allowability of costs*; 2 CFR § 200.404, *Reasonable costs*; and 2 CFR § 200.405, *Allocable costs*.

## Area for Improvement 2: Monitoring of Supply Costs Incurred in Response to the COVID-19 Pandemic

Under Caltech's current monitoring procedures, employees can charge NSF awards for costs incurred to enable them to continue to work during the COVID-19 pandemic without sufficiently documenting that they allocated the costs to the NSF awards based on the relative benefits received.<sup>9</sup> Specifically:

- Caltech allowed employees to charge NSF awards for costs incurred to purchase supplies to enable remote work during the COVID-19 pandemic. Although Caltech did not specifically track all of the supplies that employees purchased for this purpose, its general ledger supports that between March 1 and September 30, 2020, it charged NSF awards for the following expenses that appear to be associated with remote work during the COVID-19 pandemic:
  - \$173,260 in Amazon purchases, including \$52,321 for Amazon Web Services, \$10,757 for computer monitors, \$9,897 for speakers and headphones, \$5,108 for cables, \$3,203 for printers (including toner and paper), and \$1,961 for chairs.
  - \$39,313 in Apple products, including \$13,280 for iPads, \$1,409 for keyboards, \$1,197 for Apple Pencils, \$870 for iPhones, and \$668 for headphones/AirPods.
- Caltech allowed employees to charge NSF awards for costs incurred to purchase supplies related to mitigating the transmission of the COVID-19 virus. Although Caltech did not specifically track all of the supplies that employees purchased for this purpose, its general ledger supports that between March 1 and September 30, 2020, it charged NSF awards for the following expenses that appear to be associated with mitigating the transmission of the COVID-19 virus:
  - \$17,959 in costs incurred to purchase sanitizing materials and services.
  - \$10,667 in costs incurred to purchase Medify Air Scrubbers installed in lab spaces.

OMB Memorandum M-20-17<sup>10</sup> allowed awardees to charge NSF for costs incurred to restart grant-funded activities without regard to 2 CFR § 200.403, *Factors affecting allowability of costs*; 2 CFR § 200.404, *Reasonable costs*; and 2 CFR § 200.405, *Allocable costs*. However, because Caltech did not implement procedures to ensure it appropriately documented that it

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<sup>9</sup> According to 2 CFR § 200.403 and § 200.405, absent the COVID-19 flexibilities granted by OMB, for costs to be allowable, grantees must charge costs to Federal awards and cost objectives in accordance with the relative benefits received.

<sup>10</sup> OMB Memorandum M-20-17, Flexibility 7. *Allowability of Costs not Normally Chargeable to Awards* states that recipients who incur costs related to the cancellation of events, travel, or other activities that were necessary and reasonable for the performance of the award, as well as costs related to the pausing and restarting of grant-funded activities, as a result of the public health emergency are authorized to charge these costs to their award without regard to 2 CFR § 200.403, *Factors affecting allowability of costs*; 2 CFR § 200.404, *Reasonable costs*; and 2 CFR § 200.405, *Allocable costs*.

charged NSF awards for supplies purchased to enable employees to work remotely and/or to mitigate the transmission of the COVID-19 virus based on the relative benefits the awards received, Caltech could potentially inappropriately allocate supply expenses to NSF awards.

### ***Consideration***

We suggest that NSF's Director of the Division of Institution and Award Support consider:

1. Directing Caltech to implement additional policies and monitoring procedures to ensure it appropriately documents the methodology it uses to ensure it allocates costs incurred for supplies to enable its employees to continue performing research during the COVID-19 public health emergency (e.g., supplies related to remote work and lab safety equipment) based on the relative benefits the project(s) received.

**California Institute of Technology Response:** Caltech disagreed with this suggested area for improvement, stating that it believes its current process, which requires PIs to verify that they appropriately allocated costs to NSF awards, is sufficient. Specifically, Caltech noted that because the audit team did not identify any instances of inappropriate allocations, other than an example of an intra-award misallocation, there is no indication that personnel inappropriately allocated costs.

**Auditors' Additional Comments:** Our position regarding this suggested area for improvement has not changed. Although Caltech stated that the audit team did not identify any instances in which Caltech personnel did not appropriately allocate expenses, we did identify two instances in which Caltech did not adequately document its allocation methodology, as follows:

- Caltech charged an NSF award for 100 percent of the cost the PI incurred to purchase an iPad for remote work but did not request that the PI document what percentage of the purchase would benefit this award.
- Caltech charged a single site location project code for 100 percent of the costs the PI incurred to purchase Medify Air Scrubbers to help mitigate the transmission of the COVID-19 virus but did not request that the PI document what percentage of the purchase would benefit the site charged.

Because OMB Memorandum M-20-17 allowed recipients to charge costs related to the pausing and restarting of grant-funded activities as a result of the public health emergency to Federal awards without regard to 2 CFR § 200.405, *Allocable costs*, we did not note an exception related to Caltech's inadequate documentation of its allocation methodology in the instances identified above. However, because Caltech employees continued to work remotely as a COVID-19 precaution after this OMB flexibility expired, our position regarding this suggested area for improvement has not changed.

#### IV. AUDIT FINDING RELATED TO THE COVID-19 FLEXIBILITIES

For the purposes of this report, a finding related to the COVID-19 flexibilities is a condition that shows evidence of non-compliance with the COVID-19 flexibilities applicable to the sampled NSF awards.

We provide a breakdown of the questioned costs by finding in **Appendix C** of this report.

##### **Finding 1: Unallowable Salary Expenses Charged After OMB M-20-17 Expired**

Following the expiration of OMB Memorandum M-20-17,<sup>11</sup> Caltech charged five NSF awards a total of \$16,769 in salary, fringe, and indirect costs related to payments made to employees who were unable to perform grant-related work. Specifically, in response to the COVID-19 pandemic, Caltech established an Other Paid Leave Pool (OPLP)<sup>12</sup> charge code for employees to track any salary earned while idle. Although NSF's implementation of Flexibility 6 of OMB Memorandum M-20-17 allowed Caltech to directly charge these OPLP salaries to NSF awards from March 19 to June 16, 2020,<sup>13</sup> Caltech continued to charge OPLP salaries to NSF awards after Flexibility 6 of OMB Memorandum M-20-17 expired. Specifically:

- Caltech charged five NSF awards for \$16,351 in OPLP salary earned between June 16, 2020 (i.e., the expiration date for Flexibility 6 of OMB Memorandum M-20-17), and July 20, 2020 (i.e., the expiration date for Caltech's internal policy for charging idle costs to sponsored awards during the pandemic).<sup>14</sup>
- Caltech charged one NSF award for \$418 in OPLP salary earned after July 20, 2020, because it did not immediately restrict the use of the OPLP code.
  - *Caltech agreed to reimburse NSF for these expenses.*

Caltech stated that it implemented its own July 20, 2020 expiration date for the salary flexibilities granted in OMB Memorandum M-20-17 because OMB did not issue a retirement period for discontinuing the use of OMB Memorandum M-20-17 or an implementation period

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<sup>11</sup> OMB Memorandum M-20-17, Flexibility 6. *Allowability of salaries and other project activities* states that awarding agencies may allow recipients to continue to charge salaries and benefits to currently active Federal awards consistent with the recipients' policy of paying salaries from all funding sources, Federal and non-Federal, under unexpected or extraordinary circumstances. The flexibility expired on June 16, 2020.

<sup>12</sup> According to Caltech's *Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation*, issued on April 2, 2020, employees should continue to charge COVID-19-related costs to the account that would otherwise have benefited from the activity or expense, regardless of funding source (i.e., Federal or non-Federal). This included expenses related to salaries, stipends, benefits, and tuition, even if the employee, student, trainee, or fellow was unable to perform their normal project responsibilities.

<sup>13</sup> Caltech used Flexibility 6 of OMB Memorandum M-20-17 to charge NSF awards for \$108,638 in salaries associated with idle employees. Caltech charged \$97,171 of this amount during pay periods that fell prior to the expiration of OMB Memorandum M-20-17.

<sup>14</sup> Caltech's *Cancellation of Policy Memo*, issued on July 13, 2020, cancelled its *Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation*. In particular, the memorandum states that the cancellation of the flexibilities related to salary expenses would take effect at the start of the next pay period (i.e., July 20, 2020, for bi-weekly staff).

that allowed it to meet the criteria set in OMB Memorandum M-20-26, as Caltech had anticipated. Specifically, Caltech noted that, because it did not believe sufficient guidance was available to define “exhaust all other funding resources” in the salary flexibilities granted by OMB Memorandum M-20-26,<sup>15</sup> it was not able to implement these flexibilities. Caltech therefore updated its OPLP policy to include an expiration date that would allow departments to retire the use of the flexibilities granted by OMB Memorandum M-20-17. Because these salaries were earned after OMB Memorandum M-20-17 expired on June 16, 2020 and Caltech isn’t authorized to implement its own expiration date, we are questioning \$16,769 in unallowable salary expenses charged to five NSF awards. Caltech concurred with \$418 of the questioned costs but disagreed with the remaining \$16,351, as illustrated in Table 1:

**Table 1. Unallowable Salary Expenses Charged After OMB M-20-17 Expired**

Description	NSF Award No.	Fiscal Year	Questioned Costs			Caltech Agreed to Reimburse
			Direct	Indirect	Total	
June 26, 2020, OPLP Salary Payments (June 8 – June 21)	[REDACTED]	2020	\$31	\$21	\$52	\$0
		2020	167	109	276	0
		2020	952	247	1,199	0
		2020	788	508	1,296	0
		2020	36	24	60	0
July 10, 2020, OPLP Salary Payments (June 22 – July 5)	[REDACTED]	2020	120	80	200	0
		2020	418	271	689	0
		2020	4,273	1,111	5,384	0
		2020	1,577	1,017	2,594	0
		2020	86	57	143	0
July 24, 2020, OPLP Salary Payments (July 6 – July 19)	[REDACTED]	2020	181	120	301	0
		2020	3,173	825	3,998	0
		2020	95	64	159	0
August 7, 2020, OPLP Salary Payments (July 20 – August 2)	[REDACTED]	2020	<u>418</u>	<u>0</u>	<u>418</u>	<u>418</u>
<b>Total</b>			<b><u>\$12,315</u></b>	<b><u>\$4,454</u></b>	<b><u>\$16,769</u></b>	<b><u>\$418</u></b>

Source: Auditor summary of identified exceptions.

