

BUILDING A SAFER ANTARCTIC RESEARCH ENVIRONMENT

HEARING BEFORE THE COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY OF THE HOUSE OF REPRESENTATIVES ONE HUNDRED SEVENTEENTH CONGRESS SECOND SESSION

DECEMBER 6, 2022

Serial No. 117-72

Printed for the use of the Committee on Science, Space, and Technology



Available via the World Wide Web: <http://science.house.gov>

U.S. GOVERNMENT PUBLISHING OFFICE

49-691PDF

WASHINGTON : 2023

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BUILDING A SAFER ANTARCTIC RESEARCH ENVIRONMENT

TUESDAY, DECEMBER 6, 2022

HOUSE OF REPRESENTATIVES,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
Washington, D.C.

The Committee met, pursuant to notice, at 12:57 p.m., in room 2318, Rayburn House Office Building, Hon. Eddie Bernice Johnson [Chairwoman of the Committee] presiding.

**U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
HEARING CHARTER**

Building a Safer Antarctic Research Environment

**Tuesday, December 6, 2022
10:00 am – 12:00 pm ET
2318 Rayburn House Office Building and Online via Zoom**

PURPOSE

The purpose of this hearing is to discuss the findings of a recent report on sexual harassment and assault in Antarctica. The hearing will also examine the unique characteristics of remote research sites, including those managed by contractors, changes that have been made since the publication of the report, and additional steps that must be taken to protect those conducting and supporting the valuable research in Antarctica and other remote research sites.

WITNESSES

- **Dr. Karen Marrongelle**, Chief Operating Officer, National Science Foundation
- **Ms. Kathleen Naeher**, Chief Operating Officer of the Civil Group, Leidos
- **Dr. Angela V. Olinto**, Dean of the Physical Sciences Division and Albert A. Michelson Distinguished Service Professor, University of Chicago
- **Dr. Anne Kelly**, Deputy Director, The Nature Conservancy Alaska Chapter

KEY QUESTIONS

1. Why does the National Science Foundation (NSF) support scientific research in Antarctica?
2. What are the characteristics (facilities, participating institutions and personnel, working conditions, and organizational structure) of the U.S. Antarctic Program (USAP)?
3. What are the findings and recommendations of the Sexual Assault/Harassment Prevention and Response (SAHPR) report?
4. What steps has NSF and the prime contractor taken since the report was released? How do they plan to address the concerns raised in the SAHPR report?
5. What are the unique challenges for preventing and addressing sexual harassment and assault at other remote and contractor managed research environments? How can funding agencies apply lessons learned from the USAP to ensure the safety of researchers and support personnel at these sites?

BACKGROUND

Importance of Antarctic Science

All United States scientific research activities are managed by the National Science Foundation's (NSF) United States Arctic Program (USAP).¹ The goals of the USAP are to "understand the Antarctic and its associated ecosystems; to understand the region's effects on, and responses to, global processes such as climate; and to use Antarctica's unique features for scientific research that cannot be done elsewhere."² Antarctica offers a unique environment to answer research questions that cannot be studied anywhere else on the globe, across diverse disciplines including astronomy, earth science, glaciology, and oceanography.

In 2011, the National Academies of Sciences, Engineering, and Medicine (NASEM) issued a report on the research conducted in Antarctica that would be the most important over the next 20 years.³ The NASEM committee highlighted a number of critical research questions, including:

- What is the role of Antarctica and the Southern Ocean in the global climate system?
- What role has Antarctica played in changing the planet in the past?
- What can the geologic records preserved in Antarctica and the Southern Ocean reveal about past and future climates?
- What can the Antarctic platform reveal about the interactions between Earth and the space environments?
- How did the universe begin, what is it made of, and what determines its evolution?

A decade after the release of this report, and with a decade to go on the NASEM committee's charge, these questions are as pertinent as ever, and research teams descend on the Antarctic each astral summer to shed light on the origins of the universe and the future of a changing planet. The Antarctic Ice Sheet has formed over millions of years, trapping pockets of air as it froze, and scientists drill into it to examine gases and particles in order to reconstruct climate models from hundreds of thousands of years ago.⁴ Species thriving on the continent and in the Southern Ocean offer insight into evolutionary adaptation in extreme environments, which can contribute to our understanding of human health pathologies. The dark skies and cold, dry air offer the best observing site on earth, and the continent is the richest source of meteorites on the planet.⁵ Antarctica's harsh environment makes conducting research on the ice difficult but rewarding for scientists and for the entire scientific enterprise.

¹ https://www.nsf.gov/news/news_summ.jsp?cntn_id=102869

² https://www.nsf.gov/news/news_summ.jsp?cntn_id=102869

³ <https://nap.nationalacademies.org/download/13169>

⁴ <https://www.asoc.org/learn/climate-science-in-antarctica/>

⁵ <https://ui.adsabs.harvard.edu/abs/2010A%26ARv..18..417B/abstract>

The Makeup of the Antarctic Research Environment

NSF operates three Antarctic research stations year-round. McMurdo Station is the largest, with most research activities based out of the station and serving as a landing spot for research teams arriving on the continent. The Amundsen-Scott South Pole Station (SPS) is located at the geographic South Pole, 841 miles away from McMurdo, and largely houses astronomy and astrophysics work. Palmer Station is located on an island, isolated from the other stations, and is a base for marine biology and oceanography. Outside these three sites, research teams are located on field sites around the continent and on research vessels. Icebreakers, research vessels, and N.Y. Air National Guard aircraft facilitate transportation and support to and on the continent.

The population in Antarctica comprises three primary groups – Antarctic Support Contractors (ASC), which includes employees from lead contractor Leidos as well as a number of subcontractors; grantees, who are Principal Investigators (PIs), researchers, and graduate students funded by federal science agencies; and military personnel from the Air National Guard, Air Force, and Naval Information Warfare Center.⁶ The total number of individuals on the ice varies throughout the year, with a summer peak of approximately 1,600 and a winter peak of approximately 370. A majority of individuals on the ice throughout the year are contractors, ranging from 68-89 percent from winter to summer, followed by grantees at approximately 16-7 percent. Department of Defense (DOD) personnel comprise approximately 9 percent of the summer population and approximately 2 percent of the winter population. About 800 of the individuals per year are scientists or supporting scientific teams. Women comprise a significant minority – about 30 percent – of the 3,500 Americans on the ice each year.

Leidos has been the prime contractor for the USAP since 2016 via a merger with Lockheed Martin.⁷ Leidos employees do not conduct science in Antarctica; rather, the company manages on-ice operations, logistics, information technology, and site maintenance, through direct employment and through subcontractors.⁸ Leidos is responsible for on-ice infrastructure and modernization, including dormitories and telecommunication access.

While NSF manages all research operations in Antarctica, other U.S. federal science agencies have a presence on the ice. The National Oceanic and Atmospheric Administration (NOAA) conducts climate monitoring on the continent, studying greenhouse gases, surface radiation, and ozone. The National Aeronautics and Space Administration (NASA) facilitates the use of research balloons and polar-orbiting spacecraft. And the U.S. Geological Survey (USGS) supports mapping, satellite imaging, and geodesy activity.⁹

DOD plays a role in supporting the logistical functions of the USAP, as requested by NSF. As per the Antarctic Treaty of 1959, Antarctica may only be used for peaceful purposes, therefore the military presence on-ice supports the scientific operations managed by NSF. The Secretary of the Air Force serves as the Executive Agent, and DOD presence includes personnel from the Air

⁶ <https://www.nsf.gov/geo/opp/documents/USAP%20SAHPR%20Report.pdf>

⁷ <https://www.leidos.com/insights/50th-anniversary-role-making-antarctic-research-possible>

⁸ <https://www.leidos.com/capabilities/mission-operations/antarctic-support-contract>

⁹ <https://www.usap.gov/aboutusapparticipants/?m=1#ScienceSupportOrganizations>

National Guard, Air Force, and Naval Information Warfare Center.¹⁰ The military primarily provides transport to and within the continent of personnel and materials by air, land, and sea. DOD is also responsible for maintaining order and disciplining service members, who are subject to the Uniform Code of Military Justice along with the Polar Code of Conduct to which all USAP participants are subject.¹¹

Sexual Assault/Harassment Prevention and Response (SAHPR) Report

In April 2021, the NSF Office of Polar Programs (OPP) contracted with subject matter experts at Leading and Dynamic Services and Solutions (LDSS) to examine sexual harassment and sexual assault in the USAP community and make recommendations for next steps. The resulting *Sexual Assault/Harassment Prevention and Response (SAHPR)* report was made public in August 2022.¹²

The assessment consisted of surveys, focus groups, and interviews of USAP community members. The LDSS team sought to capture the full diversity of experiences by engaging individuals across demographics, roles, and locations.¹³

The SAHPR report identifies sexual harassment, assault, and stalking as problems in the USAP. The LDSS team found that the USAP community is motivated to engage and that there are early indications of progress. However, the team advised that additional steps must be taken to address shortcomings in the reporting process and cultural problems present across the scientific environment and exacerbated by the unique and extreme circumstances in Antarctica.

Perceptions of the USAP environment presented in the report are divided by gender, age, income level, and status. Women, younger individuals, and individuals with lower incomes and employment status were more likely to see sexual harassment and assault as a problem. Men, older individuals, and individuals with prestigious positions were less likely to see those issues as a problem. In terms of location, respondents shared concerns about sexual harassment and assault across all USAP sites but identified McMurdo station as the location of greatest concern.

The LDSS team found that current prevention and response systems at NSF are inadequate. NSF does not have sufficient systems in place to ensure it is informed of incidents of sexual harassment and assault in the USAP. Multijurisdictional enforcement mechanisms (across different agencies, universities, contractors and subcontractors, and the military) create gaps that hinder NSF's oversight. Staffing, funding, and policies dedicated to the prevention of sexual harassment and assault are nearly absent. The content and delivery of sexual harassment training are inadequate.

¹⁰https://www.jcs.mil/Portals/36/Documents/Doctrine/Interorganizational_Documents/doe_mou_nat_sci_found2007.pdf

¹¹ <https://www.nsf.gov/geo/opp/documents/USAP%20SAHPR%20Report.pdf>

¹² https://nsf.gov/news/news_summ.jsp?cntn_id=305782&org=OPP

¹³ The LDSS team noted that the military segment of the USAP community was underrepresented in their assessment due to military members not being made available for focus groups and a delay in the military's approval for distributing the survey.

The findings point to significant mistrust of USAP leadership¹⁴ and ASC Human Resources (HR) departments. More than one fourth of survey respondents reported not believing or not knowing if their employer cares if they are safe. Community members believe that inadequate hiring practices result in contractors hiring and retaining personnel who have committed sexual assault or harassment. ASC workers told LDSS they were discouraged from reporting their experiences by their HR department and raised concerns that HR departments are "dismissing, minimizing, shaming, and blaming victims who report sexual harassment and sexual assault." A number of interviewees also believe their HR departments retaliate against those making reports and those raising awareness of harassment and assault on-ice.

The LDSS team provided recommendations and a detailed implementation plan for improving prevention and response mechanisms. Recommendations included:

Response	Increase opportunities for community feedback and engagement.
	Establish a Coordinated Community Response Team.
	Integrate more robust support mechanisms for victims.
	Establish a communication plan.
	Increase community education efforts.
	Restructure policies, protocols, and oversight mechanisms.
Prevention	Develop a communication strategy.
	Provide a toolkit of prevention resources for leaders.
	Allocate funding to prevention infrastructure, including prevention staffing.
	Develop prevention policies.
	Establish a prevention collaborative body.
	Increase prevention education opportunities.

Addressing the SAHPR Report

The SAHPR report's recommendations fall to both NSF and the ASC. Committee staff have had meetings with both entities to discuss what steps have been taken since the publication of the report, and what changes are planned to ensure the USAP's policies and culture create a safer on-ice environment. In order to facilitate a path forward, LDSS has entered into a new contract with NSF to prepare a follow-on climate survey and to identify how the ASC contract can better serve as leverage to ensure the prime contractor has the responsibility of creating a safe workplace environment.

¹⁴ In SAHPR report findings, the term "leadership" is denoted by "higher status", "organization/institution/company who employs USAP participants", "NSF", and "People with more power or influence".

In September, NSF modified its ASC contract in response to the report. NSF reaffirmed the ASC's responsibility to promote an ethical culture, respond to reports of sexual harassment, and oversee subcontractors' adherence to these responsibilities. Furthermore, the ASC is now required to screen potential employees for any disciplinary action taken against them for incidents of sexual harassment or assault, and to not deploy anyone with findings against them. Any individuals who violate the Polar Code of Conduct will not be redeployed without consent of the Contracting Officer, and anyone removed from the ice due to sexual harassment or assault is barred from returning to the ice for three years. The current ASC contract expires in March 2025, and NSF is working with LDSS to identify whether additional changes should be made in the next iteration of the contract. The NSF Inspector General is also performing an inspection of NSF's Sexual Harassment and Assault Prevention and Response, focusing on USAP. The objectives of this inspection are to determine what measures NSF has taken or is developing for sexual harassment and assault prevention and reporting; provide NSF with information on practices other federal agencies have employed to address this issue; and determine if NSF's measures are effective.¹⁵

In its conversation with Committee staff, Leidos spoke about steps it has taken to address physical security concerns, including improved dormitory infrastructure and expanding use of satellite phones. The contractor is in the process of expanding training and refocusing human resources, including ensuring a designated victim advocate will be present on-ice. Leidos representatives disputed the descriptions in the report of retaliatory behavior against accusers and activists and told Committee staff that they are working to change this perception.

Addressing Challenges in Other Remote Research Sites

Sexual harassment and assault are not unique to Antarctica. A landmark consensus study by the National Academies of Sciences, Engineering, and Medicine (NASEM) found that sexual harassment is pervasive in academic science, engineering, and medicine.¹⁶ The report outlined three forms of sexual harassment – gender harassment, unwanted sexual attention, and sexual coercion. For researchers and students, experiences of sexual harassment have negative consequences for their wellbeing and their careers.

The report outlined factors that contribute to the prevalence of sexual harassment in the sciences, including a *perceived tolerance* for inappropriate behavior; the *male-dominated environment*, particularly in positions of authority; *hierarchical power structures* that concentrate power in a single person who has an outsized impact on a subordinate's future success; *isolating environments* in which faculty and trainees spend considerable time; a *culture of symbolic compliance with Title IX¹⁷ and Title VII¹⁸* wherein institutions prioritize implementing policies

¹⁵ https://oig.nsf.gov/sites/default/files/publications/2022-11/FY%202023%20Annual%20Audit%20Workplan_0.pdf

¹⁶ <https://nap.nationalacademies.org/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic>

¹⁷ Title IX of the Education Amendments of 1972 protects people from discrimination based on sex in education programs or activities that receive federal financial assistance.
https://www2.ed.gov/about/offices/list/ocr/docs/tix_dis.html

¹⁸ Title VII of the Civil Rights Act of 1964 prohibits employment discrimination based on race, color, religion, sex and national origin. <https://www.eeoc.gov/statutes/title-vii-civil-rights-act-1964>

that adhere to legal requirements rather than seeking to reduce or eliminate sexual harassment; and *uninformed leadership* unwilling to take bold and aggressive measures.

Field research is an important part of scientific scholarship, but it is also an environment that can present increased risks for sexual harassment. The NASEM report highlighted a survey of academic field experiences that identified several characteristics of field-site environments and the sexual harassment that occurs: (1) there was a lack of awareness regarding codes of conduct and sexual harassment policies, with few respondents being aware of available reporting mechanisms; (2) the targets of sexually harassing behavior in field sites were primarily women trainees; and (3) perpetrators varied between men and women—when women were harassed, perpetrators were primarily senior to the trainees; however, when men were harassed, it was typically by a peer.¹⁹ It is not generally understood how university policies for standards of conduct are applied in unique and challenging environments where researchers and students are isolated from campus.

NSF has indicated that it plans to apply lessons learned from the USAP to improve prevention and response strategies at other remote research sites it supports. In 2021, researchers gathered for the NSF-sponsored *Promoting Safety in Field Science (PSIFS)* workshop to "discuss unique challenges in harassment prevention, target support, and incident response at remote research settings." The resulting report provided best practices and recommendations for improving prevention and response mechanisms at a broad range of field research sites.²⁰

The PSIFS report focused on improving culture, accountability, policy, and reporting. The recommendations were closely aligned with those in the SAHPR report, and included treating harassment as a safety issue, improving the content and delivery of anti-harassment training, providing multiple avenues for reporting, facilitating collaborative responses to inter-jurisdictional incidents, making communication devices available for all participants, and conducting climate surveys.

Committee Action

Committee action on sexual harassment in the sciences began in October 2017 with letters from then-Chairman Smith and then-Ranking Member Johnson to Boston University regarding Title IX complaints filed against a prominent geology professor, Dr. David Marchant, who allegedly physically and verbally harassed multiple women during field work in Antarctica in the late 1990s. Dr. Marchant was a recipient of over \$5.4 million in awards from the National Science Foundation (NSF), National Oceanic and Atmospheric Administration (NOAA), and the National Aeronautics and Space Administration (NASA). In April 2019, Dr. Marchant was fired from Boston University, following an appeal by Dr. Marchant of the University's November 2017 findings supporting the accusations against him.

In early 2018, the Committee sent several more letters to additional universities and to funding agencies regarding other cases that had been published in the press. The Committee also

¹⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4100871/>

²⁰ <https://zenodo.org/record/5841983#.Y4gTv33MLQY>

requested a GAO analysis of Federal science agencies' policies, resources, and intra- and inter-agency communication regarding reports of sexual harassment among grant recipients.

This is the third hearing the Committee has held on the issue since February 2018. Legislation sponsored by Chairwoman Johnson and Ranking Member Lucas, the *Combating Sexual Harassment in Science Act*, was first introduced in January 2019 and was enacted as part of the *Chips and Science Act* in August 2022. The bill:

- supports research into the factors contributing to and the consequences of sexual harassment in the scientific workforce;
- directs the Office of Science and Technology Policy to issue sexual harassment policy guidelines for research agencies, with a focus on leveraging research funding to incentivize and facilitate culture change at awardee institutions;
- convenes an Interagency Working Group to coordinate Federal research agency efforts;
- directs NASEM to issue an updated responsible conduct in research guide to establish standards of professional conduct in science that address the issue of sexual harassment;
- directs NASEM to conduct a follow-up study to their 2018 report to assess the progress of efforts to combat sexual harassment;
- directs GAO to assess Federal research agency implementation of OSTP policy guidance;
- authorizes \$32.5 million for NSF to carry out the Act.

Federal science agency activity mandated by this legislation does encompass federal contract-holders, as well as grantees and those entering cooperative agreements. However, the findings in the SAHPR report indicate there may be unique implementation difficulties when it comes to contractors. For example, the employee-employer contract may contain terms that conflict or interfere with agency-mandated information sharing related to personnel matters.

Chairwoman JOHNSON. The meeting will come to order. And without objection, the Chair is authorized to declare recess at any time.

Before I deliver my opening remarks, I wanted to note that, today, the Committee is meeting both in person and virtually. I want to announce a couple of reminders to Members about the conduct of this hearing. First, Members and staff who are attending in person may choose to be masked, but it is not a requirement. However, any individual with symptoms, a positive test, or exposure to someone with COVID-19 should wear a mask while present. Members who are attending virtually should keep their video feed on as long as they are present in the hearing. Members are responsible for their own microphones, so please also keep your microphones muted until you are speaking.

And finally, if Members have documents they wish to submit to the record, please email them to the Committee Clerk, whose email address was circulated prior to the meeting.

Good afternoon to our Members and to our panelists, and thank you for joining us here today. It has been my honor to chair this Committee for the past four years. For three decades I have served on this Committee. Over all that time and prior to my tenure in Washington, I have been passionate about breaking down barriers for women. If left unaddressed, hostile cultures keep women and marginalized individuals from achieving their full potential and hinder our progress. So as a result, I can think of no more important hearing than the one we're holding today to conclude my time on the Science Committee.

The U.S. Antarctic Program (USAP) funds cutting-edge and essential research that cannot take place anywhere but Antarctica. In harsh conditions, geologists peer millions of years into the past by boring deep into the ice sheet. Dark skies offer an unparalleled site to observe distant galaxies. Biologists study life that thrives in extreme conditions on land and under sea.

Unfortunately, the challenges facing scientists in Antarctica are not merely those imposed by the elements. While several Federal agencies support research in Antarctica, the National Science Foundation (NSF) has been the—has the responsibility of managing all U.S. and Antarctic research activities. In August, the National Science Foundation released a report on sexual harassment and assaults in the Antarctic program. Its findings are sobering. The research and the report contains harrowing stories of individuals enduring threats to their physical safety, gender taunts, and intimidation. Community members do not trust the agency or contractor to keep them safe from these harms. Multiple people spoke of their fear of being retaliated against for reporting an assault. Survivors and advocates on ice fear they will be placed on a blacklist. Meanwhile, high-ranking perpetrators receive apologies instead of penalties.

We must not tolerate any culture that enables pervasive harassment and assault. While the Antarctica program presents unique challenges such challenges must not be used as an excuse for inadequate response and corrective actions.

I'm proud that the Committee passed the *Combating Sexual Harassment in Science Act*. This became law this summer in the

CHIPS & Science Act, but clearly, there's more work to be done, including when it comes to the responsibility of Federal contractors. Today, we will discuss how all stakeholders must engage with one another and with the Antarctic community. Companies have a responsibility to protect employee privacy. However, the National Science Foundation must have the necessary information to keep people safe and to keep offenders off the ice.

The SAHPR ("Sexual Assault/Harassment Prevention and Response") report may be focused on Antarctica, but these problems plague field sites beyond the continent. I hope that the *CHIPS & Science* provisions and what we learn today serve as a foundation for further action. I've been heartened by the bipartisan action this Committee has taken to address sexual harassment, and it is my hope that this work will continue into the next Congress. I'll take this moment to thank each and every Member of this Committee and our Committee staffs for getting us to this point.

And finally, before I yield to Ranking Member Lucas, I'd just like to close by noting that this is the last Full Committee hearing that the Science, Space, and Technology Committee will hold for the 117th Congress. It is also the last hearing I will chair as Member of Congress. Given that, I just want to take a moment to express my deep appreciation to Members and staff for us hanging together and doing a good amount of work.

And in that regard, I want to give my special thanks to Ranking Member Lucas. He has been a constructive partner in what I tried to accomplish, as well as a good friend and professional. I am confident he will continue the bipartisan approach to the Committee in the 118th Congress. And we've had over the past two Congresses, and he knows that I will be watching him to make sure he does.

And with that I express my profound appreciation to every Member and every staff member of this Committee.

