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Subcommittee on Emerging Threats and Capabilities

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON THE MISSION, ACTIVITIES, OVERSIGHT, AND BUDGET OF THE ALL-DOMAIN ANOMALY RESOLUTION OFFICE

Wednesday, April 19, 2023

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ALDERSON COURT REPORTING
1111 14TH STREET NW
SUITE 1050
WASHINGTON, D.C. 20005
(202) 289-2260
www.aldersonreporting.com

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U.S. Senate
Subcommittee on Emerging Threats and Capabilities
Committee on Armed Services
Washington, D.C.

The subcommittee met, pursuant to notice, at 11:08 a.m. in Room SR-232A, Russell Senate Office Building, Hon. Kirsten E. Gillibrand, chairwoman of the subcommittee, presiding.

Subcommittee Members Present: Senators Gillibrand [presiding], Rosen, and Ernst.

OPENING STATEMENT OF HON. KIRSTEN E. GILLIBRAND, U.S. SENATOR FROM NEW YORK

Senator Gillibrand: The hearing will come to order.

I would first like to thank our witness, Dr. Sean Kirkpatrick, for testifying here and in today's earlier closed session, and for his long and distinguished career both in the intelligence community and in the Department of Defense.

Dr. Kirkpatrick is the director of the All-Domain Anomaly Resolution Office, or AARO. Congress established this office in law to get to the bottom of the very serious problem of unidentified anomalous phenomena, or UAP.

Dr. Kirkpatrick has a very difficult mission. While we have made progress there remains a stigma attached to these phenomenon. There is a vast and complex citizen engagement and there is also very challenging scientific and technical hurdles.

So we appreciate the willingness of Dr. Kirkpatrick to lean in on this issue and the work that he has accomplished thus far and we look forward to both his opening statement and his presentation of examples of the work AARO has done.

In late 2017 media reports surfaced about activities set in motion by the late long-serving Majority Leader Senator Harry Reid more than a decade ago. We learned that there was strong evidence of advanced technology reflected

in the features and performance characteristics of many objects observed by our highly-trained service members operating top of the line military equipment.

We learned that for at least the past eight years military pilots frequently encountered unknown objects in controlled airspace off both the East and West Coasts, across the continental United States, in test and training areas and ranges.

We do not know where they are -- they come from, who made them, or how they operate. As former Deputy Secretary of Defense David Norquist observed, had any of these objects had the label made in China there would be an uproar in the government and media. There would be no stone unturned and no effort spared to find out what we were dealing with.

We can look at the recent incursion of the unidentified PRC high-altitude balloon as an example and because of the UFO stigma the response has been irresponsibly anemic and slow.

Congress established AARO. We made it clear that we expect vigorous action. We added very substantial initial funding for the office. But despite our best efforts the President's budget for fiscal years '23 and '24 requested only enough funding to defray the operating expenses of AARO.

It included almost no funds to sustain the critical

research and development necessary to support a serious investigation. It took a letter to Secretary Austin from Senator Rubio and me and 14 other senators to get the office temporary relief for the current fiscal year.

In this hearing I intend to probe a series of specific issues. In the recent incidents where multiple objects were shot down over North America it seemed that Pentagon leadership did not turn to AARO office to play a leading role in advising the combatant commander.

We need to know whether this will continue. We need to know whether the leadership in DOD will bring AARO into the decision-making process in a visible way and we need to know what role AARO will play in interagency coordination after the NSC Working Group disbands.

In the fiscal year 2023 National Defense and Intelligence Authorization Act Congress established a direct reporting chain from the AARO director to the Deputy Secretary of Defense.

The role of the Office of the Under Secretary of Defense for Intelligence and Security is limited to providing administrative support. We need to know how this direction is being implemented.

UAP are frequently observed flying in extremely high or very low speeds and come in various sizes and shapes. During the recent shoot downs over North America DOD

disclosed that filters on radar systems were adjusted to allow for detection and tracking of diverse sets of objects for the first time. While opening the aperture can overload the real-time analytic process we cannot keep turning a blind eye to surveillance data that is critical to detecting and tracking UAP.

We need to know whether Dr. Kirkpatrick could achieve the necessary control over sensor filters and the storage and access to raw surveillance data to find UAP anomalies.

Finally, one of the tasks Congress set for AARO is serving as an open door for witnesses of UAP events or participants in government activities related to UAPs to come forward securely and disclose what they know without fear of retribution for any possible violations of previously signed nondisclosure agreements.

Congress mandated that AARO set up a publicly discoverable and accessible process for safe disclosure. While we know that AARO has already conducted a significant number of interviews, many referred by Congress, we need to set up a public process that -- and we need to know where that effort stands.

With that, I would like to turn to Senator Ernst for her opening statement.

STATEMENT OF HON. JONI ERNST, U.S. SENATOR FROM IOWA

Senator Ernst: Thank you, Madam Chair, and thank you, Dr. Kirkpatrick, for your testimony today. I will keep these remarks very brief so that we have maximum time for your briefing.

The recent downing of the Chinese surveillance balloon and three other objects underscores the need for domain awareness. Adversaries like China and Russia are working to hold U.S. interests, including our homeland, at risk. That is why your testimony is so important and I so look forward to a progress update on the establishment of your office.

As members know, your office evolved from the Navy-led Unidentified Aerial Phenomena Task Force to the All-Domain Anomalous Resolution Office known as AARO.

Dr. Kirkpatrick, your extensive background in science and technology, research and development, and space makes you well suited to discuss these emerging challenges.

My priority is that we understand the full range of threats posed by our adversaries in all domains. That is what the joint force needs to be prepared to fight and win in defense of our nation.