<sup>15</sup> NSF’s June 25, 2020, guidance titled *NSF Implementation of OMB Memorandum M-20-26, “Extension of Administrative Relief for Recipients and Applicants of Federal Financial Assistance Directly Impacted by the Novel Coronavirus (COVID-19) due to Loss of Operations”* dated June 18, 2020 allowed for the continued payment of idle employees if recipients first exhausted all other funding sources available to sustain their workforce and implement necessary steps to save overall operational costs.

## ***Recommendations***

We recommend that NSF’s Director of the Division of Institution and Award Support:

1. Resolve the \$16,351 in questioned salary expenses for which Caltech has not agreed to reimburse NSF and direct Caltech to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct Caltech to provide documentation supporting that it has repaid or otherwise credited the \$418 of questioned salary expenses for which it has agreed to reimburse NSF.
3. Direct Caltech to strengthen its policies and procedures by retroactively establishing expiration dates on its use of the Other Paid Leave Pool on Federal awards and ensuring that these expiration dates align with the expiration dates and criteria specific to Flexibility 6 of Office of Management and Budget Memorandum M-20-17.

**California Institute of Technology Response:** Although Caltech agreed to refund the \$418 in costs charged to NSF awards after its self-authorized expiration date for OMB Memorandum M-20-17, it disagreed with the finding. Specifically, Caltech stated that it believes it was unreasonable for OMB to not offer a retirement period for the flexibilities granted by OMB Memorandum M-20-17, as well as to not define what it meant to “exhaust other available sources” per OMB Memorandum M-20-26, Flexibility 1. As a result of these circumstances, Caltech believes that it was reasonable for it to set a retirement period and directly charge NSF awards for costs related to OPLP salary during this period.

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. Specifically, because OMB did not allow for additional time to retire OMB Memorandum M-20-17 and because Caltech did not meet the criteria defined in OMB Memorandum M-20-26 to charge idle employee salary costs after June 16, 2020, these idle salary costs are not allowable.

## **V. AUDIT FINDINGS UNRELATED TO THE COVID-19 FLEXIBILITIES**

For the purposes of this report, a finding unrelated to the COVID-19 flexibilities is a condition that shows evidence of non-compliance with the regulations applicable to the sampled NSF awards, aside from those related to the COVID-19 flexibilities granted by OMB.

We provide a breakdown of the questioned costs by finding in **Appendix C** of this report.

### **Finding 2: Unapproved Subaward Expenses**

Caltech did not obtain NSF’s approval to issue a research subcontract before contracting out part of an NSF-funded research project. Specifically, Caltech charged NSF Award No. [REDACTED] for \$31,856 in costs invoiced by the University [REDACTED] under a research subcontract without requesting approval to contract with or transfer research to [REDACTED] either in the



original grant proposal or through subsequent requests submitted to NSF via the NSF FastLane system, as required by the NSF Proposal and Award Policies and Procedures Guide (PAPPG).<sup>16</sup>

Additionally, because Caltech did not believe that the research subcontract it established with ██████ represented a transfer of award research, it did not assess the subrecipient's risk(s) to determine the appropriate level of monitoring, consistent with Federal requirements<sup>17</sup> or Caltech policies<sup>18</sup> for pass-through entities.

Further, Caltech did not appropriately apply indirect costs to the first \$25,000 of costs that ██████ invoiced. Specifically, Caltech only applied indirect costs to \$19,869 of the \$26,690 that ██████ invoiced.<sup>19</sup>

Caltech did not have sufficient policies and procedures or internal controls in place at the LIGO operation to ensure it appropriately awarded, monitored, and/or accounted for research activities it contracted out to subrecipients. We are therefore questioning \$31,856 of direct and indirect subcontract costs charged to one NSF award, as illustrated in Table 2.

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<sup>16</sup> NSF PAPPG 19-1, Part II, Chapter VII, Section B.4. states that potential grantees should disclose their intent to enter into a subaward agreement in their proposal submission and that, if it becomes necessary to contract with a subawardee or otherwise transfer a part of the research after NSF has awarded the grant, the grantee must electronically submit, at a minimum, (i) a clear description of the work to be performed and (ii) a separate budget for each subaward, and NSF will indicate its authorization by an amendment to the grant signed by the Grants Officer.

<sup>17</sup> According to 2 CFR §200.331, *Requirements for pass-through entities*, "All pass-through entities must: ... (b) Evaluate each subrecipient's risk of noncompliance with Federal statutes, regulations, and the terms and conditions of the subaward for purposes of determining the appropriate subrecipient... (c) Consider imposing specific subaward conditions upon a subrecipient if appropriate as described in §200.207 *Specific conditions*. (e) Depending upon the pass-through entity's assessment of risk posed by the subrecipient (as described in paragraph (b) of this section), the following monitoring tools may be useful for the pass-through entity to ensure proper accountability and compliance with program requirements and achievement of performance goals: (1) Providing subrecipients with training and technical assistance on program-related matters; and (2) Performing on-site reviews of the subrecipient's program operations; (3) Arranging for agreed-upon-procedures engagements as described in §200.425 *Audit services*."

<sup>18</sup> According to Caltech's *Policy and Procedure on Issuance of Subawards and on Subrecipient Monitoring*, Caltech must use a number of factors to determine a subrecipient's level of risk for non-compliance, and the results of this risk assessment may impact the terms and conditions Caltech must include in the subaward, as well as the level of monitoring Caltech must impose on the subrecipient.

<sup>19</sup> Caltech's Negotiated Indirect Cost Rate Agreement (NICRA) dated September 25, 2019, which was effective at the time of the instance identified, stated that the MTDC includes the first \$25,000 of each subaward.

**Table 2. Unapproved Subaward Expenses**

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	Caltech Agreed to Reimburse
Unapproved Subcontract		2020	\$26,690	\$5,166	\$31,856	\$0
Insufficient Pass-Through Entity Risk Assessment			0	0	0	0
Incorrect Indirect Cost Rate Application			0	0	0	0
<b>Total</b>			<b><u>\$26,690</u></b>	<b><u>\$5,166</u></b>	<b><u>\$31,856</u></b>	<b><u>\$0</u></b>

Source: Auditor summary of identified exceptions.

### **Recommendations**

We recommend that NSF’s Director of the Division of Institution and Award Support:

1. Resolve the \$31,856 in questioned subaward expenses for which Caltech has not agreed to reimburse NSF and direct Caltech to repay or otherwise remove the sustained questioned costs from its NSF awards.
2. Direct Caltech to strengthen its internal control processes and procedures surrounding the transfer of significant portions of NSF-funded research to other organizations. Updated processes could include:
  - a. Establishing procedures to verify whether the scope of work for a proposed subcontract on an NSF award is programmatic in nature before issuing the subcontract. If the scope of work is programmatic in nature, Caltech should obtain the NSF Grants Officer’s approval before issuing the subcontract. Caltech could obtain this approval either as part of the initial NSF grant proposal/budget or through a formal request to transfer the research or effort, submitted through NSF’s FastLane system.
  - b. Requiring periodic training for Caltech personnel that are permitted to subaward, issue, or subcontract out research under NSF awards, to ensure that they request the appropriate approvals.
  - c. Establishing procedures to confirm that Caltech personnel perform pass-through entity risk assessments to identify the appropriate monitoring procedures when Caltech awards NSF research to a pass-through entity.
  - d. Establishing periodic monitoring procedures to ensure that Caltech appropriately assesses indirect costs on the first \$25,000 invoiced by each subawardee.

**California Institute of Technology Response:** Caltech disagreed with the finding, stating that it did not require NSF’s approval to issue the subcontract to [REDACTED] because the researcher performing the work did not have any programmatic decision-making responsibilities. Specifically, Caltech stated that, because [REDACTED] had prior research experience at LIGO and a LIGO employee directed all of the work on the project, it believes it appropriately awarded the identified scope of work under a contractual services agreement, rather than under a subaward.

Although Caltech did not agree that it should have treated this subcontract as a subaward, it did agree to enhance its determination process for subcontracts to include additional steps to ensure that Caltech personnel appropriately account for costs associated with LIGO agreements in the future. Caltech noted that its enhancements will include a review for programmatic research in a contract’s scope of work, training for personnel who assess the scope of work, and monitoring of indirect cost assessments on subawards and research contracts.