[The prepared statement of Chairwoman Johnson follows:]

Good afternoon to our members and our panelists, and thank you for joining us here today. It has been my honor to chair this Committee for the past four years. For three decades, I have served on this Committee. Over all that time, and prior to my tenure in Washington, I have been passionate about breaking down barriers for women. If left unaddressed, hostile cultures keep women and marginalized individuals from achieving their full potential and hinder our progress. As a result, I can think of no more important hearing than the one we are holding today to conclude my time on the Science Committee.

The U.S. Antarctic Program funds cutting-edge and essential research that cannot take place anywhere but Antarctica. In harsh conditions, geologists peer millions of years into the past by boring deep into the ice sheet. Dark skies offer an unparalleled site to observe distant galaxies. Biologists study life that thrives in extreme conditions on land and under sea.

Unfortunately, the challenges facing scientists in Antarctica are not merely those imposed by the elements. While several Federal agencies support research in Antarctica, the National Science Foundation has the responsibility of managing all U.S. Antarctic research activities. In August, NSF released a report on sexual harassment and assaults in the Antarctic Program. Its findings are sobering. The report contains harrowing stories of individuals enduring threats to their physical safety, gendered taunts, and intimidation. Community members do not trust the agency or contractor to keep them safe from these harms. Multiple people spoke of their fear of being retaliated against for reporting an assault. Survivors and advocates on ice fear they will be placed on a "blacklist." Meanwhile, high-ranking perpetrators receive apologies instead of penalties. We must not tolerate any culture that enables pervasive harassment and assault. While the Antarctic program presents unique

challenges, such challenges must not be used as an excuse for an inadequate response and corrective actions.

I am proud that this Committee passed the *Combating Sexual Harassment in Science Act*. This became law this summer in the *CHIPS & Science Act*. But clearly there is more work to be done, including when it comes to the responsibility of Federal contractors. Today we will discuss how all stakeholders must engage with one another and with the Antarctic community. Companies have a responsibility to protect employee privacy. However, NSF must have the necessary information to keep people safe, and to keep offenders off the ice.

The SAHPR (SAPER) report may be focused on Antarctica, but these problems plague field sites beyond that continent. I hope the CHIPS & Science provisions, and what we learn today, serve as a foundation for further action. I've been heartened by the bipartisan action this Committee has taken to address sexual harassment. It is my hope that this work will continue into the next Congress.

Finally, before I yield to Ranking Member Lucas for his statement, I'd just like to close by noting that this is the last full committee hearing that the Science, Space, and Technology Committee will hold in the 117th Congress. It is also the last hearing that I will chair as a Member of Congress. Given that, I just want to take a moment to express my deep appreciation to Members and staff on both sides of the aisle for all they have done to make this one of the most productive Congresses that this Committee has ever had. And in that regard, I want to give a special thanks to Ranking Member Lucas. He has been a constructive partner in what I've tried to accomplish, as well as a good friend. I am confident he will continue the bipartisan approach to the Committee in the 118th Congress that we've had over the past two congresses. And he knows I will be watching him to make sure that he does!.

Chairwoman JOHNSON. And with that, I will yield to my colleague Ranking Member Lucas.

Mr. LUCAS. Good afternoon, Chairwoman Johnson, and thank you for holding this important hearing. Today's hearing shines a light on the concerning findings from the recent report commissioned by the National Science Foundation. The report found that there is a rampant culture of sexual harassment and assault in the remote research environment of Antarctica. As I have said before, sexual harassment and gender discrimination are unacceptable in any situation, period. It's wrong, it's illegal, and it's imperative that we end it.

The report we are discussing today details a troubling culture at the United States Antarctic program. The program operates three year-round research stations and provides logistics support for field research. Each year, 3,500 Americans are involved in the program's research and logistical activities. This includes teams of researchers, students, Federal contractors, and military members.

Before diving into the report, I want to recognize that the research conducted on the ice is vitally important to the understanding of our planet and to our Nation's scientific leadership. The Antarctic presents a unique climate and environment that will allow us to conduct research that cannot be performed anywhere else in the world, such as detecting neutrinos.

In 2009, I visited the Antarctic to view the research facilities and environment. This trip provided me with perspective on the importance of research being conducted there but also the environmental challenges of such remote fieldwork, which are hard to understand without experiencing them firsthand. It is the stark isolation of the Antarctic environment that makes the report's findings particularly concerning.

According to the report, insufficient safety precautions, failures in broadband connectivity, and a lack of clear, transparent reporting structures have all contributed to an unsafe culture at the Ant-

arctic research facilities. The science community faces unique challenges when it comes to addressing harassment, particularly in remote field stations. Individuals working in science who are affected by sexual harassment and discrimination can suffer long-term harm to their education and careers, as well as to their mental and physical well-being. While we can't lose sight of the individual cost, we must also think about the cost to our society and the economy as a whole. Engaging more women in STEM (science, technology, engineering, and mathematics) studies and careers is essential to American competitiveness. If we want to have the strongest STEM workforce in the world, it is vital that our research environments foster a safe and accountable culture.

I want to acknowledge some of the efforts that have been undertaken at the NSF since the report's release to improve the culture of the U.S. Antarctic Program. NSF took positive steps by commissioning this report and seriously addressing its findings. I'm pleased that NSF plans to increase training and vetting for individuals going to the ice and to establish a reporting hotline. I urge NSF to remain attentive to these issues not only in Antarctica, but also other remote field work environments.

The Science Committee has worked on a bipartisan basis to address these issues, such as harassment and discrimination in science. Products of our work were included in the recently passed *CHIPS & Science Act*. However, the report we're discussing today demonstrates that there's still more work to do, particularly on addressing the issues of harassment in the field.

Today's hearing will raise some difficult questions, many without easy answers. How do we address these issues both fairly and safely? How do we navigate policies for remote field environments that are vastly different from each other? How do we navigate different command structures between the NSF, contractors, military members, and visiting scientists? I hope our witnesses and other stakeholders can help us navigate these questions. I'm looking forward to hearing more about how we can address the findings of the report to ensure that the Antarctic research program is safe for everyone living and working on the ice.

Now, if I could take a moment of personal privilege, as the Chairwoman noted, this is our last hearing together, Full Committee hearing in this session of Congress. And I'd like to take this opportunity to thank the Chairwoman for her leadership and partnership on this issue, as well as so many others. Chair, I think it goes without saying but I'm going to note it, it has truly been an honor to serve with you, and I wish you all the best in whatever lies ahead of you. I have a hard time believing that retirement means retirement with you, but whatever lies ahead, the best of wishes and I have the highest of expectations about what you will accomplish there, too. Again, thank you, Chairwoman Johnson, for holding this hearing, and I yield back the balance of my time.

[The prepared statement of Mr. Lucas follows:]

Good morning, Chairwoman Johnson, and thank you for holding this important hearing. Today's hearing shines a light on the concerning findings from the recent report commissioned by the National Science Foundation. The report found that there is a rampant culture of sexual harassment and assault in the remote research environment of Antarctica.

As I have said before, sexual harassment and gender discrimination are unacceptable in any situation. Period. It is wrong, it is illegal, and it is imperative that we end it.

The report we are discussing today details a troubling culture in the United States Antarctic Program.

This program operates three year-round research stations and provides logistical support for field research. Each year about 3,500 Americans are involved in the program's research and logistical activities. This includes teams of researchers, students, federal contractors, and military members.

Before diving into the report, I want to recognize that the research conducted on the ice is vitally important to the understanding of our planet, and to our nation's scientific leadership. The Antarctic presents a unique climate and environment that allow us to conduct research that cannot be performed anywhere else in the world—such as detecting neutrinos.

In 2009, I visited Antarctica to view the research facilities and environment. This trip provided me perspective on the importance of research being conducted, but also the environmental challenges of such remote field work, which are hard to understand without experiencing them first-hand. It is the stark isolation of the Antarctic environment that makes the report's findings particularly concerning.

According to the report, insufficient safety precautions, failures in broadband connectivity, and a lack of clear, transparent reporting structures have all contributed to an unsafe culture at the Antarctic research facilities.

The science community faces unique challenges when it comes to addressing harassment, particularly in remote field stations. Individuals working in science who are affected by sexual harassment and discrimination can suffer long-term harm to their education and careers, as well as to their mental and physical well-being.

While we can't lose sight of the individual cost, we must also think about the cost to our society and the economy as a whole. Engaging more women in STEM studies and careers is essential to American competitiveness.

If we want to have the strongest STEM workforce in the world, it is vital that our research environments foster a safe and accountable culture.

I want to acknowledge some of the efforts that have taken place at NSF since the report's release to improve the culture at the U.S. Antarctic Program.

NSF took positive steps by commissioning this report and seriously addressing its findings. I'm pleased that NSF plans to increase training and vetting for individuals going to the ice, and to establish a reporting hotline.

I urge NSF to remain attentive to these issues not only in Antarctica, but also at other remote field work environments.

The Science Committee has worked on a bipartisan basis to address issues such as harassment and discrimination in science. Products of our work were included in the recently passed *CHIPS and Science Act*.

However, the report we are discussing today demonstrates that there is still more work to do, particularly on addressing issues of harassment in the field.

Today's hearing will raise some difficult questions—many without easy answers. How do we address these issues both fairly and safely? How do we navigate policies for remote field environments that are vastly different from each other? How do we navigate different command structures between NSF contractors, military members, and visiting scientists?

I hope our witnesses and other stakeholders can help us navigate these questions. I am looking forward to hearing more about how we can address the findings in the report to ensure the Antarctic research program is safe for everyone living and working on the ice.

If I may take a moment of personal privilege. As this is our last hearing together, I'd like to take this opportunity to thank the Chairwoman for her leadership and partnership on this issue, as well as many others. It has truly been an honor to serve with you and I wish you all the best in your retirement.

Again, thank you Chairwoman Johnson for holding this hearing and I yield back the balance of my time.

Chairwoman JOHNSON. Thank you very much.

If there are Members who wish to submit additional opening statements, your statements will be added to the record at this point.

At this time, I'd like to introduce our witnesses. Our first witness, Dr. Karen Marrongelle, the Chief Operating Officer of the National Science Foundation. In this role, she oversees operations

of the agency and its missions. Prior to this role, she served as Assistant Director of Education and Human Resources Directorate at the NSF and as the Dean of the College of Liberal Arts and Sciences at Portland State University.

Our next witness, Ms. Kathleen Naeher, Ms. Naeher is the Chief Operating Officer of the Civil Group of Leidos. In this role, she works with the Civil Group leadership team to drive operational performance and alignment with the annual operating plan and market strategies. Prior to this position, she served for more than 35 years at the Central Intelligence Agency (CIA), most recently as CIA's Associate Deputy Director of Digital Innovation.

Our third witness Dr. Angela Olinto, Dr. Olinto is the Dean of Division of Physical Sciences and the Albert Michelson Distinguished Service Professor at the University of Chicago, which manages the South Pole Telescope. At the University of Chicago she was the first woman to receive tenure in the Department of Astronomy and Astrophysics and the first woman to become Chair of any department in the Physical Sciences Division, and the first woman to become Dean of Physical Sciences Division.

Our next witness, Dr. Anne Kelly, Dr. Kelly is presently the Deputy Director of the Nature Conservancy in her home State of Alaska. Prior to this role, she served on-site as the Director of Research and Education at Cal State University's Desert Studies Center. She also served as the Director of UC's (University of California's) Merced field station at Yosemite and Sequoia National Parks. Dr. Kelly gained experience fighting harassment in STEM as a board member of the Organization of Biological Field Stations, a team member of the ADVANCEGeo project, and through advocacy and policy development at the USGS (United States Geological Survey) and several universities.

Our witnesses should know that you will each have five minutes for your spoken testimony. Your written testimony will be included in the record for the hearing. So when you have completed your spoken testimony, we will begin questions. Each Member will have five minutes to question the panel.

Dr. Marrongelle?

**TESTIMONY OF DR. KAREN MARRONGELLE,
CHIEF OPERATING OFFICER,
NATIONAL SCIENCE FOUNDATION**

Dr. MARRONGELLE. Good afternoon, Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee. My name is Dr. Karen Marrongelle, and I'm the Chief Operating Officer at the National Science Foundation.

I would like to start by thanking this Committee for the continued strong support of the NSF. Your leadership in passing the *CHIPS & Science Act* will ensure that the United States remains the global leader in research and innovation for generations to come.

We have to recognize that in order to fully engage this Nation's incredible talent, we must ensure that our research environments, from the lab to the most remote field sites, are free of harassment and provide the safety and support necessary to allow ingenuity and innovation to flourish. NSF does not tolerate harassment in

any research setting. It is because of our deep commitment to this principle that NSF commissioned the “Sexual Assault and Harassment Prevention and Response” report for NSF’s U.S. Antarctic Program in order to address and understand what is not working. We are proud to be a leader in taking proactive approaches to address harassment, and we will continue to endeavor to eliminate sexual harassment within the science and engineering community. The report is deeply troubling and demonstrates a need to fundamentally change the culture and practices that govern research in Antarctica.

As a female mathematician and leader in STEM, I know too well the challenges individuals can face as a result of actions from some members of the scientific community. There are few locations that are as important to our understanding of the world around us as the Antarctic continent. Since 1956, Americans have been studying the Antarctic and its interactions with the rest of the planet and taking advantage of the unique atmosphere to study the cosmos. The community consists of almost 3,000 people who travel to the ice every year, from researchers to support personnel and contractors, staff from multiple Federal agencies, and military personnel. NSF is extremely proud of the U.S. Antarctic Program and the people who make up this incredible community. However, the report also showed us that we need to take swift action to address very troubling reports of assault and harassment and an environment that was hostile for many individuals.

Shortly after receiving the report, NSF leadership directed an agencywide response to take the actions necessary to systematically address the findings, implement near-term solutions, and evaluate longer-term needs and actions. Most importantly, the safety of all deployers was and continues to be our highest priority. Each of the steps NSF has taken, and our progress to date is detailed in my written testimony. However, I would like to highlight just a few.

First, we took swift action to reassess the terms of NSF’s Antarctic Support Contract (ASC). This action included the negotiation and implementation of new contract terms with Leidos. Those modifications are aimed at ensuring ethical conduct, screening of personnel, and oversight. In addition, NSF established a sexual assault and harassment prevention and response support office in order to provide the necessary resources to support deployed personnel on matters relating to sexual assault and harassment and to remove barriers and provide an independent line of reporting for victims of sexual assault and harassment matters.

NSF is enacting a multifaceted plan that targets prevention, uses up-to-date training methods, and addresses the complexity of reporting incidents where multiple employers and agencies intersect. In addition, we are working to create an environment which empowers deployers to speak up when they see or experience sexual assault or harassment and empowers management to take swift and appropriate action.

We will be conducting annual climate surveys to help us understand if our actions are contributing to a culture shift and what, if anything, we need to change. NSF will continue to take steps to ensure that all research environments are free of harassment in

any form and that research can thrive in collaborative, supportive, and safe environments.

Transformational change requires a community effort. We can set the tone for the changes we expect to see, but we need partners in realizing our vision. NSF is committed to working with the entire community to take the steps necessary to eliminate sexual assault and harassment at our Antarctic stations, vessels, and field camps. We appreciate the continued strong support of this Committee and look forward to working with you to address this important issue. Thank you.

[The prepared statement of Dr. Marrongelle follows:]



**Dr. Karen Marrongelle
Chief Operating Officer
National Science Foundation**

**Before the
Committee on Science, Space, and Technology
United States House of Representatives**

**on
Building a Safer Antarctic Research Environment
December 6, 2022**

Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee, thank you for the invitation to appear before you today to discuss the National Science Foundation's (NSF) Sexual Assault/Harassment Prevention and Response Report that was developed for the U.S. Antarctic Program (USAP), NSF's response plans, and our broader efforts to combat harassment in all research settings. I am Dr. Karen Marrongelle, Chief Operating Officer at NSF.

NSF recognizes that to enable scientists, engineers, and students to work at the outermost frontiers of knowledge, the agency must be a role model for teamwork, fairness, and equity. Investing in science, technology, engineering, and education for the Nation's future necessitates a safe environment, free of any form of harassment, that fosters equal opportunity for all.

NSF will not tolerate harassment in any research setting. NSF has endeavored to eliminate sexual harassment within the science and engineering community by taking a proactive approach to promote inclusive, diverse workspaces through new actions and ongoing programs; strengthening our Title IX compliance program; and practicing transparency in our guidelines and actions.

In 2016, NSF co-funded, with agency partners, a National Academies of Sciences, Engineering, and Medicine (NASEM) study: Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine (Sexual Harassment in Academia | National Academies)¹ on the prevalence and impact of sexual harassment in science, engineering, and medical departments and programs. This study, which was issued in 2018, formed a foundation for further consideration of our policies while providing important information to science and engineering institutions and organizations. The recently enacted Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act requires NSF to undertake a follow-on study to examine the influence of sexual harassment in institutions

¹ <https://nap.nationalacademies.org/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic>

of higher education on the career advancement of individuals in the STEM workforce and assess progress in implementing recommendations from the 2018 report. Efforts to do so are already underway.

After the NASEM report's release and recognizing that action was needed to combat harassment in the research enterprise, NSF issued an ["Important Notice"](#) to the U.S. research community with three components: (1) the issuance of a change in NSF award conditions to include a term and condition to combat all forms of harassment; (2) a statement on our expectations for harassment-free workplaces; and (3) the initiation of enhanced web resources for easy access to all NSF policies, resources, and communications for the community on harassment.

The term and condition for NSF awardees was issued in September 2018. This policy was developed specifically to address sexual and other forms of harassment and sexual assault within science, which was ultimately incorporated into the NSF 2019 Proposal and Award Policies and Procedures Guide (NSF19-1). The term and condition require that any awardee must notify NSF of:

- (1) Any finding/determination regarding the PI or any co-PI [1] that demonstrates a violation of awardee policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault; and/or
- (2) If the PI or any co-PI is placed on administrative leave or if any administrative action has been imposed on the PI or any co-PI by the awardee relating to any finding/determination or an investigation of an alleged violation of awardee policies or codes of conduct, statutes, regulations, or executive orders relating to sexual harassment, other forms of harassment, or sexual assault.

NSF's Office of Equity and Civil Rights (OECR) is the cognizant office for coordinating NSF actions to ensure awardee compliance with Title IX and related award term and conditions and for addressing employee discrimination complaints, including compliance with the harassment term and condition. NSF has continued to refine its approach to enforcement as well, most recently the agency clarified its policy regarding what NSF employees should do if they become aware of incidents of sexual harassment on NSF awards or within the Agency itself to ensure that these policies have broad reach and provide ample protection for the NSF-funded community. In addition, effective January 2023, for each proposal that includes research off-campus or off site, the awardee must complete a certification that the organization has a plan in place that describes how harassment and other abusive or unwelcome behavior at that site will be addressed.

These actions are supplemented by other agency-wide policies and practices to combat harassment and encourage positive and healthy research environments. It is within this broader framework, and with a commitment to continuing to refine our approach and take new actions as needed, that we are approaching our response to the Sexual Assault/Harassment Prevention and Response Report (SAHPR) Report on the USAP program.

United States Antarctic Program (USAP)

Established at NSF in 1958, the USAP is funded and managed by NSF's Office of Polar Programs within the Directorate for Geosciences. The USAP supports scientific research, engages in environmental stewardship, and maintains a geopolitical presence in Antarctica and the Southern Ocean as mandated by [Presidential Memorandum 6646](#) and Presidential Decision Directive NSC-26.

Without interruption since 1956, Americans have been studying the Antarctic and its interactions with the rest of the planet and taking advantage of the unique atmosphere to study the cosmos. The program comprises competitively merit-reviewed research projects by scientists selected from institutions including research projects supported by other U.S. agencies. Logistics and facilities are supported via contractors as well as from agencies of the U.S. Government on a cost-reimbursable basis. The USAP community consists of almost 3,000 people who travel to the ice every year. This includes about 500 researchers and their team members; over 1,500 support personnel and contractors, and 1,000 federal staff from multiple agencies and defense and military personnel.

The research generally falls within three overarching goals: to understand the region and its ecosystems; to understand the linkages and effects of Antarctica with global processes such as climate; and to take advantage of the region as an advantageous platform to study the upper atmosphere and space.

Three Permanent U.S. Research Stations

The program has three permanent year-round research stations and two ice-capable research vessels. In the austral summer (the period of extensive sunlight and comparative warmth that lasts roughly October through February) additional field camps away from the stations are established for glaciologists, earth scientists, biologists, and others. The NSF is committed to safe work practices and safe work environments and USAP participants are required to put safety and environmental protection first while living and working in Antarctica.

McMurdo Station is the largest Antarctic station. Established in December 1955, McMurdo is the primary logistics hub of the USAP, with a harbor, landing strips on an ice shelf, and helicopter pads. Its approximately 85 buildings range in size from a small radio hut to large, three-story structures and include repair facilities, dormitories, administrative buildings, a firehouse, medical clinic, power plant, water distillation plant, wharf, stores, dining facilities, clubs, warehouses, and the Crary Science and Engineering Laboratory. Built on volcanic rock and permafrost at Hut Point Peninsula on Ross Island, McMurdo is located on the solid ground farthest south that is accessible by ship.

Amundsen-Scott South Pole Station stands at an elevation of 9,306 feet on Antarctica's nearly featureless ice plateau. The station, which is 850 nautical miles south of McMurdo Station, drifts with the ice sheet at about a rate of 10 meters (33 feet) each year. Astronomy, astrophysics, and atmospheric sciences are major research thrusts for South Pole Station. Americans have occupied the geographic South Pole continuously since November 1956.

Palmer Station is the smallest of the three permanent U.S. research stations. Palmer Station supports marine, terrestrial and atmospheric sciences research. Data collected in the coastal environment around Palmer Station contributes to a global network of sites dedicated to observing and improving scientific understanding of long-term ecological trends.

Research Field Sites

During some summer seasons, the USAP establishes and operates one or more major summer research camps in areas of scientific interest. Small research teams requiring temporary shelter use single- or

double-walled tents of several designs, both modern and traditional. Tent camps usually are placed or moved by helicopter or skimobile. Due to the harsh Antarctic environment safety is paramount in field sites. All tent camps and huts are required to have radios and satellite phones, and they maintain daily contact with the nearest station.

USAP is a Unique Research Environment

NSF is committed to being a leader in establishing agency-wide policies and requirements to help ensure research environments are free from sexual assault, sexual harassment, and other forms of harassment. NSF understands that the USAP operates in a unique research environment, with participants from a wide variety of institutions and backgrounds. Accordingly, in 2013, NSF developed the Polar Code of Conduct that addresses expectations for professional conduct and acceptable behavior by all USAP personnel. Every USAP participant is required to read, agree, and abide by this Code of Conduct and violations can result in removal from the continent.