This committee needs to know about Chinese or Russian advanced technology programs to exploit our vulnerabilities and it needs to know whether your office, along with the IC, has detected potential Chinese or Russian capabilities to

surveille or attack us.

Finally, we need to ensure efficient interagency coordination. Multiple elements of the DOD and IC own a piece of this mission. To add value, AARO's efforts cannot be redundant with others.

Thank you again. We look forward to your testimony.

Senator Gillibrand: Dr. Kirkpatrick, you can give your testimony.

STATEMENT OF DR. SEAN M. KIRKPATRICK, DIRECTOR, ALL-DOMAIN ANOMALY RESOLUTION OFFICE

Mr. Kirkpatrick: Thank you, Chairwoman Gillibrand, Ranking Member Ernst, and distinguished members of the subcommittee. It is a privilege to be here today to testify on the Defense -- Defense's efforts to address unidentified anomalous phenomena.

First, I want to thank Congress for its extensive and continued partnership as the department works to better understand and respond to UAP in an effort to minimize technical and intelligence surprise.

Unidentified objects in any domain pose potential risks to safety and security, particularly from military personnel and capabilities. Congress and DOD agree that UAP cannot remain unexamined or unaddressed.

We are grateful for sustained congressional engagement on this issue, which paved the way for the DOD's establishment of the All-Domain Anomaly Resolution Office in July of last year.

Though AARO is still a young office, the spotlight on UAP in recent months underscores the importance of its work and the need for UAP to be taken seriously as a matter of national security.

All leadership that I have had the pleasure of working with, whether DOD, IC, DOE, civil, scientific, or industrial

view Congress as a critical partner in this endeavor. AARO has accomplished much in the last nine months since it was established. The AARO team of more than three dozen experts is organized around four functional areas: operations, scientific research, integrated analysis, and strategic communications.

In the nine months since AARO's establishment we have taken important steps to involve and improve UAP data collection, standardize the department's UAP internal reporting requirements, and implement a framework for rigorous scientific and intelligence analysis, allowing us to resolve cases in a systematic and prioritized manner.

Meanwhile, consistent with legislative direction, AARO is also carefully reviewing and researching the U.S. government's UAP-related historical record. AARO is leading a focused effort to better characterize, understand, and attribute UAP with priority given to UAP reports by DOD and IC personnel in or near areas of national security importance.

DOD fully appreciates the eagerness from many quarters, especially here in Congress and in the American public, to quickly resolve every UAP encountered across the globe from the distant past through today.

It is important to note, however, AARO is the culmination of decades of DOD, intelligence community, and

congressionally-directed efforts to successfully resolve UAP encountered first and foremost by U.S. military personnel, specifically Navy and Air Force pilots.

The law establishing AARO is ambitious and it will take time to realize the full mission. We cannot answer decades of questions about UAP all at once but we must begin somewhere.

While I assure you that AARO will follow scientific evidence wherever it leads, I ask for your patience as DOD first prioritizes the safety and security of our military personnel and installations in all domains.

After all, UAP encountered first by highly capable DOD and IC platforms featuring the nation's most advanced sensors are those UAP most likely to be resolved by my office, assuming the data can be collected.

If AARO succeeds in first improving the ability of military personnel to quickly and confidently resolve UAP they encounter I believe that in time we will have greatly advanced the capability of the entire United States government, including its civilian agencies, to resolve UAP.

However, it would be naive to believe that the resolution of all UAP can be solely accomplished by the DOD and IC alone. We will need to prioritize collection and leverage authorities for monitoring all domains within the continental United States.

AARO's ultimate success will require partnerships with the interagency, industry partners, academia, and the scientific community as well as the public.

AARO is partnering with the services, intelligence community, DOE, as well as civil partners and across the U.S. government to tap into the resources of the interagency.

The UAP challenge is more an operational and scientific issue than it is an intelligence issue. As such, we are working with industry, academia, and the scientific community which bring their own resources, ideas, and expertise to this challenging problem set.

Robust collaboration and peer review across a broad range of partners will promote greater objectivity and transparency in the study of UAP.

I want to underscore today that only a very small percentage of UAP reports display signatures that could reasonably be described as anomalous. The majority of unidentified objects reported to AARO demonstrate mundane characteristics of balloons, unmanned aerial systems, clutter, natural phenomena, or other readily explainable sources.

While a large number of cases in our holdings remain technically unresolved, this is primarily due to a lack of data associated with those cases. Without sufficient data

we are unable to reach defendable conclusions that meet the high scientific standards we set for resolution and I will not close a case that I cannot defend the conclusions of.

I recognize that this answer is unsatisfying to those who in good faith assume that what they see with their eyes, with their cameras, and with their radars is incontrovertible evidence of extraordinary characteristics and performance.

Yet, time and again with sufficient scientific quality data it is fact that UAP often but not always resolve into readily explainable sources. Humans are subject to deception and illusions, sensors to unexpected responses and malfunctions and, in some cases, intentional interference. Getting to the handful of cases that pass this level of scrutiny is the mission of AARO.

That is not to say that UAP once resolved are no longer of national security interest, however. On the contrary, learning that a UAP is not of exotic origin but is instead just a quadcopter or a balloon leads to the question of who is operating that quadcopter and to what purpose. The answers to those questions will inform potential national security or law enforcement responses.

AARO is a member of the department's support to the administration's Tiger Team effort to deal with stratospheric objects such as the PRC high-altitude balloon.

When previously unknown objects are successfully identified it is AARO's role to quickly and efficiently hand off such readily explainable objects to the intelligence, law enforcement, or operational safety communities for further analysis and appropriate action.