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. Specifically, although Caltech stated that it did not require NSF approval for this subcontract, because [REDACTED] did not provide services that included programmatic influence or decision making responsibility under this NSF award, Caltech justified its decision to award the subcontract to [REDACTED] based on [REDACTED] prior scientific research in support of programmatic activities performed at LIGO. As such, the contract with [REDACTED] does not appear to have been simply to procure services, but to utilize [REDACTED] prior scientific research experience with LIGO to collaboratively carry out part of the award’s objectives, consistent with the characteristics of a subrecipient.<sup>20</sup> Because Caltech’s relationship and contract<sup>21</sup> with [REDACTED] was not to facilitate the procurement of services, but to carry out scientific research in support of the LIGO program operations, we believe this subcontract required NSF approval.

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<sup>20</sup> According to 2 CFR 200.330, *Subrecipient and contractor determinations*, a subaward is for the purpose of carrying out a portion of a Federal award, where a contract is for the purpose of obtaining goods and services for the non-Federal entity’s own use and creates a procurement relationship with the contractor. Further, section (a) states that characteristics which support the classification of the entity as a subrecipient include whether the entity has its performance measured in relation to the objectives of a Federal program, has responsibility for programmatic decision making, and whether it is responsible for adherence to applicable Federal program requirements.

<sup>21</sup> According to 2 CFR 200.330, *Subrecipient and contractor determinations*, (c) to determine whether an agreement between the pass-through entity and another non-Federal entity is a subrecipient agreement or contract, the substance of the relationship is considered more important than the form of the agreement.

### Finding 3: Inaccurately Applied Indirect Costs

Caltech's Negotiated Indirect Cost Rate Agreement (NICRA)<sup>22</sup> states that Caltech applies its indirect cost rate to a Modified Total Direct Cost (MTDC)<sup>23</sup> base that excludes rental expenses and equipment costs. However, Caltech charged two NSF awards a total of \$1,515 in indirect costs that it inappropriately applied to rental expenses and equipment costs. Specifically:

- In April 2020, Caltech charged NSF Award No. [REDACTED] for \$1,263 in indirect costs related to the rental of a man-lift to assist in the installation and repair of equipment and lighting at the Livingston LIGO Observatory.
  - *Caltech agreed to reimburse NSF for these expenses.*
- In May 2020, Caltech charged NSF Award No. [REDACTED] for \$252 in indirect costs because it did not appropriately capitalize sales tax expenses as part of the cost of the equipment, as required by Caltech policy.<sup>24</sup>
  - *Caltech agreed to reimburse NSF for these expenses.*

Caltech's accounting system was incorrectly configured to include its equipment rental account within its MTDC base. Further, Caltech did not provide its personnel with sufficient training to ensure that they properly accounted for costs associated with equipment rentals and sales taxes in accounts that were excluded from Caltech's MTDC base. We are therefore questioning \$1,515 of inappropriately applied indirect costs charged to two NSF awards. Caltech concurred with the full \$1,515 in questioned costs, as illustrated in Table 3.

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<sup>22</sup> Caltech's NICRAs dated September 25, 2019, and August 31, 2020, which were effective at the time of the instances identified, state that the MTDC base excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs, and the portion of each subaward in excess of \$25,000.

<sup>23</sup> According to 2 CFR 200.68, *Modified Total Direct Costs*, "MTDC means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and subawards and subcontracts up to the first \$25,000 of each subaward or subcontract (regardless of the period of performance of the subawards and subcontracts under the award). MTDC excludes equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward and subcontract in excess of \$25,000. Other items may only be excluded when necessary to avoid a serious inequity in the distribution of indirect costs, and with the approval of the cognizant agency for indirect costs."

<sup>24</sup> According to Caltech's *Equipment Threshold Policy*, equipment has an acquisition cost of \$5,000 or more and includes the invoice amount, sales tax, freight costs, installation costs, costs for the initial complement of supplies needed to place the asset into service, and accessory and auxiliary apparatus necessary to make the equipment usable for the purpose for which it was acquired, less trade or trade-in discounts and/or educational allowances.

**Table 3. Inaccurately Applied Indirect Costs**

Description	NSF Award No.	Fiscal Year	Questioned Costs			Caltech Agreed to Reimburse
			Direct	Indirect	Total	
April 2020 Rental Expense	██████	2020	\$0	\$1,263	\$1,263	\$1,263
May 2020 Sales Tax	██████	2020	<u>0</u>	<u>252</u>	<u>252</u>	<u>252</u>
<b>Total</b>			<b><u>\$0</u></b>	<b><u>\$1,515</u></b>	<b><u>\$1,515</u></b>	<b><u>\$1,515</u></b>

Source: Auditor summary of identified exceptions.

**Recommendations**

We recommend that NSF’s Director of the Division of Institution and Award Support:

1. Direct Caltech to provide documentation supporting that it has repaid or otherwise credited the \$1,515 of questioned indirect costs for which it has agreed to reimburse NSF.
2. Direct Caltech to strengthen its monitoring procedures and internal control processes for applying indirect costs to Federal awards. Updated procedures could include:
  - a. Requiring that personnel review rental expenses charged to NSF awards to assess whether the expenses included indirect costs. Specifically, Caltech should ensure the general ledger account codes it establishes to account for equipment rental charges do not apply indirect costs.
  - b. Requiring that personnel review capitalized expenses charged to an NSF award to ensure that the capitalized amount includes all applicable costs.
3. Direct Caltech to quantify the total indirect costs inappropriately applied to NSF awards as a result of its rental equipment account inappropriately applying indirect costs and to reimburse NSF for the appropriate amount.

**California Institute of Technology Response:** Caltech agreed with this finding, noting that the issue was caused by an error within its accounting system. Caltech stated that it has returned the questioned costs and that it will provide its staff with additional training to ensure similar errors do not occur in the future. However, Caltech did note that it does not believe it is necessary for it to require its personnel to review the rental equipment account, as Caltech will not charge indirect costs against equipment rental costs in the future.

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. However, because Caltech’s response indicates that it should not have applied indirect costs to expenses charged to its rental equipment account and that it will not do so in the future, we have included an additional recommendation for NSF’s Director of the Division of Institution and

Award Support to ensure that Caltech reimburses NSF for all of the indirect costs Caltech inaccurately applied to its equipment rental expenses.

**Finding 4: Unallowable Intergovernmental Personnel Act Expenses**

Caltech charged one Intergovernmental Personnel Act (IPA) NSF award for \$581 in salary expenses that were unallowable under Federal regulations<sup>25</sup> and the NSF PAPPG.<sup>26</sup> Specifically:

- In June 2020, Caltech charged NSF Award No. [REDACTED] for \$581 in salary and fringe expenses related to work performed before the IPA assignment start date of May 26, 2020.
  - *Caltech agreed to reimburse NSF for these expenses.*

Caltech did not have sufficient procedures in place to ensure that it appropriately established the employee’s salary appointment based on their IPA assignment. We are therefore questioning \$581 of unallowable salary charged to one NSF award. Caltech concurred with the full \$581 in questioned costs, as illustrated in Table 4.

**Table 4. Unallowable Intergovernmental Personnel Act Expenses**

Description	NSF Award No.	Fiscal Year	Questioned Costs			
			Direct	Indirect	Total	Caltech Agreed to Reimburse
May 2020 Unallowable Salary	[REDACTED]	2020	\$581	\$0 <sup>27</sup>	\$581	\$581
<b>Total</b>			<b><u>\$581</u></b>	<b><u>\$0</u></b>	<b><u>\$581</u></b>	<b><u>\$581</u></b>

Source: Auditor summary of identified exceptions.

**Recommendations**

We recommend that NSF’s Director of the Division of Institution and Award Support:

1. Direct Caltech to provide documentation supporting that it has repaid or otherwise credited the \$581 of questioned salary and fringe costs for which it has agreed to reimburse NSF.

<sup>25</sup> According to 2 CFR §200.403(a), “For costs to be allowable, they must be necessary and reasonable for the performance of the Federal award.”

<sup>26</sup> According to NSF PAPPG 20-1, Part II - Award & Administration Guide, Chapter X: Allowability of Costs, Section A, *Basic Considerations*, expenditures under NSF cost-reimbursement grants are governed by the Federal cost principles and must conform with NSF policies and grant special provisions and grantee internal policies. Grantees should ensure that costs claimed under NSF grants are necessary, reasonable, allocable, and allowable under the applicable cost principles, NSF policy, and/or the program solicitation.

<sup>27</sup> Because Caltech made this salary payment under an IPA agreement, it correctly did not apply indirect costs.

2. Direct Caltech to strengthen its administrative and management controls and processes surrounding the charging of salary to Intergovernmental Personnel Act awards. Updated processes could include requiring departmental payroll personnel to perform additional procedures to ensure that Caltech appropriately established initial salary payments, including verifying that all payments are within the Intergovernmental Personnel Act assignment dates.

**California Institute of Technology Response:** Caltech agreed with this finding, noting that the issue occurred because the employee switched from a bi-weekly salary appointment to a monthly appointment. Caltech stated that it has returned the questioned costs to NSF and that it will provide additional training to its Human Resources and Divisional personnel to ensure they appropriately account for IPA salaries in the future.