In 2020, individuals expressed concerns related to harassment and assault within the USAP to NSF staff. In April 2021, NSF responded to the concerns voiced by USAP participants and [announced](#) the agency's intent to create a USAP-specific Sexual Assault/Harassment Prevention and Response (SAHPR) program to combat harassment and provide a safe community for all Antarctic deployers. NSF partnered with the Department of the Interior's [Federal Consulting Group \(FCG\)](#) and their contracted team of experts at Leading and Dynamic Services and Solutions (LDSS) Corporation, Alteristic, Inc., and the Victim Rights Law Center (VRLC) to conduct a needs assessment and propose an implementation plan.

The needs assessment was conducted in 2021 and included digital surveys of past and current deployers and a series of focus groups and individual interviews with contractors, researchers, and federal staff. The results of the needs assessment report were delivered to NSF in summer 2022 and includes a plan for implementation of a SAHPR program with supporting resources and training materials. NSF published the full report on the agency website² and immediately began implementing measures to address the findings and recommendations. Below is a summary of some of the findings and NSF actions taken to date. NSF will continue to update the research community, Congress and other stakeholders on the agency's ongoing response.

Needs Assessment Report and NSF Response

The results of the SAHPR Report are deeply troubling and demonstrate a fundamental need for cultural change as well as change in current practices. The report advised that sexual assault, sexual harassment, and stalking are problems in the USAP Community. It also found that the complex and unique nature of the multi-jurisdictional USAP (e.g., federal staff, military personnel, contractors and academic researchers) with varying policy enforcement mechanisms across USAP creates gaps that hinder current response and prevention efforts. It further stated that the current response systems are confusing and inadequate (due in large measure to the multi-jurisdictional aspects of the participants and lack of comprehensive policies to address them), and the fact that there is no single point of communicating concerns about sexual harassment and assault was noted as a particular challenge. Finally, the report also indicated that contractor employees have significant mistrust of the human resources departments of prime and sub-contractors, with some individuals feeling dismissed or shamed, and fearing retaliation.

² <https://www.nsf.gov/geo/opp/documents/USAP%20SAHPR%20Report.pdf>

Some employees also felt that perpetrators were not held accountable for their actions and continued to work in the program despite harm done to others.

Recommendations to address these concerns are multifaceted, and address both prevention and response. In general, the report found that senior leadership (which can be leaders of grantee research teams, senior contractor personnel who have supervisory duties, or others with high level positions) is committed to addressing sexual assault and harassment, but found that trust in, and the effectiveness of, the leadership response was low. Specifically, the report cited lack of awareness among leadership that sexual assault and sexual harassment are significant problems in many areas of the USAP. The report noted there are early indicators of initial progress toward creating a healthy climate but stated that infrastructure dedicated to prevention is nearly absent and effective prevention training and evaluation is lacking. The report further states that despite insufficient opportunities provided for the USAP community members to engage in prevention efforts, there is significant motivation to engage.

The report calls for the development of a communication strategy that includes a toolkit of prevention infrastructure, including prevention staff, training, and policies. It also advises the establishment of a prevention collaborative body. Increases in prevention education opportunities, including better training, such as “bystander intervention” and “know your rights” learning opportunities are also advised. These actions are intended to support a transition to a more positive culture and climate among all USAP participants.

Engagement of the Antarctic community and development of a robust response network also is critical. The report suggests: (a) increasing opportunities for community feedback and engagement and providing resources in Antarctica that support targets of harassment, such as a survivor advocate and ombudsperson; (b) working with contractors and other USAP partners to strengthen screening and hiring practices and handling of reports and complaints (c) establishing a Coordinated Community Response Team (CCRT) and (d) developing a more robust communication plan that describes resources available to targets of harassment. The report also calls for holding additional listening sessions in Antarctica to understand concerns and communicate plans and resources available to targets of harassment, emphasizing a positive climate and culture as keys to prevention, and restructuring policies, protocols, and oversight mechanisms.

Following receipt of the SAHPR Report, NSF leadership directed an agency-wide response to take the actions necessary to systematically address the findings, implement near-term solutions, evaluate long-term needs and actions, and most importantly, ensure the safety of all deployers and create a positive and collegial culture where research can thrive.

NSF’s program and contracting offices took swift contractual action to re-assess the terms of NSF’s Antarctic Support Contract (ASC). This action included the negotiation and implementation of new contract terms with Leidos (the ASC prime contractor), which built from a series of responsibility-focused communications with them and culminated in the issuance of a contract modification.

The modification was issued in September, with two distinct types of actions: (1) Reaffirmations of our expectations on existing contract clauses; and (2) New contract requirements. Some of the key provisions of the modification include:

- Reaffirming that it is the contractor's responsibility to prevent and detect criminal conduct and promote a culture that encourages ethical conduct, including due diligence regarding sexual assault and harassment. This includes appropriate and timely reporting to the extent possible under the contractor's due diligence procedures, and in accordance with new requirements established by NSF.
- Reminding them of their responsibility to provide adequate subcontractor oversight, including sharing all new NSF and ASC requirements on preventing and responding to incidents of sexual assault and harassment for all subcontractors that deploy personnel to Antarctica.
- The contractor and any of their subcontractors, as part of the pre-employment screening process for positions eligible for deployment to Antarctica, shall ask potential employees if they have been disciplined for incidents of sexual assault or sexual harassment, or quit before being disciplined for sexual assault or harassment within the past three years. Individuals shall not be eligible for deployment if they have been disciplined for sexual assault or sexual harassment within the past three years.
- The contractor will ensure that their or subcontractor personnel removed from the Antarctic for sexual assault or sexual harassment shall be prohibited from deployment to Antarctica for a period of three years from the date of their removal. The 3-year prohibition from Antarctic facilities is a contractual remedy and it represents an initial agreement with the vendor. NSF coordinates parallel criminal, civil, administrative and contractual remedies where appropriate, which may involve further assessment of matters such as the duration of any Antarctic deployment prohibition and/or pursuit of other remedies.
- Concurrent with this modification, NSF Director Panchanathan released a staff memorandum laying out immediate steps the agency will take to address reports of harassment, assault, and bullying in the USAP. The memorandum includes the following:
 - 1) Directs the NSF's Office of Equity and Civil Rights (OECR) to establish a SAHPR Support Office in order (i) to provide all the necessary resources including on-the-ground personnel in Antarctica, to support deployed personnel on matters relating to sexual assault and harassment, and (ii) to remove any or all barriers as well as provide an independent line of reporting for victims of sexual assault/harassment matters in the USAP.
 - 2) States that the SAHPR Program Office will be independent of the U.S. Antarctic Program and will be funded and managed directly by the Office of the Director.
 - 3) Enacts a multifaceted plan that targets prevention, uses up-to-date training methods, addresses the complexity of reporting incidents where multiple employers and agencies intersect, and works to create an environment which empowers deployers to speak up when they see or experience sexual assault or harassment and empowers management to take swift and appropriate action.

To operationalize the immediate goals of this memorandum, Director Panchanathan also established a SAHPR Task Force to coordinate and integrate the initial operational and strategic elements of NSF's response and action plan to combat sexual assault and harassment in the USAP. I chair the Task Force and report plans and progress towards implementation milestones to the Director on a weekly basis.

In this next section, I summarize the [NSF Action Plan](#) and the progress we have made to date.

1. **Single Communication Point at NSF for Sexual Assault/Harassment Matters**

NSF's Office of Equity and Civil Rights (OECR) will create a Sexual Assault/Harassment Prevention and Response (SAHPR) office to act as the single communication point for the USAP, and to properly refer all sexual assault/harassment matters. This single focal point will provide a safety net for ensuring access to resource materials, preventing miscommunication regarding reporting lines, and building trust in leadership and management structures. OECR will coordinate as appropriate with the Office of Polar Programs (OPP), Office of the General Counsel (OGC), and the Office of the Inspector General (OIG) for any criminal or administrative matters that require other action.

PROGRESS:

- The SAHPR Program office has been established in OECR. Staffing plans and recruitment of relevant experts are underway.
- Standard Operation Procedures (SOPs) for appropriate coordination on reporting lines are under development. This includes building formal lines of communication with USAP partners (e.g., contractors, federal agencies, military partners, and academic institutions) to build best practices to support the multi-jurisdictional nature of USAP.
- OECR will provide resources and support to USAP but is also building a foundation to provide similar services for the broader NSF community.
- As the SAHPR support functions are being built, OECR will provide bridge services to all USAP partners and personnel for reporting and follow-up on all matters of harassment.

2. **Resources for Victims**

NSF's goal is to ensure a safe and productive environment for scientists, support personnel, and visitors who participate in USAP activities. NSF is providing immediate resources, including a point person in Antarctica to directly support deployed personnel for matters relating to sexual assault and harassment. The SAHPR program function is independent of OPP and is funded and managed directly by the Office of the Director.

PROGRESS:

- NSF has established a new 24/7 on-ice resource for deployed personnel:
 - Beginning on October 25, NSF deployed an on-ice advocate to Antarctica who is an independent, confidential resource with the necessary expertise to support all survivors of harassment, assault, or bullying behaviors. The on-ice advocate will be a continuous presence in Antarctica, through a series of rotational tours of multiple individuals. The on-ice advocate is accessible in-person but can also be reached by phone from the South Pole Station, Palmer Station, or field sites.
 - NSF is taking proactive efforts to publicize the availability of the on-ice resources through USAP publications, information materials posted throughout NSF's three stations, and through digital communication channels.
- NSF is continuing to provide 24/7 access to existing on-ice resources:

- A counselor is available 24/7 for all deployed personnel; this individual is in addition to the on-ice advocate for SAHPR.
 - The USAP program has a permanent chaplain available for deployed personnel.
 - A Special Deputy U.S. Marshal at McMurdo is available year-round to respond to any reports of assault or criminal activity.
- To supplement the new and continuing on-ice resources, NSF is in discussions with a leading contractor who has provided SAHPR crisis response, reporting, therapy, and other services to numerous federal agencies (including the Department of Defense and NOAA) and maintains a national public hotline for similar services. It is our intent to engage this contractor to provide additional 24/7 services to deployed personnel via other communication channels (telephone, text (SMS), online chat). These additional communication channels will ensure that deployed personnel have multiple avenues for support and assistance. The contractor may also assist NSF to document and implement robust reporting and follow-up procedures as part of OECR's SAHPR Program Office functions.
- The SAHPR Office Program functions (including the services above) are funded and managed under the direction of the Office of the Director. NSF has reallocated existing resources to fund the immediate effort for USAP.

3. **Antarctic Site Presence and Visits**

NSF Office of the Director (OD)/OECR leadership will deploy early in the operating season (late-October/early November) to Antarctica to oversee the installation of the deployed SAHPR Support Office function and to conduct listening sessions and meet one-on-one with personnel.

PROGRESS:

- The Deputy Office Head of OECR deployed to Antarctica in late October concurrently with the on-ice advocate, whose services are one of the components of the SAHPR Program Office functions. They were accompanied by senior NSF leadership from the Office of Polar Programs (OPP).
- NSF conducted seven (7) in-person listening sessions in McMurdo Station. Additional virtual sessions are being planned for December.
 - Sessions were facilitated by the on-ice advocate; OECR and OPP senior executives attended.
 - The purpose of the sessions was to receive the community's input on the SAHPR Report and to understand their needs.
 - Approximately 20-30 individuals attended each session.
- NSF took some immediate action to provide information resources to the community during and after the listening sessions:
 - Provided a resource for the on-ice advocate to share with survivors on legal remedies for reporting.
 - Provided an update for the community on progress on the NSF Action Plan.
 - The community expressed concerns about retaliation or reprisal for using SAHPR resources or reporting. OECR is developing an information resource for the community so that they may understand their rights.

4. **Increased Vetting**

NSF is improving existing background investigation procedures for all deploying personnel to ensure that all personnel pass a criminal background check and have not been disciplined by their employers.

PROGRESS:

- The new contract terms for the ASC require that any potential employees of NSF's prime contractor or their subcontractors be asked whether they have been disciplined for sexual assault or harassment by a previous employer or quit before such discipline took place within the past three years. These individuals are not eligible to be deployed to Antarctica. This timeframe was agreed upon as an initial measure to protect individuals in the Antarctic and the NSF's interests in maintaining a safe work site. It can be reviewed and revised as appropriate as NSF and the vendor get a better understanding of the potential impacts. Further, NSF reserves the right to pursue parallel remedies.
- Federal staff (NSF, other agency, military) go through federal clearance procedures.
- In addition to the employer-based screening that is conducted by the ASC prime contractor or their subcontractors, NSF now requires all contractor and subcontractor personnel to go through a vetting process similar to federal employees.
 - This includes a fingerprint check and clearance of the OF-306 (Suitability for Federal Employment).
 - Potential employees are required to submit this information directly to NSF for federal adjudication.
 - A small number of individuals who will be wintering in Antarctica (less than 20) needed to be deployed before the information could be collected. NSF is in the process of collecting and adjudicating this information; we expect to receive this information in December.
- Grantees and their teams are primarily employed by academic or other research institutions; they may be sponsored by NSF or our partner federal agencies. NSF will be developing a process to assess the vetting procedures at a small number of these institutions to recommend how best to ensure appropriate clearances for these individuals.

5. **Accountability**

Any entity with personnel deployed to Antarctica – federal agency, military, contractor, academic institution must provide a cognizant senior official outside the local/field unit to coordinate with OECR for immediate response to any reports of sexual assault or harassment.

PROGRESS:

- NSF has identified a list of USAP federal agency and military partners and have obtained points of contact for each of them.
- NSF already has well-established contacts through its contractual relationship with Leidos. Additionally, Kathleen Nacher, Chief Operating Officer of the Civil Group at Leidos and Chair of its Oversight Board, has been engaged with us.
- OECR will use its existing mechanisms with academic institutions to respond to any reports of sexual assault or harassment among our grantees in Antarctica.

- As OECR builds out new procedures for prevention, reporting and response, they will be using these contacts to ensure appropriate follow-up on any reports of sexual assault or harassment.

6. **Improved Training**

The deployment program for all personnel is being updated to include new and revised trainings on sexual harassment and assault prevention and response, including situations applicable to work at a remote field station. These updates include bystander and intervention training, as well as awareness and instructions on reporting and where to obtain support.

PROGRESS:

- All employers (federal, military, contractor and academic) of USAP personnel deployed in Antarctica provide employer-specific sexual assault and sexual harassment (SA/SH) training. NSF will be documenting these training requirements for future review/action.
- NSF's prime contractor has updated their internal training requirements.
- The prime contractor is also now required to conduct an annual review of all training offered by their subcontractors to ensure alignment with NSF and ASC requirements.
- NSF has required supplemental SA/SH training that is USAP-specific. This year, that training has been updated to address recommendations of the needs assessment report. The changes include implementation of bystander intervention training.
 - Since its implementation, 100% of individuals who are deployed to Antarctica are required to attend this in-person, interactive training prior to deployment.
 - NSF is in discussion with our military partners to ensure this is carried out for any deploying military personnel as well.
- Training will be followed-up throughout the season with reminders in newsletters, and other communications.
- The on-ice advocate is also developing bystander intervention training specific to certain types of personnel on the ice, for example, bartenders.
- There are large work centers in Antarctica (e.g., Supply, Parsons, Galley, and Fire Department). The on-ice advocate has developed SAHPR prevention talking points for work center managers to facilitate discussions with staff on prevention/bystander intervention.

7. **Enhanced Security Measures on the Ice**

Physical security measures are being implemented in Antarctica in response to comments in the SAHPR Report including, but not limited to: installation of additional peepholes in doors, improved key management and controls for master keys, and additional satellite communications options and protocols for deep field site personnel.

PROGRESS:

- Installation of peepholes in every lodging room at all of NSF's Antarctic Stations
 - 40% of McMurdo rooms have peepholes
 - Materials have been ordered for the other stations and are being expedited through the supply chain. Materials for McMurdo and South Pole have arrived in Auckland and are going through customs clearance. Upon completion, they will go to Christchurch, then

McMurdo and South Pole. Materials for Palmer Station (our smallest station) will transit through Punta Arenas.

- Installation will be a priority when the materials arrive. All installations will be completed this season.
 - Improved key management and controls for master keys
 - All individuals with master key access (considered to have elevated privileges) have received full federal clearances.
 - A key machine is being sent to South Pole station, which will allow anyone to request a key so they can lock their doors when they leave (doors can currently only be locked from inside). This is already in place at McMurdo and Palmer.
 - Provision of additional satellite communications and protocols for deep field teams
 - Each deep field team will receive 2 (not 1) satellite phones (which have text/email capability)
 - The ASC Field Safety lead discusses the SAHPR program and on-ice reporting procedures and resources with all deploying field teams.
 - Field teams are receiving a contact card on how to access SAHPR resources.
8. **Director's USAP Task Force on Sexual Assault/Harassment**
 The NSF Director has established a Task Force on harassment in the USAP to immediately coordinate and integrate the operational and strategic elements of the agency response. The Task Force consists of NSF staff and will provide reports to the Director on a weekly basis.

PROGRESS:

- As the COO, I chair the SAHPR Task Force, which initially met on September 30 and has continued to meet weekly thereafter.
- The task force consists of senior executives representing these business units at NSF:
 - Office of the Director
 - Office of Equity and Civil Rights
 - Office of the General Counsel
 - Office of Legislative and Public Affairs
 - Office of Budget, Finance and Administration
 - Office of Information Resource Management
 - Directorate for Geosciences and the Office of Polar Programs
- Through the Task Force, I provide a weekly update to the Director on progress on the NSF Action Plan.

I would like to emphasize that these are immediate response plans, and NSF will be enacting additional efforts based on feedback from the just-concluded listening sessions. NSF will continue to revise and adjust our actions in the months and years ahead. We will also be conducting annual climate surveys as a method of helping us to understand if our actions are contributing to the culture shift we expect to see and will also help us identify anything we need to change. Finally, NSF will be approaching the National Academy of Public Administration to discern whether they will be able to conduct an independent review of the policies, procedures, and employment conditions in the USAP to determine whether structural

and/or operational changes should be made to the USAP to reduce the causes of sexual assault and harassment.

NSF is committed to making this a priority effort and will apply lessons learned from these activities across all NSF programs. Success of our actions, however, are incumbent upon our partners' (universities, contractors, other agencies) commitment to culture change within their organizations.

Conclusion

Madam Chairwoman, Ranking Member Lucas, thank you again for the opportunity to appear before you and the committee today to discuss these important issues.

NSF will continue to take steps to ensure that all research environments are free of harassment in any form and that research can thrive in collaborative, supportive, safe environments. NSF is committed to working with the entire USAP community to take the steps necessary to eliminate sexual assault and harassment at our Antarctic stations, vessels, and field camps, create supportive culture, and increase safety for all, and is working in strong partnership with leadership from across the military and the Antarctic Support Contractor, Leidos. A community effort is essential to eliminate sexual and other forms of harassment.

We appreciate the continued strong support of this Committee and look forward to working with you to advance research for the benefit of the nation.



Dr. Karen Marrongelle
Chief Operating Officer
National Science Foundation

Dr. Karen Marrongelle is the Chief Operating Officer of the National Science Foundation, where she oversees operations of the \$8.5B federal agency whose mission includes support for all fields of fundamental science and engineering. Previously, she served as Assistant Director of the National Science Foundation for Education and Human Resources (EHR). She led the EHR Directorate in supporting research that enhances learning and teaching to achieve excellence in U.S. science, technology, engineering and mathematics (STEM) education.

Prior to joining NSF, Marrongelle was Dean of the College of Liberal Arts and Sciences at Portland State University and Professor of Mathematics and Statistics, where she oversaw 24 departments and programs across the humanities, social sciences and natural sciences.

In addition to her work as Dean, Marrongelle has served as a faculty member in the Department of Mathematics and Statistics at Portland State University since 2001. Prior to her appointment as dean, she held positions as the Vice Chancellor for Academic Strategies and Assistant Vice Chancellor for Academic Standards and Collaboration with the Oregon University System.

From 2007-2009, Marrongelle served on a rotation as a program officer at NSF and led numerous grants, collaborating with researchers nationally and internationally to improve undergraduate mathematics education and K-12 mathematics professional development.

Marrongelle has a bachelor's degree in mathematics and philosophy from Albright College, a master's degree in mathematics from Lehigh University and a doctorate in mathematics education from the University of New Hampshire.

Chairwoman JOHNSON. Thank you very much.
Ms. Kathleen Naeher.

**TESTIMONY OF MS. KATHLEEN NAEHER,
CHIEF OPERATING OFFICER OF THE CIVIL GROUP, LEIDOS**

Ms. NAEHER. Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee, my name is Kathleen Naeher, and I'm the Chief Operating Officer in the Civil Group at Leidos. Leidos appreciates the Committee holding this important hearing and is deeply committed to working in partnership with the National Science Foundation and this Committee to address concerns about sexual harassment for those deployed to Antarctica.

I help to oversee our work in Antarctica and in connection with the Antarctic Support Contract. I have been closely involved in our efforts to address the important issues the Committee is exploring today. Let me be crystal clear. There is no place for harassment of any sort in any workplace, be it on ice or elsewhere.

As a company with a long history of providing technology, engineering, and scientific experience to our customers, including the Federal Government, Leidos is committed to doing everything possible to provide a safe and secure workplace wherever we operate. Since 2018, Leidos has been recognized by Ethisphere as one of the world's most ethical companies.

Leidos is proud to partner with the NSF to support the United States Antarctic Program and the important work being conducted. As a prime contractor to NSF, Leidos does not oversee or perform scientific research. Instead, our role is to provide the support services that allow the scientists on the ice to do their work. The jobs Leidos and its subcontractors do represent a wide range of trades and skills, including engineers, waste management, construction workers, medical professionals, fire and rescue, cooks and kitchen workers, janitorial services, logistics specialists, mechanics, air support, finance, HVAC (heating, ventilation, and air conditioning) specialists, and many others. We essentially run a small town, all to support the science being conducted there.

Before coming to Leidos, I spent over 30 years at the CIA, where I worked in difficult and demanding settings around the world, including in multiple war zones. Even when compared to those locations, Antarctica presents complex and unique challenges, which I saw firsthand when I was on ice last month. Given the extremely remote and harsh conditions, working in Antarctica is difficult and isolating. Connectivity is limited, making communications difficult. Because people working in this remote environment share living and working spaces for months at a time, it is hard to have private time or separation from your coworkers. Further complicating the environment, there are a number of different stakeholders operating alongside each other. While a number of people work in the same setting or location, they report to different employers or agencies even with each with its own requirements, expectations, and policies for addressing workplace matters on ice.