In other words, AARO's mission is to turn UAP into SEP, somebody else's problem. The U.S. government, the DOD, and the IC in particular has tremendous capabilities to deal with those encountered objects.

In the wake of the PRC HAB event the interagency is working to better integrate and share information to address identifiable stratospheric objects but that is not AARO's lane.

Meanwhile, for the few cases in all domains -- space, air, and sea -- that do demonstrate potentially anomalous characteristics AARO exists to help the DOD, IC, and interagency resolve those anomalous cases.

In doing so AARO is approaching these cases with the highest level of objectivity and analytic rigor. This includes physically testing and employing, modeling, and simulation to validate our analyses and underlying theories, then peer reviewing those results within the U.S. government, industry partners, and appropriately cleared academic institutions before reaching any conclusions.

I should also state clearly for the record that in our

research AARO has found no credible evidence thus far of extraterrestrial activity, off world technology, or objects that defy the known laws of physics.

In the event sufficient scientific data wherever obtained that a UAP encountered can only be explained by extraterrestrial origin, we are committed to working with our interagency partners at NASA to appropriately inform U.S. government's leadership of its findings.

For those few cases that have leaked to the public previously and subsequently commented on by the U.S. government I encourage those who hold alternative theories or views to submit your research to credible peer-reviewed scientific journals. AARO is working very hard to do the same. That is how science works, not by blog or social media.

We know that there is tremendous public interest in UAP and a desire for answers from AARO. By its very nature the UAP challenge has for decades lent itself to mystery, sensationalism, and even conspiracy.

For that reason, AARO remains committed to transparency, accountability, and to sharing as much with the American public as we can consistent with our obligation to protect not only intelligence sources and methods but U.S. and allied capabilities.

However, AARO's work will take time if we are committed

to do it right. It means adhering to the scientific method and the highest standards of research integrity. It means being methodical and scrupulous. It means withholding judgment in favor of evidence.

It means following the data where it leads wherever it leads. It means establishing scientific peer-reviewed theoretical underpinnings of observed data, and AARO is committed to all of those standards.

I am proud of AARO's progress over the last nine months. Much remains to be done but the hard work is underway.

Thank you for your continued support, and before we turn to questions I am going to walk you through some of our analytical trends in a couple of cases that we have prepared.

[Chart is shown.]

Mr. Kirkpatrick: So one of the things that AARO does is high-integrity analysis, as I have said. This chart represents the trend analysis of all the cases in AARO's holdings to date.

What you will see on the left is a histogram of all of our reported sightings as a function of altitude. So most of our sightings occur in the 15,000- to 25,000-foot range and that is ultimately because that is where a lot of our aircraft are.

On the far right upper corner you will see a breakout of the morphologies of all of the UAP that are reported. Over half, about 52 percent, of what has been reported to us are round or spheres. The rest of those break out into all kinds of different other shapes.

The gray box is, essentially, there is no data on what its shape is. Either it was not reported or the sensor did not collect it. The bottom map is a heat map of all reporting areas across the globe that we have available to us.

What you will notice is that there is a heavy what we call collection bias both in altitude and in geographic location. That is where all of our sensors exist. That is where our training ranges are. That is where our operational ranges are. That is where all of our platforms are.

In the middle what we have done is reduce the most typically reported UAP characteristics to these fields, mostly round, mostly one to four meters, white, silver, translucent, metallic 10,000 to 30,000 feet with apparent velocities from stationary to Mach two.

No thermal exhausts are usually detected. We get intermittent radar returns, we get intermittent radio returns, and we get intermittent thermal signatures. That is what we are looking for in trying to understand what that

is.

Next slide.

So I am going to walk you through two cases that we have declassified recently. This first one is an MQ-9 in the Middle East observing that blow up, which is an apparent spherical object, via EO sensors. Those are not IR.

If you want to go ahead and click that and play it, you will see it come through the top of the screen -- there it goes -- and then the camera will slew to follow it. You will see it pop in and out of the field of view there.

This is, essentially, all of the data we have associated with this event from some years ago. It is going to be virtually impossible to fully identify that just based off of that video.

Now, what we can do and what we are doing is keeping that as part of that group of 52 percent to see what are the similarities, what are the trends across all these, do we see these in a particular distribution, do they all behave the same or not.

As we get more data we will be able to go back and look at these in a fuller context. How are we going to get more data? We are working with the joint staff to issue guidance to all the services and commands that will then establish what are the reporting requirements, the timeliness, and all of the data that is required to be delivered to us and

retained from all the associated sensors.

That, historically, has not been the case and it has been happenstance that data has been collected.

Next slide.

This particular event, South Asia MQ-9 looking at another MQ-9, and what is highlighted there in that red circle is an object that flies through the screen. Unlike the previous one, this one actually shows some really interesting things that everyone thought was truly anomalous to start with.

First of all, it is a high-speed object that is flying in the field of regard of two MQ-9s. Second, it appears to have this trail behind it, which at first blush you would think that looks like a propulsion trail.

In reality, if you want to play the first slide we will show you what that looks like in real time, or first video. So we are looking at that. There it goes. Why do you not play it again and then pause it halfway through? Right there. All right.

You might be able to see that trail there behind it. That is actually not a real trail. That is a sensor artifact. Each one of those little blobs is actually a representation of the object as it is moving through, and later in the video as the camera slews that trail actually follows the direction of the camera, not the direction of

the object.

We pulled these apart frame by frame. We were able to demonstrate that that is essentially a readout overlap of the image. It is a shadow image. It is not real.

Further, if you later follow this all the way to end it starts to resolve itself into that blob that is in that picture in the top right and if you squint it looks like an aircraft because it actually turns out to be an aircraft. Go ahead and put that on.

