

Transcript, "How We Found Bin Laden: The Basics of Foreign Signals Intelligence"  
Episode 1 of No Such Podcast from the National Security Agency

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Jon Darby: Osama Bin Laden was a SIGINT target. We did have some collection on him in the past using a satellite phone.

Natalie Laing: There has to be a requirement to go after that signal. For some reason of national security; and it has to be a foreign signal.

Jon Darby: We recognized that this was such a complex problem, that we weren't going to be able to do it by ourselves. In a story this sensational, if it leaked, and he is in that compound, he could very well leave. And it's going to take 10 years to find him again.

Christy Wicks: Welcome to another episode of No Such Podcast. My name is Christy Wicks. I am one of your hosts, and this is my co-host.

Cam Potts: Cam Potts.

Christy Wicks: And we are joined today by the current Director of Operations here at NSA, Natalie Laing, and former Director of Operations, Mr. Jon Darby. Welcome.

Natalie Laing: Thank you.

Christy Wicks: Welcome to No Such Podcast. Natalie, please introduce yourself.

Natalie Laing: Sure. So Natalie Laing, as you said, I joined NSA 27 years ago from private industry. And so I have always been based in what's now called the Directorate of Operations, which is responsible for our entire signals intelligence production cycle, which I believe we're going to talk about today. And so most of that time has been in operations, but I've also spent some time outside of the building as one of our NSA representatives to the Pentagon, running one of our operational sites overseas, and also running our directorate that's responsible for all the external engagement outside of NSA.

Christy Wicks: OK. Jon.

Jon Darby: Well, thank you. It's a privilege to be here and be part of this conversation. I appreciate it. And I have to say, as a former NSAer, anything I say are my personal views, and not that of the agency. So I worked for the intelligence community for 39 years. The majority of that time was with NSA. As part of that intelligence community career, I had served overseas for a while. I've done a whole lot of different things to include spending the better part of 10 years from 9/11 to 2011 working in the counterterrorism arena. My final four and a half years was as the Director of Operations.

Christy Wicks: OK. And today we're going to talk about NSA's bread and butter: SIGINT, or signals intelligence. What does that mean?

Natalie Laing: So let's start with the most basic definition. What is a signal? Because that underpins everything. So in its basic form, a signal is a current, or a pulse, or a radio wave, something that transmits information and data between systems and between networks. So each signal, think of a phone call, or a text, or even communicating over the internet. These things create a digital footprint that we would call a signal. There are other digital footprints or signals we're interested in, like weapon signals, radars, missiles. So all of those are signals. Then if you take it and make it signals intelligence, or what we shorten to SIGINT, there are two very important qualifiers that make something SIGINT. The first of which is the most important one, foreign. The second thing is there has to be a requirement. So from the President, or the White House, or the Director of National Intelligence, there has to be a requirement to go after that signal for some reason of national security and importance. So as most basic, that's what the signal world is, and that's what signals intelligence is, that data that rides on the signal that we are interested in for national security purposes.

Cam Potts: So Natalie, you mentioned making a phone call, making a text, or communicating over the internet. That reminds me of music. When someone records a song, they could be singing, or playing some type of instrument. They record it, they press stop, and they go to play it on some type of device. You actually can see the waveform audio. You can see the sound. And so while it may not necessarily be communicating a hello or goodbye, a message is still being communicated. As we know the phrase, when words fail, music speaks. But be that recording music, making a phone call, sending a text, or communicating over the internet, waves have the ability of interacting with the physical world. Within the context of intelligence though, we have the ability of setting things up in the physical world to interact with waves. So tell us about foreign signals intelligence. What is it, what is the process, and why is it important to national security?