Though the complicated nature of the work environment presents unique complexities as it relates to workplace safety, including with respect to preventing and reporting harassment, we take all reports of potential misconduct seriously. Since becoming NSF's

prime contractor in Antarctica in 2016, Leidos has taken a number of steps to improve the culture and conditions on ice and to foster a safe and protective workplace. For example, in 2019 Leidos strengthened requirements relating to prevention and response training for sexual harassment and assault, including providing ally training to station leadership and subcontract line managers. In 2020, Leidos deployed a full-time counselor onsite to provide counseling services to all people deployed on ice, including grantees, NSF, and military personnel. Leidos added workshops addressing workplace culture in 2020, and in 2021, we established the ASC Inclusion Council and our ASC HR (human resources) managers received certifications as victims' advocates.

After receiving the SAHPR report this summer, we continued our efforts to improve the culture and conditions on ASC in coordination with the NSF. This issue has the attention of the highest levels of Leidos. In particular, the company established a task force in July 2022 to address the specific concerns raised in the SAHPR report. The resulting action plan includes multiple ongoing workstreams focused on enhancing harassment prevention training; encouraging reporting of concerns; improving physical safety, including for grantees working in the field; and collaborating with their subcontract teams to strengthen and improve consistency in report—and responding to reports of sexual harassment and assault.

In conclusion, I was inspired during my recent visit to see the level of dedication to the mission among the staff in Antarctica. Leidos shares this commitment, both to the mission and to ensuring a safe environment for those living and working there. We are pleased to partner with NSF to continue to make progress in this area so that the important scientific work in Antarctica can continue free from harassment of any kind.

I would like to reiterate my thanks to the Committee for addressing this important issue and to Chairwoman Johnson for her leadership throughout her career. We at Leidos wish you the best in your upcoming retirement. Thank you.

[The prepared statement of Ms. Naeher follows:]

**Written Statement of Kathleen Naeher
Chief Operating Officer of the Civil Group, Leidos**

Before the House Committee on Science, Space and Technology

December 6, 2022

Chairwoman Johnson, Ranking Member Lucas, and members of the Committee, my name is Kathleen Naeher, and I am the Chief Operating Officer in the Civil Group at Leidos. Leidos appreciates the Committee holding this important hearing and is deeply committed to working in partnership with the National Science Foundation and this Committee to address concerns about sexual harassment for those deployed to Antarctica.

I help to oversee our work in Antarctica in connection with the Antarctic Support Contract. I have been closely involved in our efforts to address the important issues the Committee is exploring today. Let me be crystal clear – there is no place for harassment of any sort in any workplace, be it on ice or elsewhere. As a company with a long history of providing technology, engineering and scientific experience to our customers, including the federal government, Leidos is committed to doing everything possible to provide a safe and secure workplace wherever we operate. Since 2018, Leidos has been recognized by Ethisphere as one of the world's most ethical companies.

Leidos is proud to partner with the NSF to support the United States Antarctic Program and the important work being conducted. As the prime contractor to NSF, Leidos does not oversee or perform scientific research; instead, our role is to provide the support services that allow the scientists on the ice to do their work. The jobs Leidos and its subcontractors do represent a wide range of trades and skills, including engineers, waste management, construction workers, medical professionals, fire and rescue, cooks and kitchen workers, janitorial services, logistics specialists, mechanics, air support, finance, HVAC specialists, and many others. We essentially run a small town – all to support the science being conducted there.

Before coming to Leidos, I spent over thirty years at the CIA where I worked in difficult and demanding settings around the world, including in multiple war zones. Even when compared to those locations, Antarctica presents complex and unique challenges, which I saw firsthand when I was on ice last month. Given the extremely remote and harsh conditions, working in Antarctica is difficult and isolating. Connectivity is limited, making communications difficult. Because people working in this remote environment share living and working spaces for months at a time, it is hard to have private time or separation from your coworkers. Further complicating the environment, there are a number of different stakeholders operating alongside each other. While a number of people work in the same setting or location, they report to different employers or agencies, each with its own requirements, expectations, and policies for addressing workplace matters on ice.

Though the complicated nature of the work environment presents unique complexities as it relates to workplace safety, including with respect to preventing and reporting harassment, we take all reports of potential misconduct seriously. Since becoming NSF's prime contractor in Antarctica in 2016, Leidos has taken a number of steps to improve the culture and conditions on ice and to foster a safe and protective workplace. For example, in 2019, Leidos strengthened requirements

relating to prevention and response training for sexual harassment and assault, including providing Ally Training to station leadership and subcontract line managers. In 2020, Leidos deployed a full-time counselor on site to provide counseling services to all people deployed on ice, including grantees, NSF, and military personnel. Leidos added workshops addressing workplace culture in 2020. And in 2021, we established the ASC Inclusion Council and our ASC HR managers received certifications as Victim's Advocates.

After receiving the SAHPR report this summer, we continued our efforts to improve the culture and conditions on ASC, in coordination with the NSF. This issue has the attention of the highest levels of Leidos. In particular, the company established a task force in July 2022 to address the specific concerns raised in the SAHPR report. The resulting action plan includes multiple ongoing work streams focused on enhancing harassment prevention training; encouraging reporting of concerns; improving physical safety, including for grantees working in the field; and collaborating with our subcontract teams to strengthen and improve consistency in responding to reports of sexual harassment and assault.

In conclusion, I was inspired during my recent visit to see the level of dedication to the mission among the staff in Antarctica. Leidos shares this commitment—both to the mission and to ensuring a safe environment for those living and working there. We are pleased to partner with NSF to continue to make progress in this area so that the important scientific work in Antarctica can continue free from harassment of any kind.

I would like to reiterate my thanks to the Committee for addressing this important issue, and to Chairwoman Johnson for her leadership throughout her career. We at Leidos wish you the best in your upcoming retirement. Thank you.

Kathleen Naeher Biography

Kathleen Naeher is the Chief Operating Officer (COO) for the Civil Group at Leidos. As COO, Kathleen works closely with the Civil Group leadership team to drive operational performance and alignment with the annual operating plan and market strategies.

Before joining Leidos, Kathleen had more than 35 years of experience leading large, global organizations for the Central Intelligence Agency (CIA), with distinguished service in digital, information technology, and cyber fields. She recently served as the CIA's associate deputy director for digital innovation, where she oversaw a diverse workforce that worked to integrate resources for cyber intelligence, secure global communications, and data science across the Agency's mission centers and directorates.

Kathleen has a Bachelor of Science in mathematics from the University of Scranton, a Master of Science in computer systems management from the University of Maryland, a Master of Business Administration from George Mason University, and participated in the Executive Leadership Program at the University of Maryland's School of Public Policy.

Chairwoman JOHNSON. Thank you very much.
Dr. Angela Olinto.

**TESTIMONY OF DR. ANGELA V. OLINTO,
DEAN OF THE PHYSICAL SCIENCES DIVISION
AND ALBERT A. MICHELSON DISTINGUISHED
SERVICE PROFESSOR, UNIVERSITY OF CHICAGO**

Dr. OLINTO. Thank you, Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee. Thank you for your leadership and for inviting me to share the importance of building a safer Antarctic research environment from a U.S. research university's perspective. I'm Angela Olinto, the Dean of the Physical Sciences Division at the University of Chicago.

Some of the field-defining projects in our division can only be done in the Antarctic continent. These projects range from small teams studying the ice sheets in Antarctica, the world-leading astronomical observatories at the South Pole, and sponsored scientific balloon by NASA (National Aeronautics and Space Administration). NASA launches our instruments from McMurdo because it enables them to fly for weeks to months around the Antarctic continent following the polar vortex winds. The South Pole is one of the best places on Earth to study the universe because it is about 9,300 feet in elevation with a very dry and thin atmosphere and 6 months of darkness during the polar winter.

For decades, researchers from the University of Chicago and many other institutions have led observatories at the pole to significantly advanced the field of cosmology and astroparticle physics. Today, our researchers operate the powerful South Pole Telescope with its third-generation camera and are part of the impressive IceCube Neutrino Observatory.

Two of the top priorities from the most recent decadal survey in astronomy and astrophysics conducted by the National Academy of Sciences will be located at the South Pole, CMB-S4 and IceCube-Gen2. These work to understand the earliest moments of the universe and the highest energy events in the universe. These cutting-edge research projects could not be done without the continued support of Congress, NSF, NASA, and the U.S. Antarctic Program. The wide scientific community and human curiosity in general are extremely grateful to these institutions for supporting these unique opportunities to understand our origins, our place in the universe, and the dynamics and limits of the planet we call home.

Given our strong commitment to supporting an inclusive environment for the diverse set of creative minds who want to contribute to these groundbreaking scientific efforts, it was with great concern that we learned about the findings of the "Sexual Assault/Harassment Prevention and Response" report. As a woman in a historically male-dominated field, the unwelcome environment for women in STEM has been an important issue throughout my career. When I was a Ph.D. at MIT (Massachusetts Institute of Technology), we were only 3 percent women. Now I'm happy to report that women Ph.D. students in our division have reached 35 percent, and women faculty are about 20 percent. Women scientists have become leaders of many of the field-defining efforts at remote locations like Antarctica. We need to work harder to eradicate sexual harassment

and any other kind of discrimination, harassment, or assault in STEM fields.

When I learned about the report, I consulted with some of our researchers about their own experiences in the Antarctic continent. Unfortunately, they were not surprised by the report findings. We commend NSF Office of Polar Program for engaging with subject matter experts to examine the sexual harassment and assault concerns in the USAP community and to identify corrective actions to improve the climate and trust in the community. We agree with the recommendations to improve communications, increase engagement, enhance education and training, strengthen reporting infrastructure and accountability, provide support to victims, and probe more deeply into policies and mechanisms aimed at prevention.

Universities and research teams also need to do more. The potential for unacceptable behavior can occur in other remote locations that share the characteristics of the Antarctic field work, geographical isolation, limited communication, and unclear hierarchical power dynamics. We want to reiterate to all our community that discrimination, harassment, or assault in any setting is unacceptable and unlawful. All our community members are expected to abide by the university's policy on discrimination, harassment, and sexual misconduct while performing remote fieldwork.

We are working to better prepare our community to be in remote locations. We now have a remote field research website with resources. We will provide some training for team leaders and ombudspople that—on best practices before their trips. Improved communications between these points of contact and the institutions involved in the remote field research is very important for changing the culture and preventing unacceptable and unlawful behaviors such as discrimination, harassment, or assault.

The astonishing discoveries that can only be done in remote locations will continue to captivate the public and inspire future generations of diverse minds to study scientific and technical fields that will further enrich the prosperity of this great Nation. We need to do our best to provide the most welcoming and safe environments for all involved in expanding our scientific knowledge.

Thank you for listening. I'll be pleased to answer questions. Thanks.

[The prepared statement of Dr. Olinto follows:]

Statement of

Dr. Angela V. Olinto
Dean of the Physical Sciences Division
Albert A. Michelson Distinguished Service Professor
Department of Astronomy and Astrophysics
Kavli Institute for Cosmological Physics
The University of Chicago

before the
U.S. House of Representatives
Committee on Science, Space and Technology

On
Building a Safer Antarctic Research Environment
December 6, 2022

Chairwoman Johnson, Ranking Member Lucas, and Members of the Committee, thank you for inviting me to share the importance of *Building a Safer Antarctic Research Environment* from a research university's perspective.

I am Angela V. Olinto, the Albert A. Michelson Distinguished Service Professor of Astronomy & Astrophysics, and the current Dean of the Physical Sciences Division at the University of Chicago. Our mission is to discover and apply fundamental laws of nature and reason, foster an inclusive and creative intellectual environment, and help shape the next generation of leading physical and mathematical scientists. Our community of faculty, researchers, teachers, students, and staff is proud of our tradition of field-defining research in the departments of Astronomy and Astrophysics, Chemistry, Computer Science, Geophysical Sciences, Mathematics, Physics, and Statistics.

In the Physical Sciences Division, the researchers engaged in research that depends on the U.S. Antarctic Program (USAP) facilities mostly belong to the departments of Astronomy and Astrophysics, Geophysical Sciences, and Physics. Some of the field-defining projects in these areas can only be done in the Antarctic continent. These projects range from small teams studying the ice sheets in Antarctica, to world-leading astronomical observatories at the South Pole, to National Aeronautics and Space Administration (NASA) sponsored scientific balloon payloads.

Our researchers (faculty, postdoctoral fellows, graduate students, and staff) are often stationed at the McMurdo Station for geophysical studies of the ice shelves, for NASA balloon launches, or on their way to the Amundsen-Scott South Pole Station. Our faculty have led a series of NASA funded scientific instruments to study astroparticle physics (i.e., cosmic rays and neutrinos) which are launched on NASA long duration balloons from McMurdo Station. A great advantage of the McMurdo Station for scientific balloons is the possibility to fly for weeks to months around the Antarctic continent following the polar vortex winds. Another advantage of flying over the Antarctic continent is the massive volume of ice that can be used as

a detector of the elusive ultrahigh-energy neutrinos, as done by pioneering radio observatories such as the Antarctic Impulsive Transient Antenna (ANITA) and the next generation Payload for Ultrahigh Energy Observation (PUEO).

The South Pole is one of the best places on Earth to study the Universe because it is about 9,300 feet in elevation with a very dry and thin atmosphere and six months of darkness during the polar winter. Since the mid 1970s, astronomers and astrophysicists have deployed telescopes at the South Pole. From 1991 to 2001, the University of Chicago led the Center for Astrophysical Research in Antarctica (CARA), a National Science Foundation (NSF) Science and Technology Center which included a number of collaborating institutions with the goal of addressing some of the major questions concerning the formation and evolution of the Universe. Over the following decades a number of telescopes significantly advanced the fields of cosmology and astroparticle physics at the Pole. Today, our researchers operate the powerful South Pole Telescope with its third-generation camera (SPT-3G) built to understand the earliest moments of the beginning of the Universe through precise studies of the fluctuations and polarization patterns of the cosmic microwave background, the leftover “light” from the Big Bang. Our researchers are also part of collaborations led by other institutions with state-of-the art instruments at the Pole. For example, we are involved on the impressive IceCube Neutrino Observatory, the leading observatory for astrophysical neutrinos worldwide headquartered at the University of Wisconsin, Madison. The IceCube observatory involves an instrumented cubic kilometer of ice to detect the most elusive high-energy particles, neutrinos, as they traverse the Earth coming from yet to be discovered very distant cosmic accelerators.

These cutting-edge research projects could not be done without the continued support of Congress, the National Science Foundation, the National Aeronautics and Space Administration (NASA), the U.S. Antarctic Program (USAP), the Leidos Antarctic Support Contract (ASC), the U.S. Air Force, and the N.Y. Air National Guard. The wide scientific community, and human curiosity in general, are extremely grateful to these unique opportunities to understand our origins, our place in the Universe, and the dynamics and limits of the planet we call home.

Given our strong commitment to supporting an inclusive environment for the diverse set of creative minds that want to contribute to these field-defining scientific efforts, it was with great concern that we learned about the findings of the Sexual Assault/Harassment Prevention and Response (SAHPR) report. As a woman in a historically male dominated field, the unwelcoming environment for women throughout STEM fields has been an important issue throughout my career. As a PhD student in theoretical physics at the Massachusetts Institute of Technology (MIT) in the 1980s, I belonged to a cohort of about 3% women. Now I am happy to report that women PhD students in the Physical Sciences Division at the University of Chicago have reached 35%, and faculty about 20%. Women scientists have become leaders of many of these groundbreaking collaborative efforts at the remote locations that I just described. We need to work harder to eradicate sexual harassment and any other kind of discrimination, harassment, or assault in STEM fields.

When I first learned about the SAHPR report, I asked some of the principal investigators and students who had been stationed in Antarctica for their own experiences. In general, they were not surprised by the findings. They reported that the remote sites and very small number of women throughout the Antarctic continent made it particularly difficult for women in general. They also reported a culture where reports of harassment were not taken seriously, consistent with the SAHPR report findings.

We commend NSF's Office of Polar Programs (OPP) for engaging with subject matter experts to examine the sexual harassment and assault concerns in the USAP community and to identify corrective actions to improve the climate and trust in the community. We agree with the need to “improve communications,

increase engagement, enhance education and training, strengthen reporting infrastructure and accountability, provide support to victims, and probe more deeply into policies and mechanisms aimed at prevention,” as recommended by the report.

Universities and research teams also need to do more. We realize that the potential for unacceptable behavior can occur in other remote field locations that share the characteristics of Antarctic fieldwork: geographical isolation (where tight-knit groups work and live together without a clear separation between professional and personal lives), limited communication, and unclear hierarchical power dynamics. We want to reiterate to all in our community that discrimination, harassment, or assault in any setting is unacceptable and unlawful. All University of Chicago community members are expected to abide by the University’s policies on discrimination, harassment, and sexual misconduct while performing remote fieldwork.

I requested that our Deputy Dean of Diversity and Inclusion together with our Dean of Students develop a plan to prepare our researchers who need to be in remote locations in order to work to prevent sexual harassment and assault. They collected a number of resources and best practices employed by different science collaborations (see, e.g., SPT Deployment Guide¹ and Ombuds site of the European Organization for Nuclear Research, i.e., CERN²) and have constructed a new *Remote Field Research* webpage³ to inform any groups planning such activities. A common element of the best practices is the selection of an ombudsperson or a team leader among the researchers traveling with the group to be the point of contact for any difficulties that may arise. Our Dean of Students will provide some training for these team leaders before their trips. The communications between these points of contact and the University, the other institutions involved in the scientific collaboration, as well as the local infrastructure leaders (e.g., NSF, USAP, NASA, CERN, etc.), is crucial for changing the culture and preventing unacceptable and unlawful behavior such as discrimination, harassment, or assault.

The astonishing discoveries that can only be done in remote locations will continue to captivate the public and inspire future generations of diverse minds to study scientific and technical fields that will further enrich the prosperity of this great Nation. We need to do our best to provide the most welcoming and safe environments for all involved in expanding our scientific knowledge.

Thank you for listening, I will be pleased to answer any questions you may have.

¹ https://pole.uchicago.edu/spt/documents/SPT_Deployment_Guide_Sept2022.pdf

² <https://ombuds.web.cern.ch>

³ <https://physicalsciences.uchicago.edu/academics/dean-of-students/remote-field-work/>

Biographical Sketch**Dr. Angela V. Olinto**

Dean of the Physical Sciences Division
 Albert A. Michelson Distinguished Service Professor
 Department of Astronomy and Astrophysics
 Kavli Institute for Cosmological Physics
 The University of Chicago

ANGELA V. OLINTO is the dean of the Division of the Physical Sciences at the University of Chicago. She is also the Albert A. Michelson Distinguished Service Professor in the Department of Astronomy and Astrophysics and the Kavli Institute for Cosmological Physics at the University of Chicago. She previously served as chair of the Department of Astronomy and Astrophysics.

Olinto is best known for her contributions to the study of the structure of neutron stars, primordial inflationary theory, cosmic magnetic fields, the nature of the dark matter, and the origin of the highest energy cosmic rays, gamma-rays, and neutrinos. She is the principal investigator of the Probe of Extreme Multi-Messenger Astrophysics (POEMMA) space mission, the principal investigator of the Extreme Universe Space Observatory (EUSO) on a super pressure balloon mission, and was a member of the Pierre Auger Observatory.

She is a member of the National Academy of Sciences, the American Academy of Arts and Sciences, and the Academia Brasileira de Ciências (Brazilian Academy of Sciences). She is a fellow of the American Physical Society and the American Association for the Advancement of Science.

At the University of Chicago, she was the first woman to receive tenure in the department of Astronomy and Astrophysics, the first woman to become chair of any department in the Physical Sciences Division, and the first woman to become dean of the Physical Sciences Division. She received a Chaire d'Excellence Award of the French Agence Nationale de Recherche, the Llewellyn John and Harriet Manchester Quantrell Award for Excellence in Undergraduate Teaching, and the Faculty Award for Excellence in Graduate Teaching at the University of Chicago.

Olinto received her Ph.D. in physics at the Massachusetts Institute of Technology and her BS in physics at the Pontifícia Universidade Católica of Rio de Janeiro, Brazil.

Chairwoman JOHNSON. Thank you very much.
And our final witness, Dr. Anne Kelly.

**TESTIMONY OF DR. ANNE KELLY, DEPUTY DIRECTOR,
THE NATURE CONSERVANCY ALASKA CHAPTER**

Dr. KELLY. Hello, and thank you to Representative Johnson and the Committee for inviting me today. And I thank you all for your leadership and effort toward making a safer workplace for scientists. I'm Anne Kelly, the Deputy Director for the Nature Conservancy Alaska.

I'm here to tell you that Antarctica is not an isolated problem, and I'm here to share with you how we can make meaningful change to prevent this. Surveys show that most field researchers experience harassment or assault. Harassment in the field can cause profound damage to scientists' health, psyche, and careers we've heard about today. Harassers more frequently target junior scientists, women, racial minorities, and queer scientists, driving underrepresented scientists out of their research careers. Harassment damages the potential of diverse scientists and the endeavor of science itself.

The conditions that promote harassment in Antarctica are found in nearly every small field camp, large field station, and ocean research vessel. Strong hierarchies, remoteness and isolation, difficult physical conditions, macho work cultures, and a lack of institutional support are the norm for field researchers everywhere. Harassment in the field takes many forms. The horrific harassment and assault in the Antarctic report is only the tip of the iceberg. Far more common are the daily aggressions of insults, exclusions, and threats. Scientists are told to toughen up, fall in line, and stay quiet to prove their worth.

As a researcher for the U.S. Geological Survey, my colleagues and I investigated anti-harassment policies. For months, our emails to EEOC (Equal Employment Opportunity Commission) went unanswered. Our voicemails to whistleblower hotlines were never returned. Support websites were outdated and broken. Policies to support field scientists were nonexistent, so we created a few of our own. While Director of three remote field stations, I led several international initiatives to change field culture and to fight harassment, including development of policies for dozens of field research stations. I also collaborate with a geoscience team to train academics nationwide to fight harassment in field research.

My colleagues and I have been pushing change from the grass-roots by developing our own tools to help us survive. Ultimately, accountability for real change lies with the institutional leaders. To provide leadership with guidance for change, the NSF funded Dr. Kristen Yarincik, then at the Center for Ocean Leadership, and myself to lead development of robust recommendations for institutional change in field and ocean research. We convened 70 experts to develop recommendations for preventing and responding to harassment in field science.

The group identified 52 best practices for institutions to address harassment in the field. The recommendations provide meaningful results through institutional structural change rather than relying on your good intentions. Findings targeted four major topics. First,

field climate and culture change; second, accountability; and third, policy development; and the fourth, reporting.

So for field climate and culture change, hostile climate is the greatest factor in enabling harassment and assault. Behavioral standards must be defined, communicated, and normalized, much like job safety standards. These standards must be included in hiring, evaluations, promotion, and tenure. Poor behavior must be acted on. As with other safety assessments, conduct risk assessments around harassment and assault.