So you will see the tail sort of pop out there and so what you are looking at is -- this is in the infrared -- this is the heat signature off of the engines of a commuter aircraft that happened to be flying in the vicinity of where those two MQ-9s were at.

Why am I showing you this? So the first one that I showed you we do not have resolved yet. That is an unresolved case we are still studying. This one we can resolve. But this is the kind of data that we have to work with and the type of analysis that we have to do, which can be quite extensive when you have to pull these apart frame by frame.

Further, we are now matching all of this with the models of all of those imaging sensors so that I can say -- I can recreate this. I can actually show how the sensor is going to respond. All of these sensors do not necessarily

respond the way you think they do, especially out in the world and in the field.

And I believe that is all I have and I will open it up for your questions.

[The prepared statement of Mr. Kirkpatrick follows:]

Senator Gillibrand: Thank you so much, Dr. Kirkpatrick.

Can you just give us some raw numbers of how many UAPs you have analyzed, how many have been resolved, and sort of in what buckets and then how many are still left to be resolved? Just an update from your January public report where it was 366 or something and about 150 were balloons and about two dozen were drones. Just give us an update if you have one.

Mr. Kirkpatrick: Sure. So as of this week we are tracking over -- a total of 650 cases. Now, the report in January basically said about half of the ones at that time, about 150, were balloon -- were likely balloon like or something like that. That does not mean they are resolved.

Senator Gillibrand: Oh, I see.

Mr. Kirkpatrick: Okay. So what -- let me walk everyone through what our analytic process looks like.

We have, essentially, a five-step process. So we have -- we get our cases in with all the data. We create a case for that event. My team does a preliminary scrub of all of those cases as they come in to sort out do we have any information that says this is in one of those likely categories -- it is likely a balloon, it is likely a balloon -- a bird, it is likely some other object or we do not know.

Then we prioritize those based off of where they are.

Are they attached to a national security area? Does it show some anomalous phenomenology that is of interest? If it is just -- if it is just a spherical thing that is floating around with the -- with the wind and it has no payload on it that is going to be less important than something that has a payload on it, which will be less important than something that is maneuvering.

So there is sort of a hierarchy of just binning the priorities because we cannot do all of them at once. Once we do that and we prioritize them we take that package of data in that case, and I have set up two teams. Think of this as a red team, blue team, or competitive analysis.

I have an intelligence community team made up of intelligence analysts and I have an S&T team made up of scientists and engineers and the people that actually build a lot of these sensors or physicists because if you are a physicist you can do anything and -- but they are not associated with the intel community. They are not intel officers. They look at this through the lens of the sensor of what the data says.

We give that package to both teams. The intelligence community is going to look at it through the lens of the intelligence record and what they assess and their intel tradecraft, which they have very specific rules and regulations on how they do that.

The scientific community, technical community, is going to look at it through the lens of what is the data telling me, what is the sensor doing, what would I expect a sensor response to be, and back that out.

Those two groups give us their answers. We then adjudicate. If they agree then I am more likely to close that case if they agree on what it is. If they disagree we will have an adjudication. We will bring them together. We will take a look at the differences. We will adjudicate why do you say one thing and you say another.

We will then come to a case -- a recommendation. That will get written up by my team. That then goes to a senior technical advisory group, which is outside of all of those people made up of senior technical folks and intel analysts and operators from retired, out of the community, and they essentially peer review what that case recommendation is.

They write their recommendations. That comes back to me. I review it, we make a determination, and I will sign off one way or the other and then that will go out as the case determination.

Once we have an approved web portal to hang the unclassified stuff we will -- we would downgrade and declassify things and put it out there.

In the meantime, we are putting a lot of these on our classified web portal where we can then collaborate with the

rest of the community so they can see what is going on.

In a nutshell, that is the process. So because of that, that takes time. So of those over 650 we have prioritized about half of them to be of anomalous interesting value and now we have to go through those and go, how much do I have actual data for because if all I have is an operator report that says I saw X, Y, or Z, my assessment is A, B, or C, that is not really sufficient.

That is a good place to start but I have to have data. I have to have radar data. I have to have EO data. I have to have thermal data. I have to have overhead data, and we need to look at all that.

Now, from a big picture perspective I still have -- that is all -- they are still very valuable data and we are looking at applying a lot of things -- new tools, analytic tools, like natural language processing. So I can go across all of those reports and look for commonalities.

How many of them are being described as round spherical objects that are maneuvering? How many of them are not maneuvering? How many of them seem to have a plume to it or note? That is also going to be very valuable to give us more of a global picture and a trends analysis of what are we seeing and help us get to the determination.

So to go back to your question, ma'am, we have -- this next quarterly report will be coming out here pretty soon.

Our next annual report you all have given us -- moved it up to June, July -- we are going to be having that done about that timeframe and we will have a -- we will be combining a whole number of reports into that one.

I think we are currently sitting at around -- if I remember correctly, we are around 20 to 30-ish or about halfway through that analytic process. A handful of them have made it all the way out to the other side, gone through peer review. We have got case closure reports done and signed.

We are going to get faster as we get more people on board and we get more of the community tools to automate some of the analysis that has to be done.

Senator Gillibrand: Thank you, Dr. Kirkpatrick.

Senator Ernst?

Senator Ernst: Thank you, Madam Chair.

And Dr. Kirkpatrick, the ODNI annual threat assessment states that China's space activities are designed to erode U.S. influence across military, technological, economic, and diplomatic spheres.

Likewise, Russia will remain a key space competitor. In the course of your work have you become aware of any Chinese or Russia technical advancements to surveille or attack U.S. interests?