Natalie Laing: So I mentioned two very important qualifiers. Foreign and we need a requirement. But foreign is still a very vast amount of signals. So we need, you're correct, a very specific process to go through all this to determine what we want to collect, are we able to keep it, and then what do we do with it? So briefly we call that the production cycle. And there'd be five phases that I can briefly describe of what that cycle consists of. So it starts with the target itself. We have what's called the National Intelligence Priority Framework, the NIPF. We make acronyms for everything, so it's the NIPF. That framework though, what's most important to know about that is that's what drives where to start looking in that vast sea of waves that you described, yeah. So that targeting goes through this framework and that's the start of the cycle. The second piece of the cycle then is we have these places around the world where we actually go and collect it. We gather those signals that we've been authorized to do and that we find of interest for national security. Once you collect it though, you can imagine the volume, given how digital the world is, you can imagine the volume coming in. So we need to process that data. This is perhaps one of the most complicated and biggest tasks we do as part of that cycle. So processing it needs the experts who can come in and say, what makes this readable for an analyst? What makes this processable by our machines? Once that happens, we move into the analysis phase. And so we have a deep cadre of experts who say, everything that's happened so far, I'm going to take that data that that produced from those original waves and signals and make some sense of it. Not

only based on individual target knowledge, but also based on what we know our national policymakers need, our military leaders need to do their jobs and keep the nation secure. And the way that we inform those policymakers and military leaders is through the last step of the production cycle, which is reporting. This, I think we'll talk about this probably later in the podcast, but this has a very specific regime tied to it, but it's the most important way that we get our product out of the building. That's how we actually share the information in a very tailored and curated way as the end of that whole cycle that you described.

Christy Wicks: And you share that information with other intelligence community partners, other agencies, even the private sector at times, depending on what the information is.

Natalie Laing: That's exactly right. So I mentioned policymakers and military leaders. Those are sort of top shelf because they are really making the decisions, but we absolutely share with multiple other partners in the government who are also looking to protect the United States with our allies, with our Five Eyes partners, with many nations who are also looking to protect against joint threats. And then with industry, that is a big piece of our cybersecurity side. We have foreign intelligence and cybersecurity as our two bases of operations at NSA. And so it's very important to have that exchange with private industry when we see where malicious actors are in all of our systems, when we see ransomware attacks, or when we're not sure where there are no systems, and we need to partner and share information to say, are we casting the net wide enough and making sure we're looking for them in the right ways at the right time? So yes, we share all of that more.

Christy Wicks: Absolutely, and that can restart the intelligence cycle once you share that information with industry or partners.

Natalie Laing: That's exactly right. One of the biggest changes that we've seen in the last couple of years as part of our national security memorandum and our responsibilities there is that we can do bi-directional sharing. And by we, I mean our cybersecurity directorate, we can do bi-directional sharing with industry. So that is the ability to ingest some of this data, not just collect it and put it out. Both are equally important.

Christy Wicks: Now we talked about the steps of the intelligence cycle. How do you follow the rules? How do you stay compliant when you are following targets and collecting signals intelligence on these targets?

Natalie Laing: So for every aspect of that production cycle that I went through, compliance is our number one focus. That has to underpin everything we do at the agency, and it in fact does underpin everything we do at the agency. So the bottom line, what we're looking for there is respect for the law. Obviously we follow the law and our authorities, but also respect for privacy and civil liberties. At its most basic, that's what our compliance program is. But of course it's more than that in day-to-day activities. So there's the law. There are authorities that actually drive what we do. And we know them, we know them clearly, we apply them every day. But then there's ways to trust but verify. So every year we test our analytic cadre to make sure they have the most recent and current understanding of the

laws and authorities that govern us and of our policies, our internal NSA policies that we derive from those laws and authorities.

Jon Darby: And you even get tested.

Natalie Laing: And I get tested.

Jon Darby: Yeah.