For accountability, permissive environments lead to more harassment and a reluctance of targets to report. Institutions must hold research leaders accountable for safe and equitable work environments. Leadership must develop protocols for safe and equitable practices. They must train workers and hold them accountable for those practices; create, publicize, and enforce consequences; create protections for targets of harassment and repair harms; hold all relevant institutional jurisdictions responsible.

Third, policy must set explicit standards for behavior in the field for reporting and recordkeeping of incidents and for clear consequences for harassment. Safety nets must be created for targets of harassment. Policies that are meaningfully enforced give targets incentive to report and remove implicit permission for harassment and other bad behavior.

Finally, reporting: Reporting in remote research is challenging due to unclear jurisdictions and the lack of communications reporting avenues. Allow multiple mechanisms for communication for unrestricted private use, like making radios and sat phones available to contact help. Have multiple avenues reporting—for reporting, including multiple contacts onsite and offsite from all jurisdictions. Create reporting and recordkeeping for minor and major transgressions.

Best practices don't rely on retraining individuals' attitudes and asking them to do better. Good institutional structures and incentives make it possible to do the right thing. Invest real resources to build and support these critical institutional structures.

Our culture of harassment is as pervasive as the air we breathe, so it can be hard to imagine something different. I urge this Committee to push research institutions so the scientific community can thrive and rise to the many challenges facing our society and our planet. Thank you.

[The prepared statement of Dr. Kelly follows:]

Testimony to SST committee December 6, 2022

Dr. Anne Kelly, The Nature Conservancy Alaska

Thank you to Representative Johnson and the Committee for inviting me here to speak with this committee. I'm presently the Deputy Director of the Nature Conservancy in Alaska. I have a PhD in climate change science, and an undergraduate degree in astrophysics. I've been the director of remote field research stations in the Mojave Desert and mountains of California. I've led field teams as a US Geological Survey scientist in the mountains and deserts of southern Utah, and as a conservation scientist on islands off the coast of California. As a graduate student, I led research crews camped in the Sierra Nevada and desert mountains of California, the forests of central Ontario in Canada, and the Arctic coastal tundra of northern Alaska. I also worked at mountaintop observatories as an astronomy undergraduate.

Why focus on harassment in fieldwork, versus harassment in sciences or academia more broadly? Fieldwork carries with it its own special risks and culture. My field campaigns were based in tents, miles from a road; and in huts near small villages only accessible by plane; and at NSF- and university-funded research stations with dorms and cafeterias; and at military barracks on remote islands; and at self-built cabins accessible only by canoe. All of these research crews included bright, dedicated young scientists eager to learn and to help the world. None of these research crews had adequate safety training or institutional support for a safe and healthy work environment. We were often groups of young scientists – city kids – in our twenties, dropped in an unfamiliar environment, with uncertain hazards like dangerous equipment, 110-degree heat, or hungry polar bears. We almost never had access to cell service, a two-way radio, a satellite phone, or other means to communicate. The entire crew would often share one vehicle, which might be several miles' walk across rugged terrain from the research site. Field protocols were often risky, like using power tools or climbing tall trees without training or safety equipment. The phrase "what happens in the field, stays in the field" is common around the campfire after a long field day. Work crews are small, and interpersonal dynamics in these vulnerable conditions can be intense. Junior crew members are at the mercy of their team leads, whose expertise and say-so have almost total authority in their safety and well-being. These were norms across the many institutions and locations.

These remote and rugged and challenging conditions engender a culture of machismo, and a culture of "work hard, play hard". Push your body to its limits all day at work, and then drink beer all night around the campfire. The consistent message across these different situations was to be tough, suck it up, don't complain, and prove yourself. Strong academic hierarchies punish anyone asking for water breaks, for first aid kits, for proper training, and for reporting problems. This toxic culture breeds bullying, harassment, and assault. The remote and isolated nature of the work means targets of harassment cannot report or flee, and if they do, they risk their own career. Given the difficult conditions, strong hierarchies, and macho team cultures, it's unsurprising that fieldwork is a hotspot of harassment. Field research culture rewards those who participate in it, and pushes out anyone else.

Harassment in the field can take many forms. It can be the everyday microaggressions of slights, social exclusions, jokes, and put-downs. It can be exclusion from opportunities for learning and mentorship, like tools being snatched from a junior scientist's hands. It can take cruel and dangerous forms, like exclusion from meals, hiding keys to vehicles, denying access to communication devices, shutting people out of shelter, or issuing faulty safety gear. The overt, stereotypical forms of harassment, like direct sexist comments or assault, are less common but still all too prevalent.

I witnessed countless instances of harassment and bullying against my fellow scientists, each of which taught us to fall in line, toughen up, and stay quiet. At Arctic and desert research sites, I

experienced harassment and assault, and endured the punishing process of attempting to report and failing to find support. I reported a serious assault only to alert the other students in the research group, but there were no policies to protect me or my career. My graduate adviser pushed me out of groundbreaking Arctic research program after I reported that a postdoc drugged and assaulted me in a remote California desert research site.

When harassment in the field occurs, there are almost no resources for support. Jurisdictions of responsibility are often unclear. Remote locations mean that escape, or removing perpetrators, can be impossible. And crucially, behavior that doesn't meet a threshold of extreme, blatant, provable illegality often stays unaddressed. There are few avenues of recourse for dealing with the much more pervasive and still destructive forms of harassment that might be technically legal, or difficult to prove.

As a scientist at the US Geologic Survey, my colleagues and I investigated the protections for staff against harassment. For months, our emails to EEOC teams went unanswered, and our voicemails to whistleblower hotlines were never returned. Support websites had broken links and outdated personnel directories. Policies on harassment, safety, and support for field workers were nonexistent. We wrote our own safety and support protocols for our small team. Agency leadership at the Department of Interior told us to cease our efforts, but some of our major policies were adopted by the USGS several years later due to the leadership at the regional office.

Professor Kate Clancy and her colleagues surveyed academics in the field and found that most field scientists of all genders have experienced harassment or assault (Clancy et al, 2014). Few of them knew how to report harassment, and almost none had confidence that a report would be helpful. Research shows that harassment targets women more than men, junior staff more than senior staff, queer people more than straight cis people, and racial minorities more than white researchers.

Harassment in the field must be stopped. Its direct harms are obvious: no one should be bullied, harassed, or assaulted at work or anywhere. Harassment in the field, when scientists are at their most vulnerable, can cause profound psychological and career damage, as we've heard about today.

The secondary effects of harassment are also serious. Research on underrepresented young scientists show that field experiences are formative. Good field experiences drive people with marginalized identities to pursue a career in field research. Bad experiences, which are common, disproportionately discourage underrepresented scientists, and drive them out of science. The current climate of field science is exclusionary, which has led to participation in field science that does not reflect society as a whole.

Crews with high rates of discrimination and harassment have higher accident and injury rates. Other secondary effects include a diminishment in the quality of science produced. And finally, a culture of harassment is self-perpetuating. Young scientists who participate in or at best tolerate harassment remain in their science careers. Those who don't, leave, and the cycle continues.

When I became the director of the Yosemite and Sequoia Field Stations for the University of California, the well-being of visiting scientists was my foremost concern. I joined the international Organization of Biological Field Stations, a professional society for leadership of field research stations. I found the organization perpetuated the machismo and harassment of field research culture, and over several years led several initiatives to change the culture within the leadership and broader community. I developed anti-harassment policies for the forty University of California field research stations, and joined the NSF-funded AdvanceGEO team to train scientists nationwide to fight harassment in field research and laboratories.

With my fellow researchers, we pushed for critical changes from the grassroots, by teaching each other skills and developing our own tools to allow our research community to survive our everyday work. Ultimately though, the responsibility for change and accountability lies with the research institutions themselves. In an effort to provide institutional leadership with guidance for change, the National Science Foundation funded Dr. Kristen Yarincik, then at the Center for Ocean Leadership, and myself, to develop robust recommendations for institutional change.

Dr. Yarincik and I convened a workshop of 70 experts to develop recommendations for research institutions to prevent and respond to harassment in field science (Kelly & Yarincik, 2022). Participants included scientists across field and ocean science disciplines, leadership from relevant academic institutions, and social scientists with expertise in the causes and impacts of sexual harassment. The workshop identified 52 practices to address harassment in the field. These recommendations fell into four broad categories: culture change, accountability, policy development, and reporting. Workshop organizers also categorized each recommendation in terms of resources required, including timeframe and difficulty.

All of these require institutional commitment to a greater or lesser degree. These recommendations do not rely on good intentions of individuals, but instead are driven by institutional structural changes for preventing and responding to harassment in field sciences.

Target audiences include university leadership, field practitioners and leaders, funding agencies (both private and public), government agencies, professional societies, and community organizations, though not all recommendations will be relevant for all audiences. Findings targeted four major topics: 1) field climate and culture change, 2) accountability, 3) policy development, and 4) reporting.

1. Field climate and culture change. A study recently released by the National Academies concluded that a hostile work environment is the single most important factor in determining whether sexual harassment is likely to occur. The workshop developed recommendations to improve both field climate and culture. Major themes in the recommendations include:

1. A harassment-free, respectful environment must be as institutionalized and codified into practice as much as any other practice, like field data protocols and safety checklists. Behavioral expectations must be defined, shared, and normalized.
2. Just as scholarly and work performance feedback is given and received, feedback on collegial behavior must be shared. Poor behavioral performance must be acted on.
3. Respectful behavior and DEI efforts must be formally considered in hiring, evaluations, promotions, and tenure.
4. As with other safety assessments, conduct evaluations and risk assessments around harassment and assault. Employ outside expertise for guidance, and foster continual improvement in policies and behavior.

2. Accountability. Our workshop participants identified a need for greater accountability, especially at the institutional leadership level, to support positive field climate and ultimately drive behavioral and cultural change in field science communities. Environments perceived as more permissive of sexual harassment can lead to greater occurrences of harassment, and a reluctance by targets to report.

Recommendation highlights include:

1. Holding PIs and other leaders accountable for safe and equitable work environments.
2. Develop protocols for safe and equitable practices in the field, train fieldworkers, and hold them as accountable for these practices as you would for their data collection.

3. Create, publicize, and enforce consequences for perpetrators of harassment. Create metrics for, require, compensate, and reward DEIJ work.
 4. Ensure targets of harassment are protected and harms to them are repaired.
 5. Ensure that reports of harassment are carried through ALL relevant institutional jurisdictions.
3. Policy development. Policy development provides the structural support needed to set behavioral expectations, reporting, and consequences. Few policies exist around harassment and bullying, and in the field setting, far away from campuses and labs, harassment policies are unclear or don't apply. Policies must be created around the following areas:
1. There must be explicit standards for behavior in the field, policies for reporting and record-keeping of harassment incidents, and defined consequences for harassing behavior.
 2. Safety nets must be created for targets of harassment. They need safety in the field, multiple reporting avenues, and support following incidents. Their well-being must be centered in any process, and there needs institutional support for targets to stay in their research after being harassed.
 3. Employ experts to advise and consult on best practices. Don't go it alone.
 4. Policies must be communicated to teams, and enforced.
4. Reporting. Incident reporting is a critical piece of harassment prevention and response. Reporting in remote research situations is especially challenging due to lack of communications and support resources. Reporting mechanisms for targets of harassment in academia are byzantine, ineffective, or nonexistent. Reporting may be complicated because the research station or vessel may be owned and operated by a different institution from the victim's and the perpetrator's, with different policies and practices.

Major themes in the recommendations include:

- Having multiple mechanisms for communication, like accessible radios, InReach devices, wifi access, or others that are available to use in private by any person at any time.
- Having multiple avenues for reporting, including diverse trained individuals on site and different off-site resources at the ready. Have multiple avenues for each relevant institution.
- Developing reporting tools for minor transgressions, including record keeping. Include regular check-ins and surveys of field staff.

Best practices don't rely on training to change people's attitudes and imploring them to "do better". Developing institutional structures and incentives to make it possible to do the right thing, to reward doing the right thing, to support people who are harmed, and to give consequences to those who do harm. Bring in experts, invest the resources, including time, in creating and supporting these institutional structures. Don't wait for behavior to become illegal before it's addressed – interrupt the process before it gets that far, because it's damaging at all levels of severity. Because our culture of harassment is as pervasive as the air we breathe, it can be hard to name, and harder still to imagine something different. However, just because we are accustomed to it, doesn't mean that it isn't causing urgent harm or that we can't make urgent improvements. I urge this committee to drive these changes to our institutions so that our research community can thrive and rise to the many challenges facing our society and our planet.

Clancy, K. B., Nelson, R. G., Rutherford, J. N., & Hinde, K. (2014). Survey of academic field experiences (SAFE): Trainees report harassment and assault. *PloS one*, 9(7), e102172.

Kelly, Anne, & Yarincik, Kristen. (2022). Report of the Workshop to Promote Safety in Field Sciences. Workshop to Promote Safety in Field Sciences (SIFS), Virtual. Zenodo.
<https://doi.org/10.5281/zenodo.5841983>

Dr. Anne Kelly is presently the Deputy Director of The Nature Conservancy in her home state of Alaska. Prior to returning to Alaska, she was on site as the Director of Research and Education of Cal State University's Desert Studies Center in Zzyzx, California. She has also served as Director of UC Merced's field stations at Yosemite and Sequoia National Parks, and as an ecologist at the US Geological Survey Canyonlands and the Catalina Island Conservancy. Dr. Kelly has conducted field research across the U.S. and Canada, from the high Arctic to the remote Utah desert. Dr. Kelly gained experience fighting harassment in STEM as a board member of the Organization of Biological Field Stations, as a team member of the AdvanceGEO project, and through advocacy and policy development at USGS and several universities.

Report of the Workshop to Promote Safety in Field Sciences



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Suggested citation:

Consortium for Ocean Leadership and California State University Desert Studies (2021). *Report of the Workshop to Promote Safety in Field Sciences*, March 24–26, 2021. DOI: [10.5281/zenodo.5841983](https://doi.org/10.5281/zenodo.5841983)

Acknowledgement of NSF funding:

This material is based upon work supported by the National Science Foundation under Grant DEB-1929455. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Introduction

Harassment is pervasive in the academic workplace, especially in STEM-related fields. It undermines professional and educational attainment, diminishes mental and physical health, damages research integrity, and often results in the victims switching careers to avoid field work or leaving academia altogether, which represents a failure on the part of science to provide the safe and inclusive space that everyone deserves and, thus, a costly loss of talent and value to science. While universities are beginning to adopt better strategies to prevent and respond to sexual harassment, remote research brings additional challenges. Participants in field science already face acute safety concerns related to the remoteness of the field site or platform, and the isolated nature of field science is shown to exacerbate the risks of sexual harassment. Longstanding cultures of “Vegas rules,” an attitude where “what happens in the field, stays in the field” (i.e., should be kept private amongst the people who were there), in many field research environments encourage harassment and bullying. Small group settings can amplify toxic climates and interpersonal power imbalances. Deeply-ingrained male-dominant cultures and histories prevail in most field settings. This, combined with persistent and significant gender imbalances (especially in leadership), can perpetuate toxic environments. Isolation and unfamiliar environments can both empower harassers towards more extreme behavior, and limit targets’ ability to seek safety and assistance. Physical distance from home institutions, as well as multi-institutional teams, lead to a lack of comprehensive policies, oversight, and reporting. Intersectional minoritized identities and associated societal biases can compound these impacts, and lead to decreased support and response.¹ There are often multiple institutions bearing responsibility for those participants and the field site or platform, leading to a challenging environment for addressing and handling incidents of sexual and gender-based harassment.

The natural sciences are particularly impacted as a result of work in isolated research locations, such as field camps or on oceanographic vessels,² and that is why the *Workshop to Promote Safety in Field Sciences*³ (SIFS) focused on these disciplines, including the Earth, ocean, atmospheric, and ecological sciences. The SIFS workshop was organized by California State University Desert Studies and the Consortium for Ocean Leadership and was held March 24–26, 2021.⁴ The workshop discussed the special problems of remote research settings in harassment prevention, target support, and incident response, and identified best practices, recommendations, and resources needed to improve prevention, reporting, and response to incidents of harassment at remote field sites. Workshop participants included both scientists across the natural science disciplines and social scientists with expertise in the causes and impacts of sexual harassment. Participation was intentionally broad and interdisciplinary to: 1) open a dialogue between sexual harassment experts and the field research community to identify and develop best practices and recommendations; 2) begin to build coordination and encourage consistency in policy setting and enforcement across field stations and oceanographic platforms; 3) develop recommendations for improved prevention of, reporting of, and response to incidents of sexual harassment instances occurring at remote field locations; and 4) promote a safe culture for scientists conducting research at remote field stations and on oceanographic vessels. The workshop utilized the National Academies of Science, Engineering, and Medicine’s (NASEM) definition of sexual harassment⁵ and a set of shared operating principles to guide participants in discussions.⁶

1 Armstrong, E. A., M. Gleckman-Krut, and L. Johnson (2018). Silence, Power, and Inequality: An Intersectional Approach to Sexual Violence. *Annual Review of Sociology* 44(1): 99–122. <https://doi.org/10.1146/annurev-soc-073117-044410>

2 Clancy, K.B.H., R.G. Nelson, J.N. Rutherford, and K. Hinde (2014). Survey of Academic Field Experiences (SAFE): Trainees Report Harassment and Assault. *PLoS ONE* 9(7): e102172. <https://doi.org/10.1371/journal.pone.0102172>; Gewin, V. (2015). Social Behaviour: Indecent Advances. *Nature* 519(7542): 251–53. <https://doi.org/10.1038/n7542-251a>; O’Hern, J. I’ve Faced Sexual Assault, Harassment and Discrimination as a Female Scientist. My Complaints Were Dismissed. *Washington Post*. September 11, 2015; Anonymous. “Sexual Harassment Must Not Be Kept under Wraps.” *Nature* 529, no. 7586 (January 20, 2016): 257–57. <https://doi.org/10.1038/529257a>

3 <https://oceanleadership.org/field-science-safety-workshop/>

4 See Appendix A for agenda

5 National Academies of Sciences, Engineering, and Medicine (2018). *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press. doi: <https://doi.org/10.17226/24994>. See page 19.

6 Appendix B

Chairwoman JOHNSON. Thank you very much.

At this point, we will begin our first round of questions, and the Chair recognizes herself for five minutes.

Dr. Marrongelle, this report identified a number of shortcomings in the USAP. One of the primary concerns is the National Science Foundation's access to information involving cross-jurisdictional incidents. There's a troubling profession—perception that NSF has been willfully unaware of the problem. Some feel NSF has been hiding behind contract for HR policies to avoid accountability. Now, I understand that NSF has since taken steps to modify its contract with Leidos, but in my view, more needs to be done.

As the Federal agency charged with managing USAP, NSF should have the information and leverage it needs to ensure the environment is safe for all participants. Do you see the upcoming re-compete for the Antarctica Support Contract as an opportunity to make significant changes to the contract terms? And if so, what changes are you exploring?

Dr. MARRONGELLE. Thank you, Madam Chairwoman, for that question. Yes. As you know, we have already put into place contract modifications with the existing Leidos contract in response to what we heard from the SAHPR report. As we think forward to the re-competition, we're going to take the lessons learned from the modifications that we made and in the intervening upcoming months, we'll look at how those modifications are taking place, and the impact that they're having on personnel vetting, on response times to allegations, and, importantly, on the management of sub-contractors. We intend to continue to learn over the next several months and roll those learnings into the next re-compete of the next Antarctic contract.

Chairwoman JOHNSON. Thank you very much. Ms. Naeher, is Leidos open to firmer contract terms that clarify your responsibility for maintaining a safe environment. What are you planning, and what is Leidos planning to compete for that contract and—that expires in 2025?

Ms. NAEHER. Chairwoman, so we partner and collaborate with NSF consistently throughout to—and we're—to make sure we have a safe environment for all our employees. We're open to anything that creates a safer and healthier environment. We would show the things that we've already started, the HR consortium, the increased contact with our subcontractors, the on-ice counselor, the things that we've done in the past and that we continue to do in partnership with NSF so that NSF would be confident in our ability to create that environment on ice.

Chairwoman JOHNSON. Thank you very much. Any further testimony that anyone would like to give related to this issue? Well, thank you very much. I now recognize Mr. Lucas.

Mr. LUCAS. Thank you, Madam Chair.

Dr. Marrongelle, thank you for appearing before us today on behalf of the NSF. I'd like to ask you about the NFS—NSF's strategy to address the findings of the report. What short-term actions has NF-NSF taken in response to the finding of the report?

Dr. MARRONGELLE. Thank you for that question. We have eight actions that we are focused on in the short term, and I'll review those. The first—I must say that our primary focus is to take care

of victims, and so these actions are victim-focused. So first is to outline a single communication point at NSF for sexual assault and harassment matters. And to that end, we have stood up an Office of Sexual Assault and Harassment Prevention and Response within the foundation. In the short term, this office is strategically focused on the Antarctic continent, but we intend to broaden this office to take a further look at all research vessels, field sites, and infrastructure anywhere where science is taking place.

The next is specific resources for victims on the ice. We now have an on-ice advocate whose job on the ice at McMurdo Station is to provide counseling and support specifically for sexual assault and harassment. We've received already reports back that the presence of that advocate has been game changing for the work that's going on there.

Third, we have an increased presence in visits to the ice. The on-ice advocate, in addition to some of senior personnel from NSF, conducted seven listening sessions for community input to further gather information about our plans moving forward and the gaps in those plans, what we need to change moving forward.

Fourth, we've increased the vetting for any personnel who are traveling to the ice. This was part of what we did with the contract modifications but also our internal processes. So at this point, individuals who are traveling to the ice receive vetting that's equivalent to Federal employees.

Fifth is accountability. We've established points of contact with senior leadership at all of our partner institutions, Leidos, and other Federal agencies who have a presence and provide us services on the ice. The reason for that is so we have someone that we can go to at the top in addition to staff members so that if issues are coming up that are not getting resolved, we have the commitment and buy-in from top-level leadership at these organizations.

We've also improved training. We have new training modules for all individuals who travel to Antarctica. There's a focus this year on bystander intervention, and we will be reviewing the impact of those modules and revising as necessary moving forward. We've already received some great input on how to do that.

We've also enhanced physical safety measures. One of the key findings from the SAHPR report pointed out some of the limitations of the physical infrastructure in Antarctica. And so, for instance, we are ensuring by the end of this season that keyholes, or peepholes, will be installed in all doors at all stations for living quarters. We've also enhanced the security clearances for those who have access to master keys. We have instituted additional satellite phones for those in remote field stations so that at least two of those communication devices are sent out with every field team.