Mr. Kirkpatrick: That is a great question. Part of

what we have to do as we go through these, especially the ones that show signatures of advanced technical capabilities, is determine if there is a foreign nexus. That is really hard if what we observe does not have a Chinese or Russian flag on the side of it.

Now, I think it is prudent to say of the -- of the cases that are showing some sort of advanced technical signature of which we are talking single percentages of the entire population of cases we have. I am concerned about what that nexus is and I have indicators that some are related to foreign capabilities.

We have to investigate that with our IC partners and as we get evidence to support that that gets then handed off to the appropriate IC agency to investigate. Again, it becomes an SEP at that point.

Senator Ernst: Yeah, somebody else's problem.

Mr. Kirkpatrick: Right.

Senator Ernst: Very good. Thank you. Yes.

Is it possible that the Chinese or Russian advanced technologies could be causing some of these anomalous behaviors? And you said there seems to be some indicators. So just for us today could you describe a potential threat that might exist out there if they are of foreign nexus?

Mr. Kirkpatrick: Sure. In order to do this research appropriately we have to also be cognizant of what is the

state of the art in development across the S&T community. What is -- what are the DARPAs of the world doing? What are our -- what is the horizon scanning of emerging technologies appropriate to this subcommittee?

What is happening out there, and if somebody could accelerate that capability how would that manifest itself and what would it look like and do those signatures match what we are seeing?

There are emerging capabilities out there that in many instances Russia and China -- well, China in particular are on par or ahead of us in some areas.

So previously I used to be the Defense Department's intelligence officer for science and technical intelligence. That was our job was to look for what does all that look like. And then my last several years, of course, in Space Command doing space.

The adversary is not waiting. They are advancing and they are advancing quickly. If I were to put on some of my old hats I would tell you they are less risk averse at technical advancement than we are. They are just willing to try things and see if it works.

Are there capabilities that could be employed against us in both and ISR and a weapons fashion? Absolutely. Do I have evidence that they are doing it in these cases? No, but I have concerning indicators.

Senator Ernst: Thank you. I appreciate that and that is why it is so important that you are working with the intelligence community as well because you have the science, the data background, but you also need to know from various sources what adversaries may be working on, correct?

Okay. Thank you. Thank you very much. Thank you, Madam Chair.

Senator Gillibrand: Senator Rosen?

Senator Rosen: Well, thank you, Chair Gillibrand, Ranking Member Ernst. This is a really important hearing.

I would like to thank you, Dr. Kirkpatrick, for your service to the country and as a former systems analyst myself I really appreciate your flowchart, the description of the process, and particularly the trends analysis, going forward, how that is going to help us and you talked about language, the large LLMs -- the large language models of artificial intelligence. That is really going to help us in the hunt forward, predictive analysis, I think, to some of your point what we worry about.

But I want to focus on Nevada because I want to talk about the impact of UAPs on aviation safety. So when it comes to unidentified aerial phenomenal -- phenomena, excuse me -- one of my first concerns is really about the safety of Nevada's military aviator.

So we have airmen stationed at Nellis Air Force Base,

naval aviators flying at Naval Air Station Fallon, and service members across -- from across the world training at the Nevada test and training range. I know you know all this.

And, unfortunately, the existence of advanced UAPs in the U.S. airspace and over U.S. military installations not a new phenomenon. The Navy has officially acknowledged that between 2004 and 2021 11 near misses occurred involving UAPs that required pilot action and follow-up reports.

As a result, in 2019 the Navy established a protocol for pilots to report on their dangerous encounters. So could you speak to any ongoing efforts within DOD to ensure the safety of our aviators with a potential UAP encounter and what is your relationship with NORTHCOM, NORAD, SPACECOM when it comes to this immediate real-time response and how -- they are there right there in the moment, right?

Mr. Kirkpatrick: Absolutely. That is a great question.

So let me start with my relationship with the commands are very good. I just came back from sitting down with General VanHerck and all the all the J staff out at NORTHCOM a couple weeks ago talking through exactly what we need to do to help them get their arms around this.

We are also working very closely with Joint Staff and the Joint Staff has just been very outstanding in helping

work through policy and guidance issues to the forces and to the services, and I would like to just make sure that we message back to all of the operators the importance of their reporting and the fact that you are about to get a bunch of new requirements that we are issuing through the Joint Staff on all of the data that we are going to need you to save and report back to us.

It is invaluable and we are working to try to take the most advantage of that to learn what it is that we are trying to mitigate.

To get directly to your question, the first thing that we are doing is normalizing our reporting. We are standardizing our reporting and the requirements associated with that.

Guidance from the Joint Staff, I think, goes out maybe this week, maybe next week, that we have been working with them for some months that does exactly what I just said. It gives them timelines. It gives them requirements. It gives them here is all the data you have to have and you have got to retain it.

The next thing that comes after that is a plan ord that will go out to the commands for mitigation and response. So there is a couple of things that we have to do.

One, I need to work with the commands and with the IC and with our -- outside of our DOD and IC partners to extend

our collection posture targeted at some of these key areas that you saw on that heat map that have a lot of activity so that we can turn on extra collection when an operator sees something.

So part of this is generating as a response function in what we call a tactic technique and procedure for an operator when he sees something, calls back to the operations floor. They can turn on additional collection. What does that collection look like? How do I bring all that together so I can get more data on what is that thing?

Senator Rosen: Can I ask really quickly --

Mr. Kirkpatrick: Sure.

Senator Rosen: -- do you have the authorities you need to extend your collection posture between agencies or branches of the military? Because that seems to me to maybe be a sticking point. I know my time is just about up.

I would love to follow up about your risk management methodologies for some of these. But do you need any authorities that you do not have to get the data you need?