Natalie Laing: Yeah, so when I say analytic cadre, really anybody touching all of this sensitive information. And then in addition to the testing every year, we do auditing. So we have random checks and we have purposeful checks of we said we were compliant, were we really. So there's fail safe methods there. And then finally we have a very robust overseer framework. So that starts in Congress. We have several committees that are solely focused on the intelligence community and how we are conducting and lawfully conducting our missions. Then we also have a very specific body called the FISC. This stands for the Foreign Intelligence Surveillance Court. And they oversee one of our most important and impactful authorities on national security and in keeping the nation safe. And that's called FISA. So it's Foreign Intelligence Surveillance Act. And then there's a specific section 702 of that act that really underpins so much that we do at the agency. And it's such a key authority that we have a specific court focused just on that authority to do all the things I just said: auditing and testing and overseeing. But that whole regime makes up what we say when we say compliance. So it sounds a simple thing to say, yes, we are compliant. We have a compliance program. It is matched with every step of that production cycle that I laid out.

Cam Potts: So with foreign signals intelligence, the process, and then being compliant every step of the way, I'd be curious to know what are some of the examples where SIGINT has been used in the NSA mission?

Natalie Laing: So I would offer three, very current. And let's start with Russia-Ukraine. So those signals that we've been talking about, we collected those signals and we were able to see that Russia had the plans and intentions to invade Ukraine before they invaded. And so we were able to take this SIGINT intelligence, contribute it to the whole of government, the U.S. government's entire approach to deter and try to defeat Russian aggression in that space. NSA also shared the results of those signals with our close partner, United States Cyber Command. Cyber Command was able to send before the invasion, again, a small team over to Ukraine to help them look through their networks and point to some activity that seemed to be Russian activity there, so they could shore up their networks from a cybersecurity perspective, even again, before the invasion. So that's the first one, Russia-Ukraine would be a very current crisis, right? The second one I'd offer is China and specifically the People's Republic of China. So SIGINT, these signals informed our understanding, the U.S. government's understanding, of the Chinese origins of a chemical used to synthesize fentanyl, which is a clearly recognized national issue. This information was derived from the authority we talked about earlier, section 702 of the Foreign Intelligence Surveillance Act, or FISA. So this is important in our estimation because NSA plays a key role in keeping all communities in the U.S. safe. And then finally, a third example, cybersecurity. So SIGINT helps us defend our nation's critical infrastructure to include our Defense Industrial Base. And NSA has

used SIGINT actually to identify multiple foreign ransomware attacks. That intelligence has helped us, the U.S. government, to respond to and actually in some cases to fully prevent, significant attacks on U.S. networks. One specific example is an Iranian attack in 2022. So SIGINT enabled the U.S. government to not only respond to that attack, also to recover the organization's information without paying the ransom and all of that within one week. So those are three examples I would offer of pretty current application of signals intelligence.

Christy Wicks: And ransomware attacks happen so often now to not have to pay a ransom and intercept that foreign intelligence and to stop that attack or to intercede to make sure that these companies don't have to pay and they're protected, their networks are protected.

Natalie Laing: Agree. Unfortunately, this is a common occurrence.

Christy Wicks: Yeah. Yeah, you hear it all the time. It's always in the news.

Natalie Laing: Exactly.

Christy Wicks: Now we're going to get into each of those steps once we talk about our feature story today. But Jon, over to you. Let's talk about September 11th and how Osama bin Laden was one of the targets and the role you played in bringing him down.

Jon Darby: Well, I'll start with kind of who was bin Laden, not everybody knows the whole story, and then go from there. So Osama bin Laden was the founder of Al-Qaeda, the terrorist group. It started up organized shortly after the Soviets left Afghanistan and Al-Qaeda, as an organization led by Osama bin Laden, launched a holy war against the West. And the U.S. was their primary adversary in their mind. So they carried out a series of attacks through the '90s, actually attacked the World Trade Center in 1993, carried out attacks on USS Cole in the late '90s, attacks on US embassies in Africa in August of '98. And then of course the big, the 9/11 attack that we've all heard about killed nearly 3000 people here. So Osama bin Laden was a SIGINT target for a while. Clearly he was of interest. He was leading an organization that intend to inflict harm in the United States. We did have some interesting collection on him in the past using a satellite phone. Unfortunately that got published in the media that we were collecting him off that satellite phone. From that moment on, no more electronic communications from him. So we had to be creative, you know, how to get to him. So let's take from 9/11 on, so at least everybody has a story. You know, those that remember, you know, 9/11, where were they, what was going on. My story is I slept through the whole thing.