**Auditors' Additional Comments:** Our position regarding this finding has not changed.

### **Finding 5: Incorrect Application of Indirect Cost Rates**

Caltech did not apply indirect costs using the rates included in the NICRA that was in effect as of the date of award, as required by Federal<sup>28</sup> and NSF guidance,<sup>29</sup> for two NSF awards. Specifically:

- Caltech applied a 64.3 percent indirect cost rate<sup>30</sup> to direct costs charged to NSF Award No. [REDACTED] rather than using the appropriate 66.75 percent rate.<sup>31</sup> This exception occurred because Caltech used the grant's effective date of October 1, 2015, rather than its award date of September 23, 2015, to determine the appropriate indirect cost rate to apply.
- Caltech applied a 10 percent indirect cost rate to direct costs charged to NSF Award No. [REDACTED] rather than the 11.11 percent indirect cost rate awarded for the grant,<sup>32</sup> because the 10 percent rate was the closest approximation in its accounting system.

Caltech did not have sufficient policies and procedures or internal controls in place to ensure that it always appropriately applied indirect costs to NSF awards. As a result, Caltech applied incorrect indirect cost rates to direct expenses accumulated on two NSF awards, as illustrated in Table 5.

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<sup>28</sup> According to 2 CFR 200, Appendix III, Section C.7, Federal agencies must use the negotiated rates for indirect (F&A) costs in effect at the time of the initial award throughout the life of the sponsored agreement.

<sup>29</sup> According to NSF PAPPG 19-1, Part I, Chapter II, Section C.2.g.(viii), "Indirect cost recovery for institutes of higher education are additionally restricted by 2 CFR 200, Appendix III, paragraph C.7. which specifies Federal agencies are required to use the negotiated indirect cost rate that is in effect at the time of the initial award throughout the life of the sponsored agreement."

<sup>30</sup> Caltech's fiscal year (FY) 2016 NICRA established an indirect cost rate of 64.3 percent for on-campus organized research for FY 2016 (i.e., October 1, 2015, to September 30, 2016).

<sup>31</sup> Caltech's FY 2015 NICRA established an indirect cost rate of 66.75 percent for on-campus organized research for FY 2015 (i.e., October 1, 2014, to September 30, 2015).

<sup>32</sup> Because NSF Award No. [REDACTED] is an Innovation Corps (I-Corps) award, the grant budget includes \$5,000 for indirect costs and \$45,000 for direct costs. ( $\$5,000/\$45,000 = 11.11\%$ )

**Table 5. Incorrect Application of Indirect Cost Rates**

NSF Award No.	Award Date	Rate Applied	Appropriate Rate
██████████	9/23/2015	64.30%	66.75%
██████████	8/9/2019	10.00%	11.11%

Source: Auditor summary of identified exceptions.

**Recommendation**

We recommend that NSF’s Director of the Division of Institution and Award Support:

1. Direct Caltech to update its current award set-up practices to require that, when setting up accounts established for NSF awards, personnel ensure that the accounts apply indirect costs using either the rates that were established in the Negotiated Indirect Cost Rate Agreement in effect as of the date of the NSF grant award or the rates identified in the NSF award letters, as appropriate.

**California Institute of Technology Response:** Caltech disagreed with the finding, stating that it will not process any indirect cost rate adjustments or change its process for determining the appropriate indirect cost rate. Specifically:

- With regard to the indirect cost rate applied to NSF Award No. ██████████ Caltech believes that it was correct in using the NSF grant’s effective date to identify the appropriate indirect cost rate. Caltech interprets 2 CFR 200, Appendix III, paragraph C.7 as indicating that grantees should use the “start date of the award as issued by the sponsor” when assigning indirect cost rates. Further, Caltech noted that it believes this interpretation is correct because (i) the Uniform Guidance does not clearly dictate how to interpret the cited paragraph, (ii) Caltech has consistently applied its interpretation for many years, (iii) no other audits have identified an issue with this interpretation, and (iv) the government is not harmed by Caltech’s interpretation.
- With regard to the indirect cost rate applied to NSF Award No. ██████████ although Caltech acknowledged that a system limitation caused it to apply a 10 percent indirect cost rate rather than the 11.11 percent identified in the audit report, it stated that, because this exception did not negatively impact the Federal government, it will not make any adjustments. However, Caltech did note that it will add the 11.11 percent rate to its accounting system for use on similar awards in the future.

**Auditors’ Additional Comments:** Our position regarding this finding has not changed. Specifically:

- With regard to the indirect cost rate applied to NSF Award No. ██████████ because both Federal and NSF criteria require awardees to use the indirect cost rate(s) in effect at the time of the initial award, and because NSF awards become available at the time they are



signed by the NSF Grants Officer,<sup>33</sup> Caltech should use the NSF award date rather than the award's effective date when determining which rate(s) to apply. Further, although the rate that Caltech applied to this award was lower than the appropriate rate, Caltech's current interpretation of the criteria could cause it to overcharge NSF awards if its indirect cost rates were to increase between fiscal years.

- With regard to the indirect cost rate applied to NSF Award No. [REDACTED] because Caltech acknowledged that it did not apply the appropriate indirect cost rate to this award, our position regarding this finding has not changed.

COTTON & COMPANY LLP



Megan Mesko, CPA, CFE  
Partner  
May 25, 2021

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<sup>33</sup> NSF PAPPG 19-1, Part II, Chapter VI, Section D.1.c., states that the award date is the date when the NSF award is signed by the cognizant NSF Grants Officer.

**APPENDIX A: CALIFORNIA INSTITUTE OF TECHNOLOGY'S IMPLEMENTATION OF OMB AND  
NSF'S COVID-19 FLEXIBILITIES**

## CALIFORNIA INSTITUTE OF TECHNOLOGY'S IMPLEMENTATION OF OMB AND NSF'S COVID-19 FLEXIBILITIES

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee's Implementation of the Flexibilities?
M-20-17	1. Flexibility with SAM registration	No	<b>Not Applicable.</b> As the California Institute of Technology's (Caltech's) System for Award Management (SAM) registration does not expire until August 18, 2021, it did not need to use this flexibility.
	2. Flexibility with application deadlines	Yes	<b>No Exceptions Noted.</b> Caltech's Office of Sponsored Research (OSR) distributed written notices to grant managers that described the flexibility and identified the updated application deadlines. Caltech also noted that personnel discussed the OMB memoranda at length during online Research Administration Forum programs.
	3. Waiver for Notice of Funding Opportunities (NOFOs) publication	No	<b>Not Applicable.</b> This flexibility is not applicable to NSF awards.
	4. No-cost extensions on expiring awards	Yes	<b>No Exceptions Noted.</b> Caltech noted that its personnel requested no-cost extensions (NCEs) during the audit period through NSF's FastLane system, consistent with Caltech's pre-pandemic policies. Caltech stated that it did not change any of its NCE policies and procedures during the scope of our audit as a result of the pandemic. Caltech personnel were not aware whether the PI for any sponsored awards requested a second NCE during the scope of our audit; however, as noted, Caltech maintained its pre-pandemic policies and procedures with regard to requesting NCEs through NSF.
	5. Abbreviated non-competitive continuation requests	Yes	<b>No Exceptions Noted.</b> Although Caltech's OSR informed grant management personnel that this flexibility was available, Caltech was not aware of any instances in which grant management personnel used the flexibility.
	6. Allowability of salaries and other project activities	Yes	<b>Exception Noted.</b> Caltech created and implemented the <i>Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation</i> , dated April 2, 2020, to permit grant management personnel to charge sponsored awards for salaries and other costs, as permitted by this COVID-19 flexibility. Caltech established the Other Paid Leave Pool (OPLP) charge code for staff who charged time to projects funded by all types of awards, including Federal sponsored awards, non-Federal sponsored awards, general budget, gifts, and endowments. Caltech expected employees to carry out their roles and responsibilities while telecommuting; however, if an employee was unable to carry out their role remotely, Caltech allowed the employee to use the OPLP code. Caltech's temporary personnel memorandum, issued on March 16, 2020, outlined the reasons an employee might use the OPLP charge code.

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
			<p>In particular, Caltech charged NSF awards for a total of \$108,638 in direct salary costs for individuals who were unable to perform their work. Caltech’s Budget and Planning Office tracked these costs and employees using the OPLP code. Our sample testing revealed instances in which Caltech charged these salary costs, or portions of salary costs, before the flexibility’s expiration date of June 16, 2020, as allowable under OMB M-20-17, Flexibility No. 6. Based on Caltech’s OPLP tracker, Caltech incurred \$97,171 of salary under OMB M-20-17, Flexibility No. 6 during this period. However, following the flexibility’s expiration on June 16, 2020, Caltech continued to charge salary to OPLP in accordance with this flexibility until July 20, 2020. Caltech stated that it needed time to revoke its policy, as OMB did not provide an implementation period for M-20-26. Caltech claimed additional OPLP salary after July 20, 2020; however, Caltech stated that it had removed these salary expenses from the respective awards. In total, Caltech charged NSF awards for an additional \$11,467 of direct salary costs for 10 employees (\$23,614 after including OPLP salary costs, fringe benefits, and indirect costs) after the expiration date for OMB M-20-17, Flexibility No. 6. As such, we are questioning the \$23,614 in salary, fringe benefits, and indirect costs that Caltech incurred after June 16, 2020, as these charges occurred after OMB M-20-17, Flexibility No. 6 expired and did not comply with the provisions outlined in OMB M-20-26, Flexibility No. 1.</p>
	<p>7. Allowability of costs not normally chargeable to awards</p>	<p>Yes</p>	<p><b>No Exceptions Noted.</b> Caltech created and implemented the <i>Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation</i>, dated April 2, 2020, to permit personnel to charge sponsored awards for costs that are not normally chargeable, as permitted by this flexibility. Caltech set up separate COVID codes to track spending related to COVID-19. Further, Caltech stated that its LIGO operations also established a number of charge codes to track COVID-19 spending. Caltech’s additional policies and procedures included the following:</p> <ul style="list-style-type: none"> <li>• Caltech implemented controls to track the use of credits issued for travel that employees booked through Caltech’s centralized travel system; however, it did not develop a process for centrally tracking credits issued for travel that employees booked using their personal credit cards. Caltech required employees who purchased a non-refundable airline ticket using their personal credit card to sign a certification statement documenting any airline credits received; however, the centralized travel system was not able to track those credits. Caltech stated that in the majority of these cases,</li> </ul>