And then finally, the Director has instituted a taskforce on sexual assault and harassment at NSF. I chair that task force. We meet weekly. Again, currently, our focus is acutely on the situation in Antarctica. As we start to see the effects of what we've been doing in Antarctica to make changes, we'll be revising—but then also broadening—this to other field stations and institutes.

Mr. LUCAS. Thank you. And in my remaining time, Ms. Naehar, can you describe what specific policies or procedures that Leidos has changed since the release of the report?

Ms. NAEHER. Thank you. So Leidos has always had strong policies and procedures in place to make sure the workplace is safe and harassment-free. So since the report, we reinvigorated our HR Consortium, which was a group of all the different subcontractors, just to ensure that everybody was applying policies consistently across the board, and we—it was a way for us to share best practices and also to increase that communication that the report showed was needed.

We also work very closely on implementing some of the changes that NSF has just identified, and we can—we'll continue to do that.

Mr. LUCAS. Thank you, Madam Chair. Looks like my time has expired.

Chairwoman JOHNSON. Thank you very much.

Now, Ms. Sherrill.

Ms. SHERRILL. Thank you, Madam Chairwoman.

You know, I found that answer a bit unsatisfactory from Ms. Naeher that Leidos has always had strong policies in place to make sure the workplace is harassment-free because obviously those policies didn't work to make sure the workplace was harassment-free, so I definitely think we need to move in a better direction. And I think the first part of that is admitting that we have a problem here.

From my time in the military, we do have a lot of places that we operate in the military that are very isolated, and we've had problems historically. Is there training? Because I do worry that some of these research scientists maybe have not had the position of leadership or management that they are now being put in to ensure because a lot of this starts at the top, as we all know. If you have a good command structure, that often can protect people below. Is there good training going on to ensure that new leaders understand their role and can ensure that people below them are protected and safe?

Dr. MARRONGELLE. I'll start with that. It's such a great question. We've specifically included bystander training in our training materials this year, as I had mentioned, and some of what we've learned from the listening sessions is that we need to, moving forward, have individualized training for different sets of individuals on the ice. For instance, for managers and supervisors, what they can do to recognize retaliation if that's happening, to combat retaliation if that's happening and then similarly, for our senior scientists who are leading research teams, so we know that we have more work to do in that space. I think some of the actions that my colleagues have pointed out are really moving in that direction, and we have some great models from the University of Chicago for how we can provide that training to not only the senior level PIs (principal investigators) but also graduate students and postdocs and others who may need to take on leadership roles as they are traveling in teams to the ice.

Dr. OLINTO. I think that one of the challenges that we were talking just before this hearing is the communications. I think we have infrastructures and institutions to address some of the issues, but when you have a small team in an isolated place, it can become unclear who to go to. And many things don't get talked to, and there's an atmosphere that that's the way it is, right? So we need to break

that cycle. And we have been doing on our end, making sure there's always an obvious point of contact. Sometimes it's the PI, but sometimes the PI is not there. Sometimes it's a postdoc, sometimes it's a senior graduate student, to make sure that within the science community we have the person who will be watching and will be able to know what to do.

And then given—hopefully, nothing happens. But if something happens, they know exactly how to contact NSF or Leidos or whoever is involved in that situation. So I think the communication lines, we are working hard to make that more clear, and Antarctica is a really good place to focus. But this happens in other places, too, and so as an institution, we want to broaden that ability to understand your responsibility. We are all responsible.

Ms. SHERRILL. And it sounds like you're doing some training to help leaders know who to go to. Does every individual know who they go to? So for—if, for example, I experience sexual assault or harassment, would I know exactly who I could report that to to receive help?

Dr. OLINTO. Let me answer on the scientist side. I think that that wasn't true before this report. There is a camaraderie between the groups that go together, but nobody was necessarily responsible, at least within small groups, to be the one except for the PI, but the PI might not be there. So that's one of the things we're fixing, right? So I think that is crucial. But there are many other communities that have, like the contractors and others, but in the science roles, for sure.

Dr. KELLY. Yes, I want to add, too—sorry—that often it's the leadership themselves that are conducting the harassment. And, you know, one of the necessary support structures that needs to be built here is that there are alternative reporting mechanisms and that the leadership of any one team is not the gatekeeper for reporting.

Ms. SHERRILL. I think that's a great point. I think there has to be an understanding of who needs to be reported to but then alternatives to that. And it sounds as if, while the scientific community is taking this very seriously, I do have some concerns about Leidos and their contractors. And if they have a plan for any of these things, I have not heard that today. But it looks like my time is about to expire, so I yield back.

Chairwoman JOHNSON. Mr. Posey.

Mr. POSEY. Thank you, Madam Chair. And thank you also for your years of leadership, fair and handed leadership. I don't know anyone who doesn't appreciate it.

Dr. Marrongelle, a number of witnesses' testimonies discussed the presence of other Federal agencies on the ice. Could you provide some insight into how the National Science Foundation coordinates with those other Federal agencies like NASA and NOAA, as well as Federal contractors, when making policies on the ice?

Dr. MARRONGELLE. Yes, absolutely. In this specific situation, the Director and myself, we have reached out to our equivalents at the other Federal agencies, so specifically, NASA, NOAA, the Air Force, and the Navy. We have talked with them about the seriousness of the findings in this report and given them insight into the steps that we're taking moving forward. We've also asked them to

identify members of their staffs that can act as points of contact specifically when and if allegations of sexual assault and harassment come in. Generally, we do have ongoing relationships with program managers at the other Federal agencies. As we are developing new policies, new procedures, we have ongoing consultation with them.

Also, add that our colleagues have been wonderful in sharing their findings and best practices in these areas of sexual assault and harassment with us. We are currently reviewing those documents and understanding what we can do—so we don't need to reinvent the wheel—what we can take from our partner agencies and apply those learnings to the situation.

Mr. POSEY. Thank you. As a follow up, has the National Science Foundation shared the "Sexual Assault/Harassment Prevention and Response" report and its findings with other Federal agencies?

Dr. MARRONGELLE. Yes. And in fact, this is on our website, so anyone from the public can access it.

Mr. POSEY. Excellent. And how is the National Science Foundation planning to coordinate on the implementation of the new policies resulting from the report with other Federal agencies in Antarctica?

Dr. MARRONGELLE. Right. Those points of contact are critical. It was really important to the Director and I that we set the tone from the top that NSF has no tolerance for harassment and that we expect the same of our partners. We'll be coordinating primarily through those points of contact at the more programmatic levels and throughout the agencies. And, if needed, the Director and I will step in to get involved if that's called for.

Mr. POSEY. That's excellent. I see my time has expired. Madam Chair, I yield back.

Chairwoman JOHNSON. Thank you very much.

Ms. Stevens is recognized.

Ms. STEVENS. Thank you. And before I start my line of questioning, I've waited a long time to do this. When Chairwoman Johnson announced her retirement, the following Committee hearing everyone celebrated her, but I decided I was going to wait to the last Committee hearing of the 117th Congress that she was chairing to salute and recognize her incredible leadership as Chair of the Science, Space, and Technology Committee. It has been my deep honor to serve alongside you, Madam Chair, and as your Vice Chair, and we will forever look back on the imprint that you have made on this Nation and for women in STEM. Thank you.

And with that, Ms. Naehar, OK, this hearing is an opportunity to discuss the issue of sexual harassment. And the SAHPR report, it was shocking to read. And obviously, it should have been a wakeup call for you, the National Science Foundation, and anyone that deploys people to the Arctic, and certainly appreciate you making an appearance. But I think you got 500 words here maybe in your testimony, and so I'm a little disappointed by the level of detail that you have offered in your statement. And you just touched upon the steps that Leidos has been taking since reviewing the report. So I just wanted to give you an opportunity to be a little bit more specific here. What are you doing to encourage reporting? Have you addressed the distrust of HR by altering the reporting

pipeline or offering alternative reporting procedures? And are you recruiting a better crop of HR personnel and training them properly?

Ms. NAEHER. Thank you very much for the opportunity to add some more here on what we've been doing. So I was very pleased when I was just on ice recently. There could be no doubt in anyone's mind how serious everyone is taking this. From the moment I found I was going and went through the mandatory training that has to take both here at Leidos and from NSF, you can see the concern and the effort that is being put forward to make sure everyone is aware of the situation and ways to combat harassment. This training, my cohort that had to take it to New Zealand was extremely engaged across the board. People were offering suggestions, offering what they would do as a bystander, making sure everyone knew different avenues that they could report. So the signage as well down on ice, people know harassment of any type is not tolerated and where to go to report it.

In addition to that, we stood up an oversight board after the SAHPR report came out. We shared everybody's concern when we read the report, immediately convened a task force here as to how we could address it. We had people in all different work streams here, so we had our contracts people involved, legal involved, ethics, HR certainly, policy, subcontracts. We came up with six different work streams that we are addressing. I mentioned some of them in my statement. You'll see in there about increasing communication and collaboration with our subs, increasing the awareness of reporting options. And we'll continue to work these. This oversight board meets every two weeks where we gauge progress, see if we have the right actions that need to be completed, and then we are constantly in coordination with NSF sharing where we are in this aspect.

Ms. STEVENS. And can you just touch on the physical safety improvements that have been made?

Ms. NAEHER. Yes, so there's three, I think, major ones, so—and I believe NSF mentioned them, some of them. That was the peepholes, the door locks at all our stations, key management of master keys, and then one that was—more than one person mentioned to me when I was down on ice how appreciated this was, and that was an additional satellite phone to all teams going out. So this meant there wasn't just one phone held by the PI but they were—the policy was to give it to the highest ranking member and the lowest ranking member so they would each have a phone and would have ways to communicate if there are any issues while out in the field.

Ms. STEVENS. Great. And with that, Madam Chair, for the last time, I yield back.

Chairwoman JOHNSON. Thank you very much.

Mr. Garcia is recognized.

Mr. GARCIA. Thank you, Madam Chair. I want to commend the Chairwoman for her service to this beautiful Nation, salute to you, ma'am, for everything you've done. And to our witnesses, thank you. I think this is probably the most important climate change hearing. I've been a part of a lot of climate change hearings in the three years that I've been here in Congress. This is probably the

most important, the climate where we actually not just adopt a zero tolerance mentality against harassment, discrimination, and assault, but we actually implement it and we hold people accountable. And I think that's the part that's missing in all of these conversations that we've had here so far.

I appreciate that you've been introspective enough to do the surveys and look at the data, but I'm frankly a little flabbergasted that some of the results and some of the lessons learned are pretty low-hanging fruit that I would have thought we would have done before we sent anyone down to the Antarctic. The fact that we didn't have locks on doors and no key management to protect people is a little underwhelming, in my opinion.

I guess my question is to Dr. Marrongelle and Ms. Naeher. What—how many allegations have we had of specifically harassment and assault?

Dr. MARRONGELLE. We have information that we can share with the Committee.

[The information follows:]

The multi-jurisdictional nature of activities in Antarctica necessitated the development of multiple reporting mechanisms for both individuals and organizations on safety and behavioral issues. There is both direct and indirect reporting to NSF, as detailed below. It is possible that some of these reporting mechanisms overlap, or that the same complaint may be pursued through multiple channels.

Direct Reporting to NSF

1) Polar Code of Conduct

Since 2013, every individual who is deployed to Antarctica through the USAP program must sign the Polar Code of Conduct, which requires them to abide by a series of safety and behavioral rules. NSF monitors and tabulates those Code of Conduct violations that are directly reported to the agency. Additionally, the Department of Defense and NSF's prime contractor are asked to submit an annual report to NSF that compiles all Polar Code of Conduct violations that constitute significant misconduct among individuals within their jurisdiction over the prior year. The reports received from our partners are limited in detail and cover all behavioral breaches including sexual assault and harassment.

Over the past five years, there have been eight total harassment and sexual assault incidents reported to NSF. The incidents occurred randomly in that time frame. The reports included violations by individuals employed by contractors, foreign program members, and U.S. military service members. All reported incidents were investigated by the organizations with managerial oversight of the victims and accused. The investigation outcomes varied with the circumstances, from formal apology to a range of employment consequences (including at least three separations) and removal from Antarctica in five cases. All incidents involving allegations of criminal wrongdoing were referred to the Department of Justice. None of the referrals resulted in criminal charges.

2) Reports to NSF's Office of Equity and Civil Rights (OECR)

Since 2018, OECR has received nine complaints or communications on inappropriate sexual behavior or actions in the USAP program. OECR conducted follow-up on all the reports, which included investigations within its jurisdiction, or reporting to the appropriate authority with jurisdiction.

Reporting to Other Appropriate Authorities

Individuals or organizations may use the following channels for reporting that are not directly through NSF. These other entities have specific processes for follow-up, only some of which may involve direct liaison with NSF.

1) Each employer that is a USAP partner has established procedures for employee reporting (typically through HR processes)—this includes NSF, other federal agencies, the Department of Defense, contractor, and academic institutions.

2) Contractors and contract employees may report complaints to the Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) or to the Equal Employment Opportunity Commission (EEOC), if applicable.

3) Individuals may report complaints directly to law enforcement officials (such as the Special Deputy Marshall) or confidential support personnel (e.g., on-ice counselor, chaplain, or advocate).

4) Academic employees may report complaints to their institution's Title IX offices.

One of the goals of the newly established SAHPR program office in OECR is to build a data and reporting framework around these existing mechanisms to allow for timely and aggregate monitoring and reporting of complaints and their resolution.

NSF has taken steps to improve data collection. First, NSF's contractor is now required to provide a quarterly (instead of annual) Sexual Harassment and Assault report; this will expedite reporting to NSF for awareness and intervention as appropriate. As the new support resources for the USAP community are rolled out (e.g., the on-ice advocate, the crisis hotline), we are also embedding in those contract requirements additional avenues to collect aggregate data on all reports or complaints to allow us to develop a baseline for assessment on an annual basis. Finally, NSF will be implementing a periodic climate assessment survey of the community to allow the agency to monitor the research environment.

Dr. MARRONGELLE. In 2013, we instituted a code of conduct specifically to address some of the climate issues that were starting to arise. It's very broad, and it covers a variety of incidents from alcohol abuse to sexual assault, so we are happy to share that. This year, we are requiring our contractors and partner organizations to report to us on a quarterly basis those incidents, so we are still awaiting those reports to come in.

New this year also, as I had mentioned, is the on-ice advocate, and so we know that individuals on the ice are taking advantage of the services of the on-ice advocate. Time will tell how—like whether those result in increased formal complaints and allegations, so we will need some time to match up the data there.

Mr. GARCIA. OK, Ms. Naeher, do you have concrete numbers on how many allegations have been made?

Ms. NAEHER. Yes, we've been tracking that number for—

Mr. GARCIA. What is that number?

Ms. NAEHER. I can get you the exact number. I'm happy to follow up on that. I can tell you that we do investigate every allegation that has brought—has been brought to us.

Mr. GARCIA. Right. Yes, I have no doubt about that. I guess my concern is if you guys are coming to testify in front of Congress about a severe problem and something that is a culture issue, you should have those numbers at your hip right now and be informing us of this information.

When I was a division officer in the Navy and we had cultural issues, we—I implemented a zero-tolerance mentality for sexual harassment, sexual assault. And as a young lieutenant, I knew exactly how many allegations, how many people were charged, how many people were convicted, and how many people were kicked out of the Navy. When I was Vice President at Raytheon, I knew all of those numbers. And in this office, I know exactly what's going on in my office, and I hold those metrics very closely because it's important.

We get what we measure, and if you guys think this is a problem, I would highly encourage you guys to ensure that you, as well as your leadership, Director Panchanathan, as well as Roger Krone, who's the CEO (Chief Executive Officer) of Leidos, be briefed on exactly what's going on down there on the ice on a weekly basis, on a monthly basis to know those numbers because you get what you measure. And if you guys don't have those metrics, if you're not briefing those metrics and showing improvement in that regard, I don't think you're really, truly adopting a zero-toler-

ance mentality. You're implementing it, but without the accountability, without that sort of close feedback loop that shows that not only are we listening to you but we're taking these charges forward, we're implementing these charges and we're holding people accountable, they're losing their jobs, they're being kicked off the ice, they're going to jail even if that's what's required for the assault, without that, I don't know how you say you have learned your lesson.

And I would strongly encourage you the next time you come to Congress to have those metrics available for you. That's what zero tolerance looks like. You have our support. We will bend over backwards to give you whatever funding is necessary, but we need you guys to make this the No. 1 key performance parameter on anything that you're doing. Safety is No. 1, and if you can't look your employees and Leidos employees in the eyes and say that you can't guarantee that they will not be raped or sexually harassed, then safety is not your No. 1 priority. This was a problem we had in the DOD (Department of Defense). We're still going through those growing pains. But this is very near and dear to my heart because we have to—if we're going to ask people to go down to serve their country in any capacity, whether it's Antarctica or overseas, we've got to make sure that we know these metrics cold and be prepared to hold people accountable.

I'm out of time. I yield back.

Chairwoman JOHNSON. Thank you very much.

Mr. McNerney.

Mr. MCNERNEY. Well, I thank the Chairwoman. And I want to join my colleagues in thanking you for your leadership over the years, thoughtful, and you've made a difference, so thank you.

I went to Antarctica in 2014 with this Committee, and it was a profound experience. I'd go back anytime except maybe their winters. But, Dr. Marrongelle, thank you for your testimony this morning. The NSF has a pretty good recording—reporting requirement for harassment. But did the NSF stop short of requiring that same level of reporting for its contractors?

Dr. MARRONGELLE. Right. Our term and condition is one that we're very proud of. We've been a leader in this area. We are taking a look at how we can work with contractors moving forward if we need to institute something like a term and condition for contractors, if we need some change in law. We've certainly been in communication with your staff, and we'll continue to do that. So we're still unpacking what's needed moving forward to ensure that we have the same level of reporting and accountability that we do for our grantees, for our contractors.

Mr. MCNERNEY. Thank you. Ms. Naeher, you mentioned that the McMurdo was a small city, and it is, and there's a lot of activity there. Any city has some bad actors in it. But in McMurdo people can't just leave. And there's really no visible—at least when I was there—sort of law enforcement authority, so people may feel trapped in that environment. And so getting people to go there to work as contractors may be difficult. What are the positions that are hardest to fill for that assignment?

Ms. NAEHER. You know, it's interesting you say that. And we certainly do have some hard-to-fill positions. Firefighters are routinely

difficult to fill. But it was interesting when I was down there is that I met very few people who it was either their first time there or that they hadn't planned on coming back again. So despite the harsh environment working there, there is that dedication to mission and people want to continuously come back year after year, season after season to support that mission. We do recruit heavily, and we use our Leidos recruitment team, as well as working with our subcontractors to fill the difficult positions.

Mr. MCNERNEY. Well, thank you.

Dr. Kelly, thank you for your thoughtful and comprehensive recommendations. And if these are implemented, it's clear to me that they will make a big difference. In particular, I liked the behavioral standards, establishment and dissemination and training in that I think that would be the most effective of the many good recommendations you made. Do you have a comment about that?

Dr. KELLY. Yes, sure, I think it's really important to address this type of behavior before it rises to the level of illegality. Research shows over and over again that hostile work environments, while they may not be even at the level of illegality, enable far more severe behavior. When we are working in remote research sites, it's totally appropriate to ask for a higher standard of behavior both on and off the clock. And, you know, if we were able to set those norms and enforce those norms on a regular basis, I think it would go a long way toward changing the culture.

And again, you know, I keep hearing that we need to rely on leadership to promote responses to these things, but really, in these remote situations, it's often the leadership that is conducting the harassment and also are the gatekeepers for the future careers of these scientists. So we need to ensure that these behavioral standards, when they're not being met, are able to be enforced by multiple agencies, multiple reporting avenues, and not just the keyholders to individual's careers.

Mr. MCNERNEY. Well, how would an incident of harassment harm a researcher's career?

Dr. KELLY. If that harasser is your boss and you report your boss and there are consequences for your boss, that is a direct harm, also earning a reputation as a complainer or someone who maybe is filing false reports. You know, the research shows that 80 percent or more of incidents are not reported at all because people fear the retribution and consequences.

Mr. MCNERNEY. And I just want to end by pointing out that I think the website idea for reporting seems like a good way to move forward and give people access to help if that's needed.

Dr. KELLY. That sounds good.

Mr. MCNERNEY. Thank you. And I yield back.

Chairwoman JOHNSON. Thank you very much.

Mrs. Bice is now recognized.

Mrs. BICE. Thank you, Madam Chairwoman. And I will echo my colleague from Oklahoma's words that it's been a pleasure to work with you these last two years, and good luck with your next adventure.

Dr. Marrongelle, you mentioned processes with the contractors/vendors and that Leidos has said publicly that they'll be providing reporting. Are they providing you that reporting currently?

Dr. MARRONGELLE. Yes, they are.

Mrs. BICE. And how often are they providing that to you?

Dr. MARRONGELLE. Quarterly.

Mrs. BICE. Perfect. And you mentioned in a previous statement that you were looking at adding language to future contracts that would maybe address some of these issues when it comes to sexual assault cases. Why do you think that wasn't added to contracts prior?

Dr. MARRONGELLE. It's a great question. I would need to consult with my team to follow up on that.

Mrs. BICE. Why would we not add language I guess is my follow up question?

Dr. MARRONGELLE. Right.

Mrs. BICE. It seems like it shouldn't really be a conversation. It should be a this is going to be added—

Dr. MARRONGELLE. Yes.

Mrs. BICE [continuing]. To future contracts.

Dr. MARRONGELLE. I think yes. So within the contracting world, I think we just want to make sure that whatever we're putting in there is consistent with what we're legally allowed to do or asked to make those changes if we need to make changes to law.

Mrs. BICE. Can you modify an existing contract with an addendum to be able to add language in it now currently to address these issues?

Dr. MARRONGELLE. I believe we can. I can follow up to be 100 percent on that.

[The information follows:]

This contract was originally awarded in 2011 and did not include specific language on reporting of sexual harassment or assault because prospective contractors are required to have internal policies in place to address these issues. After NSF issued the Polar Code of Conduct in 2013, the contractor was required to provide an annual report on violations. In 2022, the contract was again modified to make this a quarterly reporting requirement and to address reporting and resolution of those reports. NSF may issue additional contract modifications, as necessary, to add contractual language to address these specific issues.

Mrs. BICE. Sure. And finally, should you have a vendor, whether it's Leidos or any other contractor that you're working with at NSF that is not meeting the expectations, not providing the information, not addressing the issue, are you and your team willing to cancel those contracts to protect the employees that you have at NSF?

Dr. MARRONGELLE. Yes, we are.

Mrs. BICE. Excellent. Thank you. I yield back the balance of my time.

Chairwoman JOHNSON. Thank you very much.

Dr. Foster?