Cam Potts: Oh, okay.

Jon Darby: Because I was on a business trip down in Australia. At the time, the way I figured, I was probably went- fell asleep about the same time that the first plane hit the building, woke up the next morning, saw what had happened. You know, I was grounded in Australia. All federal employees were told you had to stay where you are because we didn't know what else was going to happen. Where there going to be more plane attacks? We were, as a government, worried something else was going to happen. So I was basically stranded in Australia for a week. And I kept busy by helping our Australian

partner agency. Natalie mentioned we partnered with our Five Eyes agencies. Australia is one of those key partners. That's who I happened to be visiting on the business trip. So I was helping them, you know, basically liaise with NSA, who was trying to figure out what to do. And helping Australia figure out how they can help us. So, stuck for a week or so in Australia. Came back to NSA on about the 20th or 21st, somewhere in there. Walked into my office, and I shared an office with my boss, and I walked in, and he says, "You have a new job as of right now."

Cam and Christy: Wow.

Jon Darby: To report up to the sixth floor, to the counterterrorism organization. So, okay. I went up to that, the head of the counterterrorism organization's office, and said, "I'm here. What am I supposed to do?" And he basically said, "You're going to be in charge of SIGINT development for counterterrorism, and your job is to build an organization and figure out all the different ways that Al-Qaeda communicates."

Christy Wicks: Wow.

Jon Darby: So that's how I got in to the counterterrorism world directly.

Christy Wicks: Okay.

Jon Darby: And then we started the, you know, SIGINT development cycle. And Natalie mentioned that the process, the cycle, it all kind of starts with developing and target understanding who you're trying to collect on, and the different methodologies to get after that individual.

Cam Pots: Yes, so I was going to say, tell us more about SIGINT development as it relates to Bin Laden. What did that process even look like? Paint the picture for us.

Jon Darby: All right, so I'm going to break it into two pieces. Because there's overlap between the two. There's understanding how Al-Qaeda communicates. You know, our number one mission, number one job was to prevent another attack here in the United States. And it wasn't just Bin Laden. I mean, there are many other leaders in the Al-Qaeda organization. We had to worry about that. So let's start with that. Al-Qaeda communications, how do we discover and disrupt terrorist plots, targeting the US or elsewhere? So we had leads. You know, we could get leads from, let's say, materials that the 9/11 hijackers had used, that FBI had. We could get leads from other agencies and so on. And we recognized that this was such a complex problem that we weren't going to be able to do it by ourselves. We were going to have to team with other agencies, whether it be CIA or the military or others, that could have leads and bits of information to feed us. We could provide bits of data, information, to them to help with their, let's say CIA's information, to recruit assets within the Al-Qaeda organization to get after, to discover these emerging, evolving threats. So building teams. And part of that was we actually started a process to send NSA analysts down to work at CIA and to go overseas. And the team developed this dynamic, multiple agencies working together, whether it's NSA headquarters, CIA headquarters, or overseas, that team evolved into a really tight team. And if you fast forward after the Bin Laden takedown, if you sat down the core analysts from the different agencies, you'd be hard pressed to say, is

that an NSA person or a CIA person? Because they were so tightly working and passing information back and forth as it developed. So back for the broader Al-Qaeda mission, building that team, and I mentioned before Bin Laden, but this applied across all of Al-Qaeda, trying to understand it. And what I'd like to say, it's operationalizing that relationship. It's one thing to just provide intelligence to somebody, but something that I often said is, we're not in this business to produce libraries, we're in this business to support operations. And what that means is building that relationship with these operational communities, whether it's the military, who can do things, whether it's FBI, who can do things within their authorities, or CIA and others. So building that team with the operational community was really critical in developing that mindset that we're not just pushing out intel, it's about: follow it to the next level. What are you going to do? How do you work with that agency to arrest that terrorist, for example? How are you working with that agency to disrupt that plot? So that's kind of the broader Al-Qaeda mission, and their similarities with, we look at Bin Laden himself. And I'll tell you, the fall of 2001, that's when we started really looking for Bin Laden. And I remember late night meetings in the fall of 2001, we'd sit around a table and say, how do we find him? And one of the early theories was a courier, somebody that's going to be taking care of him. But that was 2001.