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
			<p>either the travelers or Caltech received a refund. If the traveler used a purchase card (P-Card), the travel company processed the credit or refund directly to the P-Card. Caltech’s standard Travel Policy directs employees to use P-Cards for ease of tracking travel expenses. The P-Card would tie the credit to the traveler’s account for future use. Although we did not identify any instances in which a Caltech received a travel credit or refund on an award, we did identify one instance in which Caltech cancelled a lease for participant housing near the LIGO Livingston location, as it was more cost-effective for Caltech to cancel the lease than to continue it. Further, we noted one instance in which Caltech charged an NSF award for a nonrefundable management fee for a symposium that was cancelled due to the pandemic.</p> <ul style="list-style-type: none"> <li>Caltech also noted that it may have charged NSF awards for costs incurred to transition to a remote environment, such as costs for general supplies, personal protective equipment (PPE), or computer-related equipment. As part of its <i>Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation</i>, Caltech specifically noted that it may be required to move costs related to COVID-19 from specific sponsored awards if the sponsor disallows the costs. Caltech also issued guidelines for temporary telecommuting; these guidelines stated that Caltech would not provide equipment for telecommuting unless it was justified based on the needs of the department and the nature of the work assignment. We identified one instance in which Caltech took advantage of this flexibility by purchasing an Apple iPad Pro to enable a PI to work from home, even though the PI only spent 1 percent of their effort on the award to which Caltech charged the expense. Although Caltech stated that it was not able to identify any specific instances in its general ledger in which it used this flexibility, we noted that Caltech purchased \$27,252 in Apple products during the scope of our audit. Caltech also incurred costs for transitioning to a safe onsite work environment. We sampled expenses related to specialized tools that Caltech purchased to enable LIGO employees to interact with surfaces without physically touching them, cleanable computer equipment, and equipment for socially distanced staff interactions in the office and labs, such as powered air purifying systems and Medify Air Scrubbers. Although these expenses are typically unallowable on NSF awards, because they were necessary for Caltech to meet grant objectives</li> </ul>

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
			<p>during the COVID-19 pandemic, we did not note any exceptions.</p> <ul style="list-style-type: none"> <li>Consistent with its <i>Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation</i>, Caltech continued to charge activities and expenses to accounts and awards that would otherwise have benefited from them. As part of our audit testing, we noted that Caltech continued to charge NSF Award No. [REDACTED] for participant support stipends for its Research Experiences for Undergraduates (REU) program, in accordance with the budget and project objectives. We further noted that, although Caltech reduced the program from 13 participants to 10 and moved it to a virtual format, Caltech continued to pay out the stipend amounts, which included funding to cover room and board that was no longer required, as previously established. Because Caltech established the stipend amount prior to the pandemic and did not adjust the stipend amount because it wanted to maintain student participation, we did not note an exception.</li> </ul> <p>Although we did not identify any exceptions specific to Caltech’s continued charging of costs under its COVID-19 policies, we did identify two areas for improvement specific to Caltech’s COVID-19 policies and procedures, including (a) ensuring that travelers use future travel credits to benefit the awards initially charged, and (b) assessing and monitoring supplies charged to Federal awards in response to the COVID-19 pandemic, including procedures for appropriately allocating expenses to the awards that benefit from those supplies.</p>
	8. Prior approval requirement waivers	No	<p><b>Not Applicable.</b> Caltech stated that it did not implement this flexibility, as it did not waive any prior approval requirements. Caltech further noted that it maintained its pre-pandemic policies and procedures for requesting increases or decreases to its participant support cost budgets. Caltech was not aware of any awards for which the PI requested a reduction in participant support budgets because they were unable to meet the project objectives without in-person participation. Further, Caltech’s Post-Award Management team continued performing their monthly reconciliation of participant support costs to ensure that Caltech did not cover non-participant support costs using participant support funds.</p>
	9. Exemption of certain procurement requirements	No	<p><b>Not Applicable.</b> Although Caltech did not make any changes to its internal procurement requirements specific to this flexibility, it did implement changes</p>

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
			to its procurement procedures. The most significant of these changes was to allow employees to purchase items such as materials, supplies, and items to support remote work and have these items shipped directly to the employees’ homes. Caltech’s procurement department issued a memorandum directing employees to use their P-Card for these purchases, as the purchasing/ procurement department is not able to input an employee’s address when purchasing goods or services. Further, Caltech implemented an Emergency Operations Committee, which included participation from the procurement department, to ensure Caltech appropriately procured purchases during the pandemic.
	10. Extension of financial, performance, and other reporting	Yes	<b>No Exceptions Noted.</b> During our audit scope, Caltech submitted one request to NSF to alter deliverable dates relating to the operation of its NSF Major Facility (LIGO); specifically, those related to LIGO’s annual inventory. Caltech coordinated with LIGO and NSF Property Administration to establish a modified annual inventory process. Although NSF waived the annual inventory requirement for major facilities via its <i>NSF Implementation of M-20-17</i> , the parties agreed that LIGO would perform a limited inventory inspection, rather than the required wall-to-wall inventory inspection. LIGO took a small sample of inventory items, communicated the samples and sample selection process to NSF Property Administration, and reported that it had located all of the sampled equipment, as part of the reduced inventory effort. Caltech’s property team also indicated that it would not be able to tag all of the equipment that Caltech personnel received during the pandemic because only limited property personnel were allowed on site. As such, there is a risk that Caltech placed equipment in service before property personnel could tag or inventory it. Although our testing found that Caltech inventoried and located each sampled piece of equipment and that each sample was available for use, Caltech did appear to have placed one piece of equipment in service before tagging it. We did not note any exceptions with regard to inventory testing or the use of this flexibility.
	11. Extension of currently approved indirect cost rates	No	<b>Not Applicable.</b> Caltech stated that it did not request or receive an extension related to its Negotiated Indirect Cost Rate Agreement (NICRA). Caltech noted that it traditionally operates with a provisional rate throughout the year and then receives a final rate from its cognizant agency, the Office of Naval Research, late in the fiscal year. At year-end, Caltech ensures that it applied the new fixed rate to the full year’s worth of transactions. This process did not change. Caltech therefore received its final rate for Fiscal Year 2020 on August 19, 2020, and its provisional rate for Fiscal Year 2021 on September 22, 2020.

OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
	12. Extension of closeout	No	<b>Not Applicable.</b> Caltech stated that it did not request or receive any extensions for its final project reports and/or project outcome reports. We did not identify any such instances during our testing.
	13. Extension of Single Audit submission	No	<b>Not Applicable.</b> Caltech did not request or receive an extension related to the submission of its Single Audit report.
M-20-20	1. Donations of medical equipment and other resources purchased/funded under Federal financial assistance in support the COVID-19 response	Yes	<b>No Exceptions Noted.</b> Caltech stated that projects could implement this flexibility on a case-by-case basis with NSF approval; however, the LIGO operation was the only project that submitted a request for this activity. Because the LIGO operation had PPE available at its Caltech, Hanford, and Livingston sites, each site had the opportunity to donate PPE to hospital systems in its area. Caltech also shipped PPE to New York City to support its efforts in combating COVID-19. Although LIGO has been able to replace some of the donated PPE, it has also used this as an opportunity to pivot to different forms of PPE, such as launderable PPE for use in clean rooms. Our testing identified the purchase of 500 N-95 masks using an NSF RAPID award for the study of COVID-19.
M-20-26	1. Extension of allowability of salaries and other project activities through September 30, 2020	Yes	<p><b>Exception Noted.</b> Caltech created and implemented the <i>Temporary Policy on Charging Costs to Sponsored Awards During the COVID-19 Situation</i>, dated April 2, 2020, to permit grant management personnel to charge sponsored awards for salaries and other costs, as permitted by this COVID-19 flexibility. Caltech established the OPLP charge code for staff who charged time to projects funded by all types of awards, including Federal sponsored awards, non-Federal sponsored awards, general budget, gifts, and endowments. Caltech expected employees to carry out their roles and responsibilities while telecommuting; however, if an employee was unable to carry out their role remotely, Caltech allowed the employee to use the OPLP code. Caltech’s temporary personnel memorandum, issued on March 16, 2020, outlined the reasons an employee might use the OPLP charge code.</p> <p>In particular, Caltech charged NSF awards for a total of \$108,638 in direct salary costs for individuals who were unable to perform their work. Caltech’s Budget and Planning Office tracked these costs and employees using the OPLP code. Our sample testing revealed instances in which Caltech charged these salary costs, or portions of salary costs, before the flexibility’s expiration date of June 16, 2020, as allowable under OMB M-20-17, Flexibility No. 6. Based on Caltech’s OPLP tracker, Caltech incurred \$97,171 of salary under OMB M-20-17, Flexibility No. 6 during this period. However, following the flexibility’s expiration on June 16, 2020, Caltech continued to charge salary to OPLP in</p>