Mr. FOSTER. Yes. Dr. Marrongelle, do you have the leverage that you need for all the different agencies and particularly internationally on this? I noted that not long after the SAHPR report came out, the Australian Government issued an analogous one that came to, you know, sort of equivalent conclusions, but it's my recollection as—during my time on a very multinational experiment, there were well-known differences in the cultural behavior and standards in different areas. So, first off, do you have the leverage? And then if any of the other witnesses would like to comment on the sort of international issues that may be here.

Dr. MARRONGELLE. Yes, thank you for this great question. Our leadership of the Office of Polar Programs—currently sit on the international committee that oversees all of the scientific endeavors in Antarctica. We have been working closely with them, and that group is looking to, with our leadership, form a specific task force to exactly tackle these issues because Australia, like us, has looked into this proactively. We've uncovered behavior that we need to address, and we need to do this collectively. We also need to learn from each other, so I feel confident that we have the leverage that we need and the representation that we need and the leadership that we need in this international space.

Mr. FOSTER. All right. Yes, Dr. Olinto, did you have any?

Dr. OLINTO. Yes, I think you point out a very important challenge for all of the scientific community. We have many, many international efforts. I myself lead a group with 16 countries, and the cultures are definitely different. And—but I think the majority of our international partners are very aware. It's been a wonderful progress and there's still a lot to do, but in terms of codes of conduct in meetings and many other spaces that bring the international community together, but we have had to implement across nations, taking somebody off the ice that wasn't part of our team, for example, which was from a different nation. So I think we have to be able to do these things in these situations. Otherwise, we won't make progress.

Mr. FOSTER. And so the enforcement there is basically by consensus that the experimental group just says, I'm sorry, we're not going to deal with that country—

Dr. OLINTO. Yes, we have right now separate codes of conduct for different experiments. We are trying to unify them within the University of Chicago, and I think most institutions probably want to be—we have our own rules within campus. But the question is, we send our people everywhere in the world, and how do we implement our own standards elsewhere? And we expect our people to behave the same way. We can't enforce international partners necessarily. But the community of science, for example, if we take CERN that I'm sure you know very well, has an ombuds professional team that addresses exactly these issues. So we are learning from those kinds of large efforts, how to make sure all cultures get the message that these things are not acceptable, period.

Mr. FOSTER. Yes. Dr. Kelly, did you run into any—in your discussions here, which I take were international, did you run into, you know, real differences in opinion on what might or might not constitute acceptable behavior? Whoops, are we—am I audible here or—

Dr. KELLY. Sorry, my audio—was the question addressed to me? Could you repeat that?

Mr. FOSTER. The question was whether you ran into international sort of differences of opinion of what the standards ought to be on this?

Dr. KELLY. Yes, absolutely. When I was actually working in the Arctic program, I encountered this. You know, I think it's really important to bring together teams at the beginning of campaigns and, you know, have the home institution or the host institution do some education to the entire team around behavioral expectations

and norms and also to have the host institution, have folks read those and agree to those before arrival, but also continue that conversation while folks are onsite. That's really important. And, you know, as part of that, too, that the behavioral standards are shared across these teams and that folks are held to them, you know, to the highest standards, and that reporting is conducted to all of the home institutions and relevant—you know, all relevant institutions so not one institution is tasked with taking responsibility but that they all are. And we see that as the best way to make sure that folks are held accountable in these kinds of murkier and diverse situations.

Mr. FOSTER. Thank you. And I will use my last seven seconds to echo my colleagues' gratitude for—to our Chair for her years of service and what she has accomplished, which is truly historic.

Thank you. I yield back.

Chairwoman JOHNSON. Thank you very much.

We're going to try to complete our hearing before we break for the vote so we won't have to return.

Mr. Feenstra, you're recognized.

Mr. FEENSTRA. Thank you, Chairman Johnson, and Ranking Member Lucas, and thank you, Chairwoman Johnson, for all your—all that you've done for this Committee, and I wish you the best in your future endeavors. I also want to thank the witnesses and your testimony for sharing the knowledge on this urgent subject.

Dr. Olinto, one of the key characteristics of the U.S. Antarctic Program is the cooperation between the NSF and the university stakeholders like the University of Chicago. From your perspective, is there any additional guidance or any other educational opportunities that could be helpful as we move forward based on the findings that came from this report?

Dr. OLINTO. Yes, there's a lot to do from all sides. I think we can improve our communications and our training. We need to make sure everybody on ice is aware that this is an issue that has to be finished, that we don't want to ever have these situations again, and for that, every single person needs some responsibility. These are small teams and in very difficult, challenging places without boundaries between professional and social life, so we need to make sure every member has that not notion of the expectations. And I think we need to have communications between our own deans of students and Title IX within each institution and NSF and Leidos. And you know, it's a complicated set of folks that are supposed to be paying attention to these issues. And we've been discussing how we will try to do our best to make sure every institution involved that represents each of those individuals is able to talk to each other and make sure we follow up.

Mr. FEENSTRA. Well, thank you for those comments. And you hit it on the head that there's got to be follow up. And hopefully, there's also data or, you know, information that after two years from now that we can look back and say, all right, what did we accomplish, and did we go down the right pathways?

Dr. Marrongelle, the NSF obviously has field research facilities all over the world, many of them obviously in remote environments.

The lessons learned, how can we apply these to other locations, and does it—can it be a one-size-fits-all?

Dr. MARRONGELLE. Yes, this is a great question. In instances where we see harassment and an assault, there's a power differential, and certainly remote locations lead to the isolation that then creates the environment for such power differentials to result in harassment and assault.

As we look at what's happening in Antarctica and our response to that very isolated and very remote location, we have our eye on taking back the lessons learned, what's working, and how we can apply those to other field stations, whether it be research ships, whether it be other remote field sites and on land, and even in our facilities that are in more remote locations with access to things like vehicles but still somewhat remote throughout the world. So there will be elements that we will be able to translate across, but there will need to be elements that are unique to each situation.

Mr. FEENSTRA. Yes, I firmly agree with that.

And, Ms. Naeher, I guess my final question is, when you look at Leidos, how do we ensure, all right, when something—when we have a bad outcome, right, when we have an assailant and we have transportation issues, right? We're going to have transportation issues. How do we protect the victim when we have a bad outcome? You know, in some circumstances, we probably have—don't have a plane or whatever it might be coming for days or weeks, so how do we move forward when we have problems like this?

Ms. NAEHER. So thank you for the question. And yes, the unique environment certainly makes this extremely challenging. There is a U.S. Marshal onsite, so for cases of assaults, we turn that over to NSF who manages that. We are happy to look into other possible things that can be done to include, you know, refinement, confinement spaces, things like that in order to keep everybody safe if needed. And we would certainly be open to discussion with NSF if they wanted to partner to do something like that. I look at it a little bit of like a medivac. I mean, we can do things to get planes in if needed in emergency situations, and we would work with NSF to determine when that threshold was met.

Mr. FEENSTRA. Thank you. Thanks, everyone, for their testimony. Very good. Thank you.

Chairwoman JOHNSON. Thank you very much.

Mr. OBERNOLTE.

Mr. OBERNOLTE. Well, thank you. Thank you very much, Madam Chair.

Dr. Marrongelle, had a question kind of continuing the line of questioning from Mr. Feenstra and earlier Mr. Lucas. In reading over the needs assessment report and the implementation plan, I was struck by the fact that, you know, these findings really could be applied to any workplace setting. It's apparent that our problems with the USAP are particularly acute. But the way that we've addressed solving those problems doesn't seem to me to be tailored at all to the unique workplace setting of USAP. And I was surprised by that. I kind of thought it was a missed opportunity. There's only a single paragraph in the report that is dedicated to setting out, you know, these unique set of circumstances, the fact that it's remote workplace settings where sometimes the bound-

aries between personal life and professional life can be blurred. Now, it's only one paragraph in the report, and the only thing that's site-specific in the implementation plan are things like peepholes and key distribution.

So I wonder if you could take a couple of minutes and talk about the unique workplace setting in Antarctica, how that contributes to sexual harassment and sexual assault, and the things that we could uniquely do to solve those problems in the USAP because, otherwise, I think there's a missed opportunity. We're really not talking about that in the implementation plan.

Dr. MARRONGELLE. Thank you. Yes, this is a great question. I think as I alluded to in my previous response, the isolation really contributes to the prevalence of, or the increased prevalence of, harassment. When you have an advisor and doctoral students who are out in the field somewhere, you have now taken away the support system from the doctoral students should they be experiencing harassment from their advisor.

What is unique about Antarctica is figuring out ways to keep those individuals connected to their support systems or even if it is in one of the stations when you are, as my colleagues have said, when you are living and breathing every day with your colleagues, you don't get to go home to get away from them—from the office—because you are all in the same situation, in the same environment.

A couple of things that we're looking at is certainly our physical infrastructure. We have prioritized building of a new lodging facility at McMurdo this year which will provide single rooms, so that will help with some of the safety of individuals—that will help us be able to accommodate some of that. And then there is communication. We've mentioned the additional satellite phones that are going out to the field stations. We're not satisfied with that. We want to keep pressing on that. How do we ensure, again, going back to the support structure, that individuals are not isolated from their support structure?

The satellite phones are one step. What we're going to continue to press and understand is how do we continue to provide access to individuals and services? The on-ice advocate really has been impactful, very impactful, just for the short time that the advocate's been there. So we'll be looking at do we need to provide additional advocates, additional personnel? Do we need to provide other types of counselors or ombudspersons and at which stations and ensuring that no matter where you are on the continent that you would have access?

So those are some of the things that we've been thinking about. We wanted to ensure that we could implement speedily this season and get some things off the ground, but we know the work's not done.

Mr. OBERNOLTE. I'm glad to hear that. I wish that those subjects had been explored a little bit more thoroughly in the implementation plan because, frankly, to me, it seemed like it could have been copied and pasted from any other workplace sexual assault prevention plan anywhere. And with the things that you just said I think are the things that are really going to get to the crux of what's causing this situation.

And if I could be so bold as to make an unsolicited suggestion, maybe look at the education part as well because the things that you just said about the way that that isolated setting contributes to those feelings of isolation and the way that the line gets blurred before between professional and personal conduct I think are things that we need to tell people who are going into that environment. And I think that if we do a good job at preparing people, that maybe when they get into those situations, they'll say, oh, right, that's right, I was warned about that. This is exactly what I'm going through. And I think that that was missing in the implementation plan.

But I want to thank you very much for your testimony, and thank you for our shared commitment to reduce this problem that certainly should no longer be a stain on our research programs in Antarctica. I yield back, Madam Chair.

Chairwoman JOHNSON. Thank you very much. That is our last questioner. And before we bring the hearing to a close, I want to thank our witnesses for testifying before the Committee today. The record will remain open for two weeks for additional statements from the Members or any additional questions to the Committee or witnesses.

Our witnesses are now excused, and the hearing is adjourned.
[Whereupon, at 2:28 p.m., the Committee was adjourned.]

Appendix

ANSWERS TO POST-HEARING QUESTIONS

ANSWERS TO POST-HEARING QUESTIONS

*Responses by Dr. Karen Marrongelle*House Committee on Science, Space, and Technology
Hearing on *Building a Safer Antarctic Research Environment*

Responses to Questions for the Record for Dr. Karen Marrongelle

(Johnson) How many allegations of sexual harassment and assault has NSF received in the U.S. Antarctic Program? How many of those allegations were investigated and what were the timelines for those investigations? How many of those investigations resulted in findings of wrongdoing or violation of Leidos policy or procedures? What sanctions were imposed in those cases with findings of wrongdoing or a violation of policy?

The multi-jurisdictional nature of activities in Antarctica necessitated the development of multiple reporting mechanisms for both individuals and organizations on safety and behavioral issues. There is both direct and indirect reporting to NSF, as detailed below. It is possible that some of these reporting mechanisms overlap, or that the same complaint may be pursued through multiple channels.

Direct Reporting to NSF

1) Polar Code of Conduct

Since 2013, every individual who is deployed to Antarctica through the US Antarctic Program (USAP) must sign the Polar Code of Conduct, which requires them to abide by a series of safety and behavioral rules. NSF monitors and tabulates those Code of Conduct violations that are directly reported to the agency. Additionally, the Department of Defense and NSF's prime contractor are asked to submit an annual report to NSF that compiles all Polar Code of Conduct violations that constitute significant misconduct among individuals within their jurisdiction over the prior year. The reports received from our partners are limited in detail and cover all behavioral breaches including sexual assault and harassment.

Over the past five years, there have been eight total harassment and sexual assault incidents reported to NSF. The incidents occurred randomly in that time frame. The reports included violations by individuals employed by contractors, foreign program members, and U.S. military service members. All reported incidents were investigated by the organizations with managerial oversight of the victims and accused. The investigation outcomes varied with the circumstances, from formal apology to a range of employment consequences (including at least three separations) and removal from Antarctica in five cases. All incidents involving allegations of criminal wrongdoing were referred to the Department of Justice. None of the referrals resulted in criminal charges.

2) Reports to NSF's Office of Equity and Civil Rights (OECR)

Since 2018, OECR has received nine complaints or communications on inappropriate sexual behavior or actions in the USAP program. OECR conducted follow-up on all the reports, which included investigations within its jurisdiction, or reporting to the appropriate authority with jurisdiction.

Reporting to Other Appropriate Authorities

Individuals or organizations may use the following channels for reporting that are not directly through NSF. These other entities have specific processes for follow-up, only some of which may involve direct liaison with NSF.

- 1) Each employer that is a USAP partner has established procedures for employee reporting (typically through HR processes) – this includes NSF, other federal agencies, the Department of Defense, contractor, and academic institutions.
- 2) Contractors and contract employees may report complaints to the Department of Labor’s Office of Federal Contract Compliance Programs (OFCCP) or to the Equal Employment Opportunity Commission (EEOC), if applicable.
- 3) Individuals may report complaints directly to law enforcement officials (such as the Special Deputy Marshall) or confidential support personnel (e.g., on-ice counselor, chaplain, or advocate).
- 4) Academic employees may report complaints to their institution’s Title IX offices.

One of the goals of the newly established Sexual Assault and Harassment Prevention and Response (SAHPR) program office in OECR is to build a data and reporting framework around these existing mechanisms to allow for timely and aggregate monitoring and reporting of complaints and their resolution.

(Johnson) One of the most challenging issues with the USAP is the multi-jurisdictional structure - there are individuals representing multiple agencies, contractors, academic institutions, and the military present on the ice. The SAHPR report found that instances involving individuals from different institutions are falling through the cracks. In your testimony you discuss efforts to establish points of contact at each institution to facilitate timely follow-up on incident reports. A point of contact is an important first step, but I want to understand how these situations will be investigated and adjudicated.

- **What steps is NSF taking to develop a process for information sharing and collaborative response to cross-jurisdictional incidences of sexual harassment and assault?**

NSF created a Sexual Assault and Harassment Prevention and Response (SAHPR) office within its Office of Equity and Civil Rights (OECR) to act as the single communication point for the US Antarctic Program (USAP), and to properly refer all sexual assault/harassment matters to the appropriate authority with jurisdiction for follow-up. NSF is in the process of identifying specific points of contact among the USAP partners to ensure clear lines of communication for referrals from NSF. NSF’s SAHPR office provides a safety net for ensuring access to resource materials and services, preventing miscommunication regarding reporting lines, and building trust in leadership and management structures. NSF will coordinate with our USAP partners (which includes the Department of Defense, our contractors, other federal agencies, and academic institutions) and other entities for any criminal or administrative matters that require other action. NSF is currently in the process of building the administrative and cross-jurisdictional framework to support effective reporting and follow-up across our partners. It is our overall goal to provide immediate support to survivors, provide swift assessment of a complaint or report, and ensure thorough follow-up until the situation is resolved.

In addition to enhanced vetting of deployed individuals and improved security measures at USAP stations, NSF is engaging prevention experts, federal partners, and other industry stakeholders to identify best practices for the prevention of sexual assault and harassment in all research environments, particularly in remote field settings.

(Johnson) In response to the SAHPR report, NSF negotiated a new contract term with Leidos that prohibits contractors from redeploying to the ice for three years after being disciplined for an incident of sexual harassment. However, enforcement of this policy relies on self-reporting by the individual contractor seeking an opportunity to go to the ice.

- **Do you have concerns about bad actors falling through the cracks?**

NSF has a multi-layered process to vet potential contractor/subcontractor staff that goes beyond self-reporting to address this very issue.

- 1) Pre-employment Screening by the Employer
The contractor conducts pre-employment screening of potential employees. This includes the new requirement we have implemented with Leidos to ask all potential contractor or subcontractor employees if they have been disciplined by a previous employer on SA/SH or quit before they were disciplined.
- 2) NSF Screening
All potential employees go through a national fingerprint check and clearance of the OF-306 (Suitability for Federal Employment); this information undergoes federal adjudication. In this process, potential employees must complete federal forms, where there is a penalty for any false reporting. Some individuals in sensitive positions undergo elevated screening. If, during the screening process or following the hiring process, it is determined that a potential or current employee has not disclosed a SA/SH disciplinary action by a previous employer, the screening process for the potential employee will cease, or, if already hired, the employee will be immediately terminated. If a contract employee has been removed from the ice for SA/SH disciplinary action and seeks to redeploy following the three-year ban, NSF will consult with the contractor on a case-by-case basis and have final decision-making authority.

After deployment, the contractor and NSF will be aware of any cases of individuals that have been removed from the ice. If an individual is put forward to go back, the contractor and NSF will be able to stop that redeployment. In fact, the new terms of the Leidos contract requires the Contracting Officer (CO) to approve the redeployment of individuals who have previously been removed from the ice. If NSF finds that the contractor has not provided such notification, that would be considered a breach of the contract terms.

- **Does NSF have any leverage to require Leidos and/or future ASC contract awardees to share HR information about safety-related misconduct like sexual harassment? Does NSF plan to explore that option?**

NSF has modified the current contract language to allow for better reporting from the contractor to get more granular information, including the requirement to provide a quarterly summary of all reports of sexual assault and harassment involving ASC contractors and subcontractors along with relevant details of the follow-up. NSF is working with the current contractor to explore what

information can be requested and provided under the current contractual arrangement. Looking forward, NSF is exploring options to receive information under the current contract and any future contract.

(Johnson) The SAHPR report indicates that the military was not fully cooperative in providing access to military members for their assessment. What does NSF need from the military to get a fuller picture of the experiences and perceptions of on-ice military members and ensure they are an active partner in finding solutions?

During the initial SAHPR needs assessment (e.g., the activity that preceded the release of the report), NSF did engage the Department of Defense to request their participation. Because the Department of Defense data collection approval process is separate and extensive, service members were unable to participate during the time frame the focus groups were convened and did not receive the online survey until much later in the data collection process, making their responses unable to be included in this report. Members of the Department of Defense have been invited to all the community engagement opportunities convened by NSF after the release of the report, and they do have access to all the on-ice resources.

The Department of Defense has been asked to take the new training NSF has implemented. They expressed concerns about the redundancy of NSF's sexual assault/sexual harassment (SA/SH) prevention and response training with existing Department of Defense training. NSF is working with our Department of Defense partners to assess where such a redundancy exists; if not, we will continue to advocate that service members participate in the training provided by NSF prior to deployment.

(Johnson) The SAHPR report recommended NSF establish a confidential ombudsperson position to respond to community members' questions, concerns, and complaints of sexual harassment and assault. In your testimony you discuss the deployment of a confidential on-ice advocate at McMurdo station. Does NSF plan to deploy an on-ice advocate at all three stations going forward? What about the research ships serving the USAP?

Feedback from community members at McMurdo Station has been positive about the benefits the on-ice advocate has brought to the community so far this season. As a result, we are evaluating options for extending and expanding that service – either in-person or remotely – across all stations and vessels, as well as throughout the year rather than just during the peak summer research season. NSF is also supplementing the on-ice resources by establishing (through a contract) an additional 24/7 telephone/text/online chat service to ensure that deployed personnel have multiple avenues for crisis support and assistance.

- **Are there avenues for the on-ice advocate to share information with NSF to help inform its prevention and response efforts?**

Yes, there are multiple avenues. First, the advocate has worked effectively with targets of harassment and assault to identify immediate steps NSF station leaders could take to help them feel safe and supported. Second, through direct engagement with the deployed community, the advocate has garnered and been able to share with the Office of Polar Programs (OPP) information about the community's perceptions and concerns that can then

be used to inform prevention efforts, like training content for example. Third, with permission from affected individuals, the advocate communicates directly with NSF's Office of Equity and Civil Rights to share community member perspectives and facilitate reports of sexual harassment. At all times, the advocate's first priority is the wellbeing and confidentiality of the people they serve.

(Bonamici) Thank you Chair Johnson and Ranking Member Lucas for holding this important hearing, and thank you to the witnesses. I want to begin by commending our colleague, Chairwoman Eddie Bernice Johnson, for her leadership as the first African American and woman to serve as the Chair of the Science, Space, and Technology Committee and for her decades of public service. We will work hard to carry on your legacy, and I welcome the opportunity to work with my colleagues across the aisle next Congress to advance this Committee's crucial priorities.

The Sexual Assault and Harassment Prevention and Response (SAHPR) report indicated that many United States Arctic Program (USAP) members, especially women, younger individuals, and individuals with lower incomes and employment status, viewed sexual assault, sexual harassment, and stalking as widespread problems. It also found that the current prevention and response systems at NSF are inadequate.

The issue of sexual harassment on remote NOAA research ships came to my attention several years ago, and I've worked on addressing it since. Dr. Kathryn Sullivan was particularly helpful; the acting administrators during the previous administration were committed to addressing the issue, and so is current NOAA administrator Dr. Spinrad.

I introduced the bipartisan NOAA Sexual Harassment and Assault Prevention Improvements Act to strengthen NOAA's sexual assault and sexual harassment prevention and response program, coordinate claims, strengthen reporting, and support survivors. A major provision in the bill expands coverage to include all personnel, including employees, contractors, and employees of contractors.

- **How does the NSF Action Plan address the conflict of multi-jurisdictional enforcement mechanisms, which create gaps and hinder efficient oversight of sexual assault and harassment claims, and does the Plan include different ways to address sexual assault and harassment in remote research settings versus more public lab or field settings?**

NSF created a SAHPR office within the NSF Office of Equity and Civil Rights (OECR) to act as the single communication point for the US Antarctic Program (USAP), and to properly refer all sexual assault/harassment matters to the appropriate authority with jurisdiction for follow-up. NSF is in the process of identifying specific points of contact among the USAP partners to ensure clear lines of communication for referrals from NSF. NSF's SAHPR office provides a safety net for ensuring access to resource materials and services, preventing miscommunication regarding reporting lines, and building trust in leadership and management structures. NSF will coordinate with our USAP partners (which includes the Department of Defense, our contractors, other federal agencies, and academic institutions) and other entities for any criminal or administrative matters that require other action. NSF is currently in the process of building the administrative and cross-jurisdictional framework to support effective reporting and follow-up across

jurisdictions. It is our overall goal to provide immediate support to survivors, provide swift assessment of a complaint or report, and ensure thorough follow-up until the situation is resolved.