Mr. Kirkpatrick: There are some authorities that we need. We currently are operating under Title 10 authorities but we have good relationships across the other agencies. But having additional authorities for collection tasking, counter-intelligence --

Senator Rosen: That is something --

Mr. Kirkpatrick: -- those are all things that would be helpful, yes.

Senator Rosen: Thank you.

Senator Gillibrand: To follow up, Dr. Kirkpatrick, will you help us write that language so we can put it in the defense bill this year so that we know what authorities you need?

Mr. Kirkpatrick: Mmm-hmm. We can do that.

Senator Gillibrand: Thank you.

We are going to start a second round. So if you want to stay you can ask another round. I have at least three more questions.

Senator Rosen: I have about a million more questions.

Senator Gillibrand: Do you want to -- do you want to go right now so you -- in case you have to leave?

Senator Rosen: I feel like I do.

Senator Gillibrand: Yeah, go ahead.

Senator Rosen: And if you could do that that would be great. I am going to stay on the drones issue because, obviously, of the Air Force Base. We talked about those in -- the last category is the Chinese spy balloon. It did cross through the U.S. airspace, shot down by a Sidewinder missile fired from an F-22.

Sidewinders costs us close to half a million dollars each. So given the cost of these missiles, the cost per

flight, all of these other things, like I said, a follow-up from the authorities or methodologies to data collection. They can help us in other ways.

But how do you think we can develop a sustainable affordable response to UAPs where we need to that may -- that will definitely violate our airspace -- not may, definitely violate our airspace every chance that they can get because they are adversaries. They want this information.

So what do you think some cost effective measures might be that we can get what we need out of that or take them down, whatever is appropriate -- whatever the appropriate measure is? Let us put it that way.

Mr. Kirkpatrick: So that is actually wrapped into the plan ord that we are working with Joint Staff to send out -- what do the commands need from both a capabilities perspective for kinetic and nonkinetic engagements, what are the response functions of the particular wings or Navy, what have you, and then what authorities do they need.

So one of the -- one of the challenges that we have seen is there is an authorities issues with the -- with the owners, operators of those ranges that they need to work through and we are working that with the Joint Staff and OSD.

So big picture we need to do all that. If you want to

get down to the specifics for -- there are nonkinetic options to engage pretty much everything whether it is electronic warfare, whether it is laser technologies --

Senator Rosen: That is where this data --

Mr. Kirkpatrick: That is right.

Senator Rosen: Having the good data collection, predictive analytics, you can --

Mr. Kirkpatrick: Correct. Inform --

Senator Rosen: -- possibly make some assumptions on possibilities.

Mr. Kirkpatrick: That is right, and we will inform recommendations back to the department on here is what could work, here is what we have seen work, here is what does not work.

Senator Rosen: Thank you so much. Thank you, Madam Chair. Appreciate it.

Senator Gillibrand: Thank you very much.

I just want to just talk a little bit about your logistics, who you report to, how that is going, whether you need different reporting lines.

By congressional legislation your office is administratively located with the office of the Under Secretary of Defense for Intelligence Security but you are not substantively subordinate to the under secretary.

Rather, you are a direct report to the deputy

secretary. Are you taking direction directly from the deputy secretary? Are you able to meet and brief the deputy secretary? Is the office of USDINS working with you to have the right framework?

Mr. Kirkpatrick: So USDINS and the -- I currently report to USDINS until they come up with the plan for how they are going to implement legislation.

DOD and DNI are working through that now. I would have to refer you back to USDINS on what their plan is.

Senator Gillibrand: Do I need to update your reporting structure in the next defense bill or is this something that you think will work its way out or does it need further clarity?

Mr. Kirkpatrick: I think they are planning on coming back to you with an answer on what that plan is and I think at that time that will inform what you want to do.

Senator Gillibrand: Okay. Thank you.

As you know, Dr. Kirkpatrick, Congress has mandated that your office establish a discoverable and accessible electronic method for potential witnesses of UAP incidents and potential participants in government UAP-related activities to contact your office and tell their stories.

Congress also set up a process whereby people are subject to nondisclosure agreements preventing them from disclosing what they may have witnessed or participated in

could tell you what they know without risk of retribution from the -- or violation of their NDAs.

Have you submitted a public-facing website product for approval to your superiors and how long has it been under review?

Mr. Kirkpatrick: I have. We submitted the first version of that before Christmas.

Senator Gillibrand: And do you have an estimate from them when they will respond and when you will have feedback on that?

Mr. Kirkpatrick: No, I do not.

Senator Gillibrand: Okay. We will author a letter asking for that timely response to your superiors.

When do you expect that you will establish a public-facing discoverable and access portal for people to use to contact your office as the law requires?

Mr. Kirkpatrick: So I would like to, first, say thank you all very much for referring the witnesses that you have thus far to us. I appreciate that. We have brought in nearly two dozen so far. It has been very helpful.

I would ask that you continue to do that until we have an approved plan. We have a multi-phased approach for doing that that we have been socializing and have submitted for approval sometime. Once that happens then we should be able to push all that out and get this a little more automated.

Senator Gillibrand: Great.

Mr. Kirkpatrick: What I would ask, though, is as you all continue to refer to us and refer witnesses to us I would appreciate if you do that. Please try to prioritize the ones that you want to do because we do have a small research staff dealing with that.

Senator Gillibrand: Thank you. And then do you have any plans for public engagement that you want to share now that you think it is important that the public knows what the plan is?

Mr. Kirkpatrick: So we have a number of public engagement recommendations, according to our strategic plan. All of those have been submitted for approval. They have to be approved by USDINS. We are waiting for approval to go do that.

Senator Gillibrand: Okay. I will follow up on that.