OMB Memo	Flexibility Granted	Flexibility Implemented per Awardee?	Exceptions(s) Identified with the Awardee’s Implementation of the Flexibilities?
			<p>accordance with this flexibility until July 20, 2020. Caltech stated that it needed time to revoke its policy, as OMB did not provide an implementation period for M-20-26. Caltech claimed additional OPLP salary after July 20, 2020; however, Caltech stated that it had removed these salary expenses from the respective awards. In total, Caltech charged NSF awards for an additional \$11,467 of direct salary costs for 10 employees (\$23,614 after including OPLP salary costs, fringe benefits, and indirect costs) after the expiration date for OMB M-20-17, Flexibility No. 6. As such, we are questioning the \$23,614 in salary, fringe benefits, and indirect costs that Caltech incurred after June 16, 2020, as these charges occurred after OMB M-20-17, Flexibility No. 6 expired and did not comply with the provisions outlined in OMB M-20-26, Flexibility No. 1.</p>
	<p>2. Extension of Single Audit submission and COVID-19 emergency acts fund reporting through December 31, 2020</p>	<p>No</p>	<p><b>Not Applicable.</b> Caltech did not request or receive an extension related to the submission of its Single Audit report.</p>

**APPENDIX B: CALIFORNIA INSTITUTE OF TECHNOLOGY'S OMB FLEXIBILITY SURVEY  
RESPONSE**

## CALIFORNIA INSTITUTE OF TECHNOLOGY'S OMB FLEXIBILITY SURVEY RESPONSE

Question No.	During the COVID 19 Pandemic, has your organization...	Awardee Response
1	Issued any subawards to grantees with expired SAM.gov registrations?	No
2	Rescinded and resubmitted grant proposals as a result of extended proposal deadlines?	No
3	Made any changes to its ACMS\$ draw-down methodology?	No
4	Submitted more no-cost extension requests than it typically does in an average 6-month period?	Yes
5	Established a new policy for charging salaries to projects during unexpected or extraordinary circumstances?	Yes
6	Allowed salaries, stipends, and benefits to continue to be charged even if the personnel were unable to conduct the research?	Yes
7	Allowed researchers to continue to perform on-campus research?	Yes
8	Allowed researchers to perform sponsored research off-campus?	Yes
9	Allowed personnel to perform research during the academic year that would typically be performed during a summer month?	Yes
10	Issued any additional guidance regarding how employees should track or certify effort while the campus was closed?	Yes
11	Issued any guidance limiting an employee's ability to book NSF sponsored travel?	Yes
12	Required students and/or employees to cancel previously planned trips?	Yes
13	Established a new policy for charging costs associated with the cancellation of events or travel?	Yes
14	Received any travel credits that related to airfare, lodging, or other travel expenses charged to NSF funding sources?	Yes
15	Hosted any on-campus NSF Research Experience for Undergraduate (REU) programs/activities?	No
16	Been required to cancel or re-schedule any NSF REU programs/activities?	No
17	Been required to adapt previously planned NSF REU programs/activities to a virtual format?	Yes
18	Been required to quarantine any students scheduled to participate in an NSF REU program?	No
19	Been required to cancel or re-schedule any non-REU NSF sponsored on-campus events?	No
20	Used NSF funding to sponsor virtual conferences or other virtual events/programs?	Yes
21	Been required to incur any unusual travel costs to ensure students/employees were able to return to the U.S. after performing NSF sponsored travel (such as extended travel times due to lack of flight availability/quarantine requirements, or costs incurred to charter an aircraft)?	No
22	Used NSF funding to purchase COVID-19 related goods/services (such as PPE, cleaning services, etc.) to allow students/employees to continue performing research?	Yes
23	Changed the scope or objectives of any of the research being performed on any of your NSF Awards?	No
24	Rebudgeted any NSF award participant support cost funding?	Yes
25	Issued any additional subaward agreements to perform NSF Award research?	No
26	Allowed employees to incur costs greater than 90 days before an NSF grant became effective?	No
27	Issued any guidance regarding authority to rebudget funding during the Pandemic?	No
28	Made any changes to its procurement policies or procedures?	No
29	Used NSF funding to purchase equipment?	Yes
30	Continued to perform annual inventory reporting?	Yes
31	Applied indirect costs using a provisional negotiated indirect cost rate?	Yes
32	Made any changes to the manner in which it identifies and classifies direct/indirect costs?	No
33	Implemented any additional flexibilities related to submitting final project reports or other grant close-out procedures as a result of COVID?	No
34	Issued any subawards to grantees performing research on NSF sponsored awards who did not have a Single Audit Report published for the most recent audit year?	No
35	Used NSF funding to purchase COVID-19 related goods/services (such as PPE, cleaning services, etc.) that were donated to hospitals, medical centers, and/or other local entities serving the public for COVID-19 response?	Yes
36	Donated any medical equipment purchased with NSF funds prior to March 2020 to hospitals, medical centers, and/or other local entities serving the public for COVID-19 response?	No

Question No.	During the COVID 19 Pandemic, has your organization...	Awardee Response
37	Received a Paycheck Protection Program loan or any Coronavirus Aid, Relief, and Economic Security (CARES) Act program funding?	No
38	Provided any guidance to subawardees regarding how personnel costs can/should be billed during the Pandemic?	No
39	Identified and exhausted all non-Federal funding sources to sustain your workforce before claiming costs for salaries that did not directly benefit NSF awards?	Yes
40	Implemented any steps to save overall operational costs (such as rent renegotiations)?	No
41	Implemented any changes in response to the updated solicitation guidance included in NSF 18-515, 18-584, 20-545, 20-546, or 20-562?	Yes
42	Received any NSF awards to perform research that involves human-subjects prior to receiving Institutional Review Board (IRB) approval?	No
43	Received any NSF awards to perform research that involves vertebrate animals prior to receiving approval from an Institutional Animal Care and Use Committee (IACUC)?	No
44	Operated an NSF sponsored Major Facility?	Yes
45	Allowed any Principal Investigators to disengage from an NSF Award for more than 3 months?	No
46	Changed the cost-sharing requirements previously established for any NSF awards?	No
47	Encumbered any real property with Federal funds?	No
48	Provided resources or oversight of any NSF Small Business Innovation Research Program (SBIR) or Small Business Technology Transfer (STTR) Awards?	No

Question No.	During the COVID 19 Pandemic, has your organization used NSF Funding to cover...	Response
49	Expenses associated with fines, penalties, or other damages?	No
50	Fund-raising expenses?	No
51	Costs of housing (e.g. depreciation, maintenance, utilities, furnishings, rent), housing allowances or personal living expenses?	No
52	Insurance or indemnification expenses?	No
53	Costs of memberships in civic or community organizations?	No
54	Costs associated with selling and marketing (other than costs allowed under 2 CFR §200.421 Advertising and public relations)?	No
55	Dependent care costs for trips greater than 6 months?	No
56	Costs of entertainment, amusement, diversion or social activities (with programmatic purpose)?	No
57	Severance payments to foreign nationals that exceed the amounts customary in the US?	No
58	Salary earned at a rate higher than an employee's established institutional base salary?	No
59	Unbudgeted administrative salary costs?	No
60	Costs incurred to purchase real property or to perform construction activities related to improving capital assets?	No
61	Costs incurred to allow employees to perform research or otherwise work from home?	Yes

**APPENDIX C: SCHEDULE OF QUESTIONED COSTS BY FINDING**

NATIONAL SCIENCE FOUNDATION  
ORDER # 140D0420F0654  
PERFORMANCE AUDIT OF COSTS CLAIMED ON NSF AWARDS  
CALIFORNIA INSTITUTE OF TECHNOLOGY

SCHEDULE OF QUESTIONED COSTS BY FINDING

Finding	Description	Questioned Costs		Total
		<i>Unsupported</i>	<i>Unallowable</i>	
1	Unallowable Salary Expenses Charged After OMB M-20-17 Expired	\$0	\$16,769	\$16,769
2	Unapproved Subaward Expenses	0	31,856	31,856
3	Inaccurately Applied Indirect Costs	0	1,515	1,515
4	Unallowable Intergovernmental Personnel Act Expenses	0	581	581
5	Incorrect Application of Indirect Cost Rates	0	0	0
<b>Total</b>		<b><u>\$0</u></b>	<b><u>\$50,721</u></b>	<b><u>\$50,721</u></b>

**APPENDIX D: CALIFORNIA INSTITUTE OF TECHNOLOGY'S RESPONSE**



Office of Financial Services  
1200 E. California Blvd.  
MC 229-6  
Pasadena, CA 91125  
(626) 395-3937

April 27, 2021

Cotton & Company LLP  
Attn: Megan Mesko, CPA, CFE  
333 John Carlyle Street, Suite 500  
Alexandria, Virginia 22314

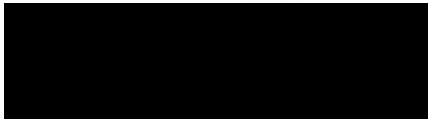
Subject: Performance Audit of Caltech's Implementation of the Office of Management and Budget  
Coronavirus Disease 2019 Flexibilities

Dear Ms. Mesko:

The California Institute of Technology ("Caltech") has reviewed the draft audit report issued by Cotton & Company LLP on behalf of the National Science Foundation. Enclosed is Caltech's formal response addressing each area of improvement and audit finding.