In addition to enhanced vetting of deployed individuals and improved security measures at USAP stations, NSF is engaging prevention experts, federal partners, and other industry stakeholders to identify best practices for the prevention of sexual assault and harassment in all research environments, particularly in remote field settings. For example, NSF has been in contact with NOAA leadership, who have been highly supportive of our efforts. Administrator Spinrad and RADM Hann provided excellent suggestions when we were first formulating the overall response. In some cases, we are leveraging some of the work done by NOAA and there has been excellent sharing and cooperation across both agencies. NSF's OECR had a very productive meeting with NOAA's Workplace Violence Prevention & Response Office, and we look forward to continuing the dialogue with our NOAA colleagues on prevention, training, and crisis response as well as opportunities for enhanced coordination on these critical issues.

- **Do you plan to implement training and programs early on in STEAM careers, such as through apprenticeships or student programs, to instill guidance regarding sexual assault and harassment in individuals from the start of their careers?**

In 2018, NSF issued an "Important Notice" to the U.S. research community with three components: (1) the issuance of a change in NSF award conditions to include a term and condition to combat all forms of harassment; (2) a statement on our expectations for harassment-free workplaces; and (3) the initiation of enhanced web resources for easy access to all NSF policies, resources, and communications for the community on harassment. In January 2023, we established new requirements for funding of off-campus or off-site activities requiring certification on how harassment or other abusive or unwelcome behavior will be addressed.

Many NSF research programs provide educational institutions with opportunities to develop or implement training or professional development activities to support researcher development, including the enhancement of safe and inclusive research environments. Additionally, some programs that engage students (for example, the NSF Research Experiences for Undergraduates - REU) requires proposers to have in place a policy or code of conduct that addresses harassment. Additionally, proposers for REU should provide an orientation to cover expectations of behavior. These examples are some of the ways in which we have encouraged appropriate training in the research community. NSF is also engaging prevention experts, federal partners, and other industry stakeholders to identify best practices for the prevention of sexual assault and harassment at all stages of STEM careers.

(Lucas) One troubling finding in the report was concerns about physical safety due to rundown and failing facilities. With the Antarctic Modernization project underway, what is NSF's vision for how the new facilities can help make staff and scientists on the ice feel safe? How have the findings of the report shaped the way NSF is prioritizing updating facilities at other sites? What does NSF anticipate would be the cost of updating facilities to ensure researchers on the ice feel safe and secure?

The SAHPR report indicated several structural features that would increase safety. We will revisit the master plans that drive our modernization efforts with an eye toward prioritizing these safety measures. Suggestions have also emerged from the community listening sessions, and we will

continue to solicit ideas from our stakeholders to maximize the possibility of positive culture and the creation of safe spaces. The relationship between the culture we want to create and maintain in Antarctica with the physical environment at the stations is significant, and those considerations will be included in every project. The overall modernization program (of which safety is a component), is largely implemented through the Antarctic Infrastructure Recapitalization program; the overall estimated budgeted total for modernization is \$60 million in FY 2023. NSF will always prioritize all our facility updates (including those outside of Antarctica) to ensure safe working environments. We are currently in the process of evaluating the safety and inclusivity of research environments at all our major facilities.

(Lucas) The report found that victims of sexual harassment or assault in Antarctica often faced barriers to reporting due to confusing structures and procedures. Can you describe any potential complications NSF may face in addressing this due to jurisdictional issues? How does NSF plan to address this? Does NSF need any new authorities to improve its ability to respond, address, and hold violators accountable? If so, what would those be?

Differing rules and requirements among stakeholders created confusing reporting structures for victims of SA/SH and means that putting robust coordination mechanisms in place is a priority for NSF. As such, NSF is establishing the SAHPR office within OECR to serve as a single point of contact among all USAP partners (e.g., the Department of Defense, contractor, other federal agencies) for collaboration purposes. Individuals may report via as many channels as they would like, however, the NSF SAHPR Office serves to simplify the process by acting as a centralized, single point of contact that accepts SAHPR related complaints/reports and then manages any necessary referrals as appropriate (as opposed to individuals having to determine which channel or channels are best suited to their situation). Reporting via the NSF SAHPR Office also alleviates barriers associated with reticence to report via supervisor chains or employer organizations.

Additionally, we will be using our existing relationships with academic institutions as appropriate. After NSF has completed its initial assessment of an incident or report, we will immediately refer the report or complaint to the appropriate authority. This may be a law enforcement office, the contractor, another federal agency, or an academic institution. It is our intent to use our existing partnership mechanisms to assess the follow-up across these jurisdictional boundaries.

(Garcia) Please provide for the record any data you have on sexual harassment and assault reporting in Antarctica from the past 5 years. How does NSF plan to improve data collection and address any data gaps that currently exist?

The multi-jurisdictional nature of activities in Antarctica necessitated the development of multiple reporting mechanisms for both individuals and organizations on safety and behavioral issues. There is both direct and indirect reporting to NSF, as detailed below. It is possible that some of these reporting mechanisms overlap, or that the same complaint may be pursued through multiple channels.

Direct Reporting to NSF

- 1) Polar Code of Conduct

Since 2013, every individual who is deployed to Antarctica through the USAP program must sign the Polar Code of Conduct, which requires them to abide by a series of safety and behavioral rules. NSF monitors and tabulates those Code of Conduct violations that are directly reported to the agency. Additionally, the Department of Defense and NSF's prime contractor are asked to submit an annual report to NSF that compiles all Polar Code of Conduct violations that constitute significant misconduct among individuals within their jurisdiction over the prior year. The reports received from our partners are limited in detail and cover all behavioral breaches including sexual assault and harassment.

Over the past five years, there have been eight total harassment and sexual assault incidents reported to NSF. The incidents occurred randomly in that time frame. The reports included violations by individuals employed by contractors, foreign program members, and U.S. military service members. All reported incidents were investigated by the organizations with managerial oversight of the victims and accused. The investigation outcomes varied with the circumstances, from formal apology to a range of employment consequences (including at least three separations) and removal from Antarctica in five cases. All incidents involving allegations of criminal wrongdoing were referred to the Department of Justice. None of the referrals resulted in criminal charges.

2) Reports to NSF's Office of Equity and Civil Rights (OECR)

Since 2018, OECR has received nine complaints or communications on inappropriate sexual behavior or actions in the USAP program. OECR conducted follow-up on all the reports, which included investigations within its jurisdiction, or reporting to the appropriate authority with jurisdiction.

Reporting to Other Appropriate Authorities

Individuals or organizations may use the following channels for reporting that are not directly through NSF. These other entities have specific processes for follow-up, only some of which may involve direct liaison with NSF.

- 1) Each employer that is a USAP partner has established procedures for employee reporting (typically through HR processes) – this includes NSF, other federal agencies, the Department of Defense, contractor, and academic institutions.
- 2) Contractors and contract employees may report complaints to the Department of Labor's Office of Federal Contract Compliance Programs (OFCCP) or to the Equal Employment Opportunity Commission (EEOC), if applicable.
- 3) Individuals may report complaints directly to law enforcement officials (such as the Special Deputy Marshall) or confidential support personnel (e.g., on-ice counselor, chaplain, or advocate).
- 4) Academic employees may report complaints to their institution's Title IX offices.

One of the goals of the newly established SAHPR program office in OECR is to build a data and reporting framework around these existing mechanisms to allow for timely and aggregate monitoring and reporting of complaints and their resolution.

NSF has taken steps to improve data collection. First, NSF's contractor is now required to provide a quarterly (instead of annual) Sexual Harassment and Assault report; this will expedite reporting to NSF for awareness and intervention as appropriate. As the new support resources for

the USAP community are rolled out (e.g., the on-ice advocate, the crisis hotline), we are also embedding in those contract requirements additional avenues to collect aggregate data on all reports or complaints to allow us to develop a baseline for assessment on an annual basis. Finally, NSF will be implementing a periodic climate assessment survey of the community to allow the agency to monitor the research environment.

(Bice) You mentioned in a previous statement, you were looking at adding language to future contracts that would address some of these issues, when it comes to sexual assault cases. Why do you think that wasn't added to contracts prior? Or why would we not add this language? Can you modify an existing contract with an addendum to be able to add language to it, to address these issues?

This contract was originally awarded in 2011 and did not include specific language on reporting of sexual harassment or assault because prospective contractors are required to have internal policies in place to address these issues. After NSF issued the Polar Code of Conduct in 2013, the contractor was required to provide an annual report on violations. In 2022, the contract was again modified to make this a quarterly reporting requirement and to address reporting and resolution of those reports. NSF may issue additional contract modifications, as necessary, to add contractual language to address these specific issues.

Responses by Ms. Kathleen Naeher

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Leidos Responses to Questions for the Record (“QFRs”)
December 6, 2022 Hearing – Building a Safer Antarctic Research Environment

Former Chairwoman Johnson QFRs

1. **Ms. Naeher, how many allegations of sexual harassment and assault have you received since taking over the ASC contract? How many of those allegations were investigated and what were the timelines for those investigations? How many of those investigations resulted in findings of wrongdoing or violation of Leidos policy or procedures? What sanctions were imposed in those cases with findings of wrongdoing or a violation of policy?**

The ASC team (Leidos plus its subcontractors) represents approximately 60% of the on-ice population. While Leidos interacts with the other approximately 40% of stakeholders in Antarctica (military, grantees, other contractor personnel and NSF government employees) and shares information about incidents if relevant to the other stakeholders, Leidos does not have oversight of, access to, or information about the other stakeholders’ sexual harassment and assault reporting.

From May 2017 through April 2022, the ASC team received five allegations of sexual harassment and zero allegations of sexual assault. Reports involving other stakeholders and their respective participants do not come to Leidos or the ASC team, as noted above, for investigation and adjudication (such reports may go to NSF or may be handled by the relevant stakeholder). All reports received by the ASC team were investigated. All five harassment allegations were determined to violate the USAP Harassment Free Workplace policy and USAP Code of Conduct policy. Three cases resulted in employee termination and the other two resulted in the employees receiving documented discipline, additional training, and clarification of policy expectations.

From May 2022 through November 2022, there have been 14 allegations of sexual harassment and zero allegations of sexual assault reported through the ASC team. After investigation, six employees were terminated, and six employees received documented discipline, additional training, and clarification of policy expectations. In two cases, there was not enough information provided to substantiate the claims. The noted increase in reported cases can be attributed to a heightened awareness of reporting options for all deploying participants through increased messaging on reporting, expanded Bystander Awareness training, and modifications to published policies.

2. **Ms. Naeher, since the publication of the SAHPR report, NSF modified its ASC contract. Now, anyone who has been removed from the ice due to sexual harassment or assault is barred from returning to the ice for three years.**

- **Has Leidos incorporated this new policy into its hiring and personnel procedures?**

Yes, this requirement has been incorporated into our prime contract with NSF and we have incorporated it into our subcontracts with the other ASC team members. Thus,

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all ASC companies are contractually obligated to comply with this new policy. Please note, though, that while the contract modification requires an employee removed from ice to be barred from returning to the ice for three years, Leidos policy bans them permanently from employment. We do not have authority over the other stakeholders on ice (NSF, military, grantees), so cannot control whether any of their personnel removed from Antarctica are permitted to return sooner than three years (or ever, as the Leidos policy would provide).

- **Is Leidos reviewing personnel records from the past three years to ensure that applicants for this or next season do not violate this new term?**

In addition to company pre-employment background verifications, Leidos participants undergo a federal background investigation. These actions validate compliance with the new term, and therefore Leidos is not reviewing historic personnel records from the past three years.

- **Do you believe this level of vetting is adequate? Are there other steps Leidos can take to strengthen its vetting process?**

To further strengthen the vetting process, Leidos has taken additional steps regarding vetting of participants, including a federal background investigation for all deploying employees of ASC companies (i.e., Leidos and its subcontractors).

3. **Ms. Naehrer, the SAHPR report had a number of allegations of retaliation against individuals who made reports of sexual harassment, or who engaged in on-ice activism about how such reports are handled. These are troubling, to say the least. Multiple anonymous interviewees in the report refer to a “blacklist” of employees.**

- **Has Leidos done an internal investigation to determine whether HR has inappropriately kept a “blacklist” of victims or activists and/or taken retaliatory action against them?**

Leidos does not keep a “blacklist” of victims or activists, nor are we aware of any “blacklist” of victims or activists held by others. Further, Leidos and its ASC subcontractors do not tolerate retaliation against anyone who brings forward a concern in good faith. Leidos and its subcontractors’ policies make clear that retaliation is not permitted.

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Leidos Responses to Questions for the Record (“QFRs”)
December 6, 2022 Hearing – Building a Safer Antarctic Research Environment

Chairman Lucas QFRs

- 1. Your testimony mentions the complicated structure in Antarctica with several different stakeholders working side by side. Can you describe how Leidos plans to address these complexities in the future, particularly as it relates to reporting procedures for victims? What do you need from Federal partners to improve and simplify the reporting structure across multiple stakeholders?**

The ASC team (Leidos plus its subcontractors) represents approximately 60% of the on-ice population. While Leidos interacts with the other approximately 40% of stakeholders in Antarctica (military, grantees, other contractor personnel, and NSF government employees) and shares information about incidents if relevant to the other stakeholders, Leidos does not have oversight of, access to, or information about the other stakeholders’ sexual harassment and assault reporting.

Leidos reports all incidents involving non-ASC stakeholders to the National Science Foundation (“NSF”). We ensure our reports are as fulsome as possible and communicated timely. Leidos has reinforced to the ASC participants it is of the utmost importance to report any incident. If a reported incident involves ASC personnel, we will investigate and adjudicate. If an incident does not involve any ASC personnel, we will, as stated, report that incident to NSF to investigate and adjudicate or for NSF to assign to a different stakeholder to investigate and adjudicate. We work cooperatively with NSF to adjudicate investigations involving both ASC and non-ASC personnel.

To ensure the appropriate stakeholders are involved in investigating and adjudicating cross-jurisdictional incidents (involving both ASC and non-ASC personnel), it would be most helpful to establish a USAP-wide oversight board with representatives from each of the partner entities. This board could then discuss all recent incidents as well as provide a consistent communication stream to the community. Other Federal partners could also ensure reporting formats are consistent across ASC and non-ASC reporting channels and facilitate a report that contains data from all stakeholders on ice, including both ASC and non-ASC entities.

- 2. One of the recommendations in the report was to increase the training and vetting of individuals who are selected to work on ice. Can you describe how Leidos is planning to change its current procedures to enhance both training and vetting of participants?**

Regarding changes in training, Leidos is partnering with the NSF to support and implement new training for all deploying participants. NSF has contracted with a

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third-party provider who is expert in this subject. This was effective October 1, 2022. Leidos requires all ASC participants to complete the training.

For further information responsive to this question, please see the above responses to QFR 2 from former Chairwoman Johnson.

3. The report detailed multiple accounts of victims who either were unsure of reporting procedures or felt that reporting was not taken seriously. How does Leidos plan to increase trust and transparency in the reporting process? How does Leidos plan to improve reporting policies to ensure victims are aware of reporting procedures?

In November 2022, Leidos launched a communication campaign on ice to encourage victims, bystanders, and witnesses to report all incidents. This campaign consists of emails, posting of information in public areas, and continual messaging by managers to program participants identifying all reporting avenues available to ASC employees. Leidos also collected information about reporting avenues from non-ASC stakeholders and published this information on program/station Intranets, as well as provided this information in emails and posted it across stations/vessels/offices. In addition, NSF provided a new resource (a Victim Advocate for the ASC program) which provides yet another reporting avenue (please note that Leidos doesn't have access to any reports made to the Advocate). The Victim Advocate contact information has been made available on the Intranet, in email communication, posted on station/vessel/offices and verbally communicated in meetings. Further, we have updated our Harassment Free Operating procedures to include a process reporting flow chart to make the reporting process and next steps transparent to all program participants.

Leidos is trying to build trust by increasing communication and information. As a result of this we have seen an increase in reporting, which indicates an increase in trust in the reporting process.

U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY

Leidos Responses to Questions for the Record (“QFRs”)
December 6, 2022 Hearing – Building a Safer Antarctic Research Environment

Representative Garcia QFRs

- 1. Please provide for the record any data you have on sexual harassment and assault reporting in Antarctica from the past 5 years. How does Leidos plan to improve data collection and address any data gaps that currently exist?**

For information responsive to this question, please see the above responses to QFR 1 from former Chairwoman Johnson and QFR 3 from Chairman Lucas.

Leidos is addressing any data gaps by increasing communication and information. As a result of this, we have seen an increase in reporting, which would indicate an increase in trust in leadership/HR and the reporting process. As noted, although this is beyond Leidos’ purview, a gap may still exist with people on ice who do not fall under the ASC contract. NSF would need to identify and close those gaps.

Responses by Dr. Angela V. Olinto

Congresswoman Suzanne Bonamici – December 6, 2022

**Questions for Science, Space, and Technology Full Committee Hearing:
*Building a Safer Antarctic Research Environment***

Thank you Chair Johnson and Ranking Member Lucas for holding this important hearing, and thank you to the witnesses. I want to begin by commending our colleague, Chairwoman Eddie Bernice Johnson, for her leadership as the first African American and woman to serve as the Chair of the Science, Space, and Technology Committee and for her decades of public service. We will work hard to carry on your legacy, and I welcome the opportunity to work with my colleagues across the aisle next Congress to advance this Committee's crucial priorities.

Sexual harassment and gender discrimination in STEAM fields has been an ongoing issue for decades, but attention to the topic has heightened in light of brave survivors stepping forward to share their stories. To promote innovation across the board and cultivate talent within scientific research, diversity in science must be a priority. Unfortunately, the fear of discrimination, sexual assault, and sexual harassment remains a significant barrier for women and minority groups who want to enter the STEAM workforce.

This is obviously a deeply rooted, systemic issue. Can you speak to the importance of diversity within STEAM fields and from your perspective

as women in the sciences about how institutions can establish clear mechanisms for promoting accountability and developing plans to implement organizational cultural changes so women, people of color, and underrepresented groups are excited, comfortable, and supported in pursuing careers in STEAM?

How will NSF and other agencies leading the charge to address these issues influence other institutions to follow suit?

On the importance of diversity within STEAM fields

I am fortunate to have worked in physics and astrophysics research and teaching for over 4 decades. During this time, I have witnessed the percentage of women in our graduate programs grow from 3% during my graduate student years in the 1980s to 35% today at the University of Chicago. It gives me great optimism to see that women have become leaders in the most creative and cutting-edge areas in the field. (Women scientists have also become leaders of groundbreaking efforts at remote locations like the Antarctic continent, which was the focus of this hearing.) However, in my experience, most women who reached leadership roles today have encountered many additional barriers including biases, discrimination, and sexual harassment at some point in their careers. How many brilliant minds have left the field because of this harmful environment?

Building a more diverse, inclusive, and respectful environment is crucial for the future of the STEAM fields. A more diverse set of talents ensures the most creative intellectual setting for ground-breaking science and innovation and a larger STEAM workforce ensures a safer and economically stronger future for the planet.

How institutions can establish clear mechanisms for promoting accountability and developing plans to implement organizational cultural changes so women, people of color, and underrepresented groups are excited, comfortable, and supported in pursuing careers in STEAM?

All institutions involved in STEAM fields, from workforce development (e.g., schools and universities) to cutting-edge research institutions (e.g., universities, public and private laboratories, and industry), need to work harder to eradicate sexual harassment and any other

kind of discrimination, harassment, or assault that keep women and minorities from contributing fully to STEAM fields.

In 2018, the National Academy of Sciences published a report entitled “*Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*”¹. The report explored the effects of sexual harassment in academia on the career advancement of women in the scientific, technical, and medical workforce. The report focused on sexual harassment in academia and showed how it negatively impacts the recruitment, retention, and advancement of women pursuing STEM careers.

The report identified some of the policies, strategies, and practices that have been most successful in preventing sexual harassment. Their findings, conclusions, and recommendations are summarized on pages 169-187 in the report and may help promote “cultural changes so women, people of color, and underrepresented groups are excited, comfortable, and supported in pursuing careers in STEAM.” Below I share a personal selection of their recommendations.

- “Create diverse, inclusive, and respectful environments” through inclusive leadership and well-designed trainings for the entire academic community (Recommendation 1).
- “Improve transparency and accountability” (Recommendation 4). In particular, “Academic institutions should consider sexual harassment equally important as research misconduct in terms of its effect on the integrity of research.” (Recommendation 4b).
- “Measure progress” (Recommendation 8) through well designed climate surveys.
- “Federal agencies should incentivize efforts to reduce sexual harassment in academia by requiring evaluations of the research environment, funding research and evaluation of training for students and faculty (including bystander intervention), supporting the development and evaluation of leadership training for faculty, and funding research on effective policies and procedures” (Recommendation 9c). I would add that leadership training should also be developed for graduate students and postdoctoral scholars.
- “State legislatures and Congress should consider new and additional legislation with the following goals: Better protecting sexual harassment claimants from retaliation” (Recommendation 11a); “Allowing lawsuits to be filed against alleged harassers directly (instead of or in addition to their academic employers) (Recommendation 11d); and “Requesting the National Science Foundation and the National Institutes of Health devote research funds to doing a follow-up analysis on the topic of sexual harassment in science, engineering, and medicine in 3 to 5 years to determine (1) whether research has shown that the prevalence of sexual harassment has decreased, (2) whether progress has been

¹National Academies of Sciences, Engineering, and Medicine 2018. *Sexual Harassment of Women: Climate, Culture, and Consequences in Academic Sciences, Engineering, and Medicine*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24994>.

made on implementing these recommendations, and (3) where to focus future efforts” (Recommendation 11f).

How will NSF and other agencies leading the charge to address these issues influence other institutions to follow suit?

Recommendations 9c and 11f quoted above show some of the ways that NSF can help academic institutions address the challenges of biases, discrimination, and harassment of women and minorities in STEAM.

In the particular case of the Sexual Assault/Harassment Prevention and Response (SAHPR) report discussed in this hearing, better coordination between the NSF, the U.S. Antarctic Program (USAP) contractors, and the scientific teams and their institutions can improve the prevention, accountability, and response to harassment issues in the Antarctic program.

In sum, the awe-inspiring discoveries and innovations will continue to captivate the public and inspire future generations of diverse minds to study scientific and technical fields that will further enrich the prosperity of our Nation. We need to do our best to provide the most welcoming and safe environments for all involved in expanding our scientific knowledge.

Thank you for your questions.