And then my last question is about the integration of department's UAP operations, research, analysis, and strategic communications. During the recent UAP incidents over North America it did not appear that you were allowed to play that role.

Do you agree that the public perception is generally that you and your office did not appear to play a major role in the department's response to the detection of objects over North America?

What can you tell us that is going on behind the scenes from your perspective, and in the after action assessment process is there awareness that there is a need to operate differently in the future and a commitment to doing so?

Mr. Kirkpatrick: When the -- when the objects were first detected I got called by Joint Staff leadership to come in late one night to review events as they were unfolding and to give them an assessment based on what we knew at that time.

I did that. I worked with the director of Joint Staff, the J2 and the J3 that night and over the couple of following days on what are the types of things that we are tracking from an unidentified object perspective, what databases do we use those sorts of things for known objects, known tracking.

Beyond that, the response I would have to -- I would have to refer you back to the White House for the decision on how they did the response. We did not play a role in what you would respond other than that initial advice on what we are seeing and how we are seeing it.

Senator Gillibrand: Thank you.

Senator Ernst?

Senator Ernst: Thank you, Madam Chair.

Dr. Kirkpatrick, I know that your office has gotten a lot of attention recently and, of course, any new agency

there tends to be a push to increase size and funding. We want to make sure that you are able to meet your goals.

But what I also need to ensure is that we are not duplicating or replicating existing functions and creating redundancy within DOD and the interagency.

So what steps are you taking right now to make sure that your particular office and function is unique to any of the other agencies that might be involved in these types of cases?

Mr. Kirkpatrick: Yeah, that is a great question.

So I would like to lay down here is one of my -- sort of my mission and my goal and my vision here. So the vision is at one point -- at some point in the future you should not need an AARO.

If I am successful in what I am doing we should be able to normalize everything that we are doing into existing processes, functions, agencies, and organizations and make that part of their mission and their role.

Right now, the niche that we form is really going after the unknowns. If you -- I think you articulated it early on this is a hunt mission for what might somebody be doing in our backyard that we do not know about.

All right. Well, that is what we are doing. But at some point we should be able to normalize that. That is why it is so important the work we are doing with Joint Staff to

normalize that into DOD policy and guidance.

We are bringing in all of our interagency partners. So NASA is providing a liaison for us. I have FBI liaison. I have OSI liaison. I have service liaisons. Half of my staff come from the IC. Half of my staff come from other scientific and technical backgrounds. I have DOE.

And so what we are trying to do is ensure, again, as I make UAP into SEP they get handed off to the people that that is their mission to go do so that we are not duplicating that.

I am not going to go chase the Chinese high-altitude balloon, for example. That is not my job. It is not an unknown and it is not anomalous anymore. Now it goes over to them.

Senator Ernst: Very good. Thank you, Madam Chair.

Senator Gillibrand: Thank you.

I want to just follow up on the filters for surveillance. Outside observers have speculated that DOD sets filters on certain sensors to eliminate objects that are moving really fast or slow because what we are looking for militarily are conventional aircraft and missiles. UAP that does not fit into these programs would thereby be weeded out and never noticed.

This speculation was proven to be true during the UAP incidents over North America where DOD publicly acknowledged

that we were able to start seeing these UAPs only when we opened up these filters.

Obviously, our military operators cannot be overloaded with objects that are not conventional aircraft or missiles. Can you nonetheless make sure that the raw data is being captured and subsequently processed so that your office knows what is really out there and is that going to cost money? Will you expect to pay for that money out of AARO's budget?

Mr. Kirkpatrick: One of the key tenets that we are trying to do in our science plan is understand what those signatures are. So we get all the raw, for example, radar data prior to the scrubbing and filtering to allow it to enter into our weapon systems and our detection systems.

We are now taking all that data and cross correlating it to what pilots are saying they are seeing or other observations from other operators.

What that allows us to do is then see if there are any signatures in that data that I can pull out, generate what we will call automatic target recognition algorithms that allow us to then use that signature associated with a observed UAP whatever that UAP may be.

We will then make those recommendations of what those changes should be back to the department. So the deputy secretary had asked me last October to make those

recommendations, what changes do we need to make to radars, to platforms, to detection systems and algorithms, to pull on those algorithms and make those changes. That is going to take some time.

That is where the research and development comes in. It is not -- it is not instantaneous. Right now, a lot of the -- I will not say a lot of the things that fall outside of the ranges of those filters have been identified by people in the loop and you cannot have people in the loop all the time. It is just not cost effective.

So part of our budget is working through what does that look like and then making those recommendations back to the big program offices for them to put into -- changes in acquisition.

Senator Gillibrand: My last question is about the academic community. Can you give us an update on sort of how you collaborate with the academic community and whether -- how the independent study being done by NASA complements AARO's work?

Mr. Kirkpatrick: Sure.

Two questions so I will try to make it quick. In 1979 Carl Sagan said extraordinary claims require extraordinary evidence. I would go one step further and I would say extraordinary claims require not only extraordinary evidence but extraordinary science and so how do you do that?

You do that with the scientific method. So as AARO is developing and implementing its science plan it has to do so grounded in a solid foundation of scientific theory across the entire range of hypotheses that have been presented for what UAP are.

That range spans adversary breakthrough technology, on one hand, known objects and phenomena in the middle, all the way to the extreme theories of extraterrestrials.

All of that has physics-based signatures associated with it, whether it is theoretical from the academic community known from things like hypersonic weapons or adversary breakthrough technologies, as we have talked about before, or the known objects that we have to go measure.

The idea is across that entire range you have to come up with peer-reviewed scientific basis for all of it. The academic community plays a very big role on the -- one end of the spectrum, the intelligence community on the other end of the spectrum, and then measurement in the middle.