Please feel free to call me if any further information or clarification is required.

Sincerely,



Sharon E. Patterson  
Associate Vice President for Finance and Treasurer

Enclosure

Cc: Ken Lish, NSF OIG



Areas for Improvement	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
<p><b>Area for Improvement 1: Monitoring of Employee-Booked Travel Credits</b></p>	<p>Under Caltech's current monitoring procedures, employees could use travel credits to pay for airfare that does not benefit the project(s) to which they charge the original airfare expense.</p>	<p>Caltech disagrees with this consideration.</p> <p>Caltech implemented the flexibilities in OMB M-20-17 on 4-2-20 via Caltech's Temporary Policy on Charging Costs to Sponsored Awards During The Covid-19 Situation. The Temporary Policy permitted the charging of credits from travel, workshops, training, and other activities as was permitted by paragraph 7 of M-20-17.</p> <p>Caltech maintained records of costs and credits as required by M-20-17. Specifically, Caltech required employees who had received a credit for non-refundable travel purchased on a personal credit card to sign a certification statement indicating they would use the credit for the purpose it was originally intended when possible, but if that was not possible, they would use it for a Caltech business trip and the cost would be moved off the federal award. Caltech Divisional personnel maintained a list of these employees and credits.</p> <p>Caltech felt the certification process was reasonable, given the uncertainty regarding the length of the pandemic, and the fact that airlines were not providing cash refunds. The certification process ensured that credits would be utilized either on the federal award that initially paid for the</p>	<p>██████████</p>	<p>N/A</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>travel, or would ensure the cost would be moved to discretionary funds if used for a Caltech business purpose.</p> <p>Caltech believes its process meets the requirements outlined in M-20-17 and thus does agree that additional monitoring procedures are required.</p>		
<p><b>Area for Improvement 2: Monitoring of Supply Costs Incurred in Response to the COVID-19 Pandemic</b></p>	<p>Under Caltech's current monitoring procedures, employees can charge costs incurred to allow them to continue to work during the COVID 19 pandemic without sufficiently documenting the costs were allocated to NSF awards based on the relative benefits received.</p>	<p>Caltech disagrees with this consideration.</p> <p>With regard to the first set of costs noted in this recommendation, Caltech relied on OMB M-20-17 7. Allowability of Costs Not Normally Chargeable to Awards, which provided awardees with the flexibility to charge costs not normally permitted on federal awards in order to facilitate an emergency response and administrative relief due to the Covid-19 pandemic. Caltech created a Temporary Policy that implemented the flexibilities and costs were charged as per M-20-17 7. to achieve these ends. Caltech's policies indicate that Principal Investigators have the primary responsibility to determine the appropriateness of charges to their sponsored awards including the appropriate allocation of such costs. There is nothing in records of the items selected for review that would indicate that allocations were determined incorrectly.</p>	<p>██████████</p>	<p>N/A</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>In addition, the Uniform Guidance notes in §200.453 (c) that "Materials and supplies used for the performance of a Federal award may be charged as direct costs. In the specific case of computing devices, charging as direct costs is allowable for devices that are essential and allocable, <b>but not solely dedicated</b>, to the performance of a Federal award." Given the UG's guidance, Caltech does not believe that the cost allocation concern noted by the IG is relevant to these costs.</p> <p>With regard to the second set of costs noted in this area for improvement, Caltech notes the costs should have been allocated to separate projects for the scrubbers cost selection. However, all scrubber costs would roll up to the same NSF award. The UG guidance on allocation appears to apply to inter-award rather than intra-award allocations. The other costs listed meet the requirements of the OMB flexibilities memo and documentation related to the costs does not point to misallocation.</p> <p>Since Caltech believes it implemented the flexibilities appropriately, and the IG did not find any instances of inappropriate allocation other than an example of intra-award misallocation, Caltech does not believe its policies or procedures need to be modified to ensure appropriate allocation.</p>		

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
<p><b>Finding 1: Unallowable Salary Expenses Charged After OMB M-20-17 Expired</b></p>	<p>Following the expiration of OMB Memorandum M-20-17, Caltech charged six NSF awards a total of \$23,614 in salary costs paid to employees who were unable to perform grant-related work.</p>	<p>Caltech disagrees with this finding.</p> <p>Caltech anticipated a retirement period for the OMB flexibilities and, as a result, continued to charge salaries and associated costs (OPLP costs) of employees who could not perform their jobs through 7/19/20.</p> <p>Caltech continued to charge these costs because 1) - it was unreasonable for OMB to have discontinued the flexibilities outlined in M-20-17 as of 6/16/20 without a retirement period; and 2) - it was unreasonable for OMB not to define what was meant by "exhaust other available funding sources" in M-20-26 as part of 1. Allowability of Salaries and Other Project Activities.</p> <p>As a result, Caltech believes charging OPLP salary and associated costs for employees who could not perform their jobs through the retirement period was reasonable under the circumstances. The total amount charged for the period 6-17-20 to 7-19-20 was \$16,351.00, which includes salary, fringe benefits, and indirect costs. Caltech does not agree that these costs should be refunded.</p> <p>Caltech will refund the August OPLP charges since they occurred after the retirement period noted in the termination memo for Caltech's Temporary Policy.</p>	<p>██████████</p>	<p>May 2021 for Aug 20 OPLP costs</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>With regard to the recommendations regarding Caltech's policies on the flexibilities, Caltech cancelled the policy for charging OPLP to federal awards on 7/14/20 and all charging of such costs was to be discontinued as of 7/20/20 for biweekly staff and 8/1/20 for monthly staff. Caltech does not agree that additional updates or changes to its Temporary Policy are required.</p>		
<p><b>Finding 2: NSF Approval Not Obtained Before Transferring Award Research</b></p>	<p>Caltech did not obtain NSF's approval to issue a research subcontract before contracting out a part of NSF funded research.</p>	<p>Caltech disagrees with this finding.</p> <p>Prior to entering into a University Services Agreement, the LIGO procurement team determined that the agreement with the University [REDACTED] was a services agreement rather than a subaward.</p> <p>The determination was based on -</p> <p>The University [REDACTED] was not carrying out part of the LIGO operations program. The scope was focused on engineering and testing services including the characterization and analysis of optical scatter loss in LIGO mirrors, development of software to analyze these optics, and analyzing the effect of optical losses on decoherence.</p> <p>[REDACTED], the [REDACTED] researcher performing the services, was selected by LIGO due to [REDACTED] expertise with LIGO instruments and equipment, and was not expected to perform basic</p>	<p>[REDACTED] and [REDACTED]</p>	<p>June 2021</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>research related to the overall LIGO programmatic scope.</p> <p>Additionally, ██████ and ██████ did not have any programmatic decision-making responsibilities in carrying out the agreement scope of work. ██████ of LIGO directed the work conducted by ██████ ██████ and ██████ did not intend to publish results and intellectual property was not anticipated.</p> <p>Given the information above, Caltech/LIGO relied on the Uniform Guidance, § 200.331 Subrecipient and contractor determinations c) Use of judgment in making determination to determine that the agreement with the University ██████ was a contractual services agreement, not a subaward.</p> <p>Although Caltech considered the ██████ contract as a University Services Agreement, LIGO maintained all proper documentation for this agreement as if it were a subaward, with the exception of a FastLane submitted NSF Subaward Approval and a Risk Assessment.</p> <p>Per the audit report recommendations, Caltech will enhance its determination process by doing the following: 1) create a checklist for LIGO agreements to verify whether the</p>		

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>scope of work is programmatic in nature; 2) require training for personnel who process subawards on the criteria from the checklist; and 3) review and monitor indirect cost assessment on subawards and other contracts. Caltech has already established procedures to monitor subrecipients.</p>		
<p><b>Finding 3: Inaccurately Applied Indirect Costs</b></p>	<p>Caltech's Negotiated Indirect Cost Rate Agreement states that Caltech applies its indirect cost rate to a Modified Total Direct Cost base that excludes rental expenses and equipment costs. However, Caltech charged two NSF awards a total of \$1,515 in indirect costs that it inappropriately applied to rental expenses and equipment costs.</p>	<p>Caltech agrees with this finding.</p> <p>An error was made to an expenditure type in Caltech's accounting system that led to burdening of equipment rental costs. Caltech corrected the expenditure type, and the unallowable F&amp;A costs identified by the audit were repaid on 2-3-21. Since there will be no future F&amp;A charges against this expenditure type, the recommended personnel review will not need to occur.</p> <p>The use tax F&amp;A calculation error that was also referenced in this finding arose due to human error in the manual processing of taxes. The F&amp;A costs were repaid to NSF on 4-26-21. This error occurred due to manual input of data in Caltech's accounting system; Procurement will provide additional training to staff to ensure the error will not recur in future.</p>	<p>██████████ and ██████████ ██████████</p>	<p>June 2021</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
<p><b>Finding 4: Unallowable Intergovernmental Personnel Act Expenses</b></p>	<p>Caltech charged one Intergovernmental Personnel Act (IPA) NSF award for \$581 in salary expenses that were unallowable under Federal regulations and NSF Proposal and Award Policies and Procedures Guides (PAPPGs).</p>	<p>Caltech agrees with this finding.</p> <p>With this IPA, ██████████ was to transition from bi-weekly payroll to monthly payroll. This transition required a manual adjustment to ██████████ labor distribution in Oracle and a manual calculation for ██████████ May salary. The Human Resources staff member providing the salary calculation chose May 25<sup>th</sup> as the beginning date of the May salary to coincide with the end of the bi-weekly pay period. The workdays in May were to be paid in ██████████ June monthly paycheck. On June 11<sup>th</sup>, the Division informed Human Resources of the importance of the May 26<sup>th</sup> start date and indicated May 25<sup>th</sup> was incorrect and could not be used. When Human Resources asked Payroll to have the effective date corrected to May 26<sup>th</sup>, it was discovered that Payroll had already generated a check for him for the May salary, including May 25<sup>th</sup>.</p> <p>The payment for the extra day, May 25, was not corrected at the time it was discovered due issues related to covid 19 - lack of staffing, and limited ability to follow up by Human Resources and the Division. The unallowable cost associated with the extra day of pay was refunded to NSF on 2-10-21.</p>	<p>██████████ and ██████████</p>	



Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>Caltech's Guidance on Intergovernmental Personnel Agreements notes that changes to start dates require amendments; as a result, Caltech does not believe its guidance needs to be updated.</p> <p>In order to avoid calculation errors such as happened for this salary payment, and to ensure errors in salary calculations are corrected in a timely fashion, Caltech agrees to enhance training for Human Resources and Divisional personnel on IPA issues.</p>		
<p><b>Finding 5: Incorrect Application of Indirect Cost Rates</b></p>	<p>Caltech did not apply indirect costs using the rates included in the NICRA that was in effect as of the date of award, as required by Federal and NSF guidance, for two NSF awards.</p> <ul style="list-style-type: none"> <li>• Caltech applied a 64.3 percent indirect cost rate to direct costs charged to NSF Award No. [REDACTED] rather than using the appropriate 66.75 percent rate.</li> <li>• Caltech applied a 10 percent indirect cost rate to direct costs charged to NSF Award No. [REDACTED] rather than its proposed indirect cost rate of 11.11 percent</li> </ul>	<p>Caltech disagrees with this finding.</p> <p>Caltech interprets the regulatory wording of <i>2 CFR 200, Appendix III, paragraph C.7.</i> to mean "start date of the award as issued by the sponsor" to assign F&amp;A rates.</p> <p>Caltech believes its interpretation is correct due to the following reasons –</p> <ol style="list-style-type: none"> <li>1) the UG wording does not clearly dictate Caltech's or the IG's interpretation;</li> <li>2) Caltech has consistently applied its interpretation for many years;</li> <li>3) multiple audits by multiple agencies (PwC, DCAA, DOE, NSF IG, ONR, etc.) have never identified this interpretation as a problem/violation; and finally,</li> <li>4) the government is not harmed by Caltech's interpretation.</li> </ol>	<p>David Mayo</p>	<p>N/A</p>

Findings	Condition	Management's Views and Corrective Action Plan	Responsible Individual	Planned Completion Date
		<p>With regard to the inaccurate rate of 10% assigned to NSF award [REDACTED] Caltech did not have an 11.11% rate in its system but will create such a rate for any future awards that may require it. Since this award was not fully expended, the award is closed, and the lower rate did not negatively impact the Federal Government, Caltech will not make any F&amp;A adjustments to this award.</p> <p>With regard to the specific recommendation, Caltech does not agree and will not change its process for determining the appropriate F&amp;A rate.</p>		

## **APPENDIX E: OBJECTIVES, SCOPE, AND METHODOLOGY**

## OBJECTIVES, SCOPE, AND METHODOLOGY

The NSF OIG Office of Audits engaged Cotton & Company LLP (referred to as “we”) to conduct a limited-scope performance audit, the objective of which was to determine whether Caltech used the administrative COVID-19 flexibilities authorized by OMB and, if so, whether Caltech was complying with the associated guidelines.

To complete this limited-scope performance audit, we performed the following steps, as outlined within our NSF OIG-approved audit plan:

- Gained an understanding of the audit requirements, which included developing an audit program that ensured the audit team would complete all the steps outlined in the approved audit plan.
  - This included determining whether internal controls and/or information systems were significant to the audit objectives.
- Gained an understanding of applicable Federal<sup>34</sup> and NSF criteria,<sup>35</sup> including the following guidance that OMB and NSF published in response to the COVID-19 pandemic:
  - [M-20-17 Administrative Relief for Recipients and Applicants of Federal Financial Assistance Directly Impacted by the Novel Coronavirus \(COVID-19\) due to Loss of Operations](#)
  - [NSF Implementation of OMB Memorandum M-20-17](#)
  - [M-20-20 Repurposing Existing Federal Financial Assistance Programs and Awards to Support the Emergency Response to the Novel Coronavirus \(COVID-19\)](#)
  - [NSF Implementation of OMB Memorandum M-20-20](#)
  - [M-20-26 Extension of Administrative Relief for Recipients and Applicants of Federal Financial Assistance Directly Impacted by the Novel Coronavirus \(COVID-19\) due to Loss of Operations](#)
  - [NSF Implementation of OMB Memorandum M-20-26](#)
  - [Important Notice No. 146 - NSF Letter to Community Regarding COVID-19](#)
  - [Impact on Existing Deadline Dates](#)
  - [Impact on Solicitations](#)
  - [NSF Guidance on the Effects of COVID-19 on Human Subjects Research](#)
  - [NSF Guidance on the Effects of COVID-19 on Vertebrate Animal Research](#)
  - [NSF Guidance for Major Facilities and Contracts Regarding COVID-19](#)
  - [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF Proposers and Awardees](#)

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<sup>34</sup> We assessed Caltech’s compliance with 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*; 2 CFR Part 220, *Cost Principles for Educational Institutions* (OMB Circular A-21); and 2 CFR Part 215, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations* (OMB Circular A-110), as appropriate.

<sup>35</sup> We assessed Caltech’s compliance with NSF PAPPGs 13-1, 14-1, 15-1, 16-1, 17-1, 18-1, 19-1, and 20-1 and with NSF award-specific terms and conditions, as appropriate.

- [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF SBIR and STTR Grantees](#)
  - [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF Major Facility Cooperative Agreement Recipients](#)
  - [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for REU Sites, RET Sites, IRES Sites, and Similar Activities](#)
  - [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF Panelists](#)
    - In planning and performing this audit, we considered Caltech’s internal controls, within the audit’s scope, solely to understand whether the directives/policies and procedures Caltech has in place ensure charges against NSF awards comply with relevant Federal regulations and NSF award terms.
- Requested, obtained, and reviewed Caltech documentation to ensure we had sufficient, appropriate documentation to allow us to schedule applicable interviews and to select our audit sample.
    - Our work required us to rely on computer-processed data obtained from Caltech and NSF OIG. NSF OIG provided award data that Caltech reported through ACM\$ during our audit period.
 

We assessed the reliability of the general ledger data that Caltech provided by (a) comparing the costs charged to NSF awards per Caltech’s accounting records to the reported net expenditures reflected in the ACM\$ drawdown requests that Caltech submitted to NSF during the audit’s period of performance; and (b) reviewing the parameters that Caltech used to extract transaction data from its accounting systems. We found Caltech’s computer-processed data to be sufficiently reliable for the purposes of the audit, as Caltech was able to provide justification for all discrepancies identified.

      - We found NSF’s computer-processed data to be sufficiently reliable for the purposes of this audit. We did not review or test whether the data contained in, or the controls over, NSF’s databases were accurate or reliable; however, the independent auditor’s report on NSF’s financial statements for FY 2020 found no reportable instances in which NSF’s financial management systems did not substantially comply with applicable requirements.
    - Caltech provided detailed transaction-level data to support all costs charged to NSF awards during the period. This data resulted in a total audit universe of \$54,984,544 in costs claimed on 225 NSF awards.
  - Gained an understanding of whether and how Caltech implemented the COVID-19 flexibilities granted by OMB and implemented by NSF by:
    - Analyzing Caltech’s responses to the COVID-19 flexibility surveys included in **Appendix A** and **Appendix B**.

- Summarizing all guidance, policies, and procedures that Caltech issued in response to the COVID-19 pandemic.
- Conducting virtual walkthroughs and interviews with Caltech staff to evaluate how Caltech implemented the COVID-19 flexibilities and how that implementation fit within Caltech's overall grant management environment.
- Brainstormed and executed a series of data analytic tests aimed at identifying expenses that Caltech incurred in accordance with the COVID-19 flexibilities, or that we identified as high risk for other related reasons.
- Judgmentally selected 40 transactions to test based on the results of our data analytic tests, as approved by NSF OIG.
- Reviewed the supporting documentation that Caltech provided and requested additional documentation as necessary to ensure that we obtained sufficient, appropriate evidence to enable us to assess the allowability of each sampled transaction.
  - The goals of this testing included evaluating whether the sampled transactions related to Caltech's implementation of the COVID-19 flexibilities and whether the transactions were allowable, allocable, reasonable, and in conformity with applicable Federal and NSF guidance, NSF terms and conditions, and COVID-19 flexibility guidelines.

At the conclusion of our fieldwork, we provided a summary of our results to NSF OIG personnel for review. We also provided a discussion draft report to Caltech personnel to ensure Caltech was aware of each potential finding and to provide Caltech with an opportunity to submit any additional documentation available to support the questioned costs.

We conducted this performance audit in accordance with *Generally Accepted Government Auditing Standards*, 2018 Revision, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



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