Once I have those signatures identified in validated peer-reviewed documents then I have something to point to for all that data because all that data is going to match one of those signatures, and then I can go, well, it is that and not that or it is that, and that helps us go through all that.

Where NASA comes in and the study that they are doing,

which I am supporting, is really looking at the unclassified data sources that might be used to augment our classified data sources to understand if there is a signature there we can pull on. So very similar to the radars but civil capability.

For example, we have a lot of climate science satellites, for example, that look at Earth. Lots of them. How many of those is the data valuable in seeing these kinds of objects? The challenge in that is those platforms do not necessarily have the resolution you need.

If you remember the slide I put up there with the trends, the size of the objects we are looking for are typically reported to be one to four meters.

Well, the resolution of many of the climate science civil satellites is much larger than that, which means you would have a hard time picking out something that is smaller than a pixel on the imagery on the data.

That is not to say all of it is not useful and there are ways of pulling through that data and going through. That is what NASA is focused on right now is what is -- what are some other data sources that could be used.

In addition, things like open source and crowd sourcing of data -- we are exploring public-private partnerships, ma'am, as you know -- we have talked about it in the past -- to look at is there a way to smartly crowd source additional

data that might be useful to augment some of my classified sources and what does that look like and how would we do it so that we are not overwhelmed by everybody who wants to take a picture of everything.

Senator Gillibrand: Thank you.

Is there anything -- is there anything else you would like to tell the committee before we close?

Or do you have another round?

Senator Ernst: No.

Senator Gillibrand: Yeah. Do you have anything else you would like to tell the committee before we close?

Mr. Kirkpatrick: Thank you very much for allowing us to come and share a little bit of insight into what AARO is up to and what we are doing.

I hope to be able to share a whole lot more in the future. We have a lot of work to do. So if you do not hear from me outside it is because we have got a lot of work to do.

Senator Gillibrand: Thank you so much, Dr. Kirkpatrick. Thank you for the hearing.

Mr. Kirkpatrick: Thank you.

Audience Member: Excuse me. I drove 600 miles to come here. I -- and I presented a book to David Spergel, who I know is associated with the gentleman here. But I do not have flying saucers. We just saw the first one. They had

no explanation for it. I would like to provide the evidence for it. It is on my video, as well as ancient evidence of cave drawings that look identical to that disc.

And what that would tell us is what [inaudible] and the corporal has been saying. Assuming that they are coming here is the assumption. A terrible thing to do. If we can prove that they have always existed then they are not changing in model, size, appearance, then it would answer the question of these people in the sky have always [inaudible].

But I have had to struggle trying to get the evidence we saved and I did contact Neil deGrasse Tyson and he informed me with an email, which I put in my book and about these crafts. I find them and film them and send them to everybody I can.

He told me to literally take them to the proper authorities and that I could get my evidence looked at and that is what I am doing today. I drove all the way from Ohio, Mr. Kirkpatrick.

Senator Gillibrand: Dr. Kirkpatrick is the person -- the perfect person to give your evidence to --

Audience Member: Yeah, I appreciate it.

Senator Gillibrand: -- and eventually we will have a website where you could just submit it and not have to go 600 miles. Today, since you are here, please submit your

evidence to Dr. Kirkpatrick and if you have copies we will take your copies.

Audience Member: I have footage. I have grown up in Albuquerque, New Mexico.

Audience Member: Same here.

Audience Member: I have on my phone three different examples of glowing dots flying in circles or going over Sandia Labs and Kirkland Air Force Base.

Senator Gillibrand: Yeah. Yes.

Audience Member: They have come down frequently and consistently and loiter over our advanced weapons and manufacturing industry, monitor it using advanced means like the --

Senator Gillibrand: Yeah. We are very interested in that data.

Audience Member: The vehicles tend to be about 10 meters in size and the data that Dr. Kirkpatrick gave about the signatures of one to three gigahertz is the propulsion field interacting with the atmospheric water -- the water in the atmosphere.

The higher gigahertz range comes from the effects of the propulsion field reducing the initial mass of the craft so they can do these outstanding maneuvers of [inaudible] degrees or rotating and flying off at hypersonic velocity.

There is knowledge within the weapons industry. More

people need to come forward. We need to pull up engineers out of Lockheed Martin, Raytheon, and allow them the freedom to speak and stop the secrecy. Thank you for hearing me.

Senator Gillibrand: My office can be a clearinghouse for this information.

Audience Member: Yes, Ms. Gillibrand. I have got video of it.

Senator Gillibrand: If you want to submit to me the names and the people that you want Dr. Kirkpatrick has contacts. I can do that, and any video that you want to give us, eventually we will have a platform so this can be done automatically. But I could [inaudible] and give it to Dr. Kirkpatrick. If you have it on a DVD --

Audience Member: I want to thank you.

Senator Gillibrand: -- to get it to him directly.

Audience Member: I am a Marine so my hearing is a little blunt. So if I could leave this with you --

Senator Gillibrand: Yes.

Audience Member: -- and somebody can give it to Dr. Kirkpatrick would be great.

Senator Gillibrand: Yes.

Audience Member: That is my whole point. I just leave it on this desk?

Senator Gillibrand: Yeah. Yeah. I will take it --

Audience Member: I appreciate it. Thank you so much

for looking into it.

Senator Gillibrand: Do you have a card? We have to give our business cards to the chair. The first draft and then [inaudible] are you done with it?

Staff: Sure.

Senator Gillibrand: Yeah. Why don't you take it since you are actually going to -- I am going to give it to Dr. Kirkpatrick and then [inaudible].

[Whereupon, at 12:08 p.m., the hearing was adjourned.]