Cam Potts: Okay, yeah.

Jon Darby: So over time, you're developing leads and lots of false leads, you run down rabbit holes and this wouldn't pan out, but the analysts never gave up. And you can imagine, everybody had a good idea. But we say the good idea fairy keeps pushing out ideas and the analysts felt obligated to check them out. But still at the core, they're thinking, this courier route could be probably the most valuable, but who is the courier? How do we find him and things, how do we develop out that courier target, of course? So with that team that had been developed, there were leads passed on, here's a potential, this could be a potential for the courier. Ultimately, one thing led to another, SIGINT, human intelligence, and kind of honed us in on, who turned out to be the courier and the caretaker for Bin Laden in Pakistan.

Christy Wicks: So Jon, how did you pull all that intelligence together and pinpoint where Bin Laden was?

Jon Darby: Well, it wasn't a huge amount of data. That's the thing, it's just bits and pieces. And I mean, I often use the analogy for, Intel is like building a jigsaw puzzle. But it's a jigsaw puzzle with a twist. And what I mean by that, this particular jigsaw puzzle, you may have a few pieces on the table in front of you. You may have some on the carpet, the dog's eating some, some are on the other side of the street, some are on the other side of town, some are at the bottom of the ocean, some don't exist. Your job as an intel analyst is to find as many of those pieces as you can, by whatever methodology you can, working with partners or others. And then you've got to put together those pieces without a box top telling you how they go together. So it's really, it was a mosaic of different data pieces being pulled together to present the likelihood that Bin Laden could very well be in that compound. And we didn't know for 100% certainty until actually the raid took place.

Cam Potts: And that close collaboration is definitely the key here in being able to properly get to the answer. So we have the fall of 2001, and then you talk about the raid. How long did it take to find Bin Laden?

Jon Darby: 10 years, nine and a half years or so, and it went in fits and starts. You know, that there was always the mission to find him. You know, and it was hard. You know, there was long periods where there wasn't, there weren't any leads. And then some things would pick up and let's, here's another lead, let's run that down. And there were plenty of people that came to me at the time when I was the head of the analytic counterterrorism organization, saying, why are you spending any resources on this? You know, he's dead, you're not going to find him. And, you know, we said, no, we will, if he is alive, we will find him. You know, the U.S. government will find him. That's not an option just to give up. So the analysts really were persistent, running down all the different leads, you know, over a number of years. And things didn't really accelerate about the compound until late 2010 or so.

Christy Wicks: So it ramps up in 2010. I know talking about specific collection on bin Laden is very sensitive. What can you tell us about that specific collection on bin Laden that can be talked about?

Jon Darby: Well, let's start with kind of the first time when it became clear there may be something to this. And this is, you know, fall-ish 2010. And one of the lead analysts came to me, said, hey, this looks like a good lead, the best that we've had for, you know, for years that actually may go somewhere. So at that point, figured, all right, this looks like a good lead. But at that point, it's a lead. You know, we'd had how many dozens of leads in the past. So we didn't really know how this would play out or not. You know, fast forward a couple of months, and we did read in a couple of, you know, this is an ultra-compartmented, you know, operation. We read in a couple of technical folks into what we, when I say we, U.S. government, were trying to do and working closely with CIA and others. And they looked at, you know, came up with some creative options to potentially get some collection. I really can't get into specifics about, you know, the specific collection operations that took place there. But suffice it to say that we were joined up with, certainly CIA and the other intel agencies to really, you know, get as complete a picture about what is going on in the compound is, you know, there were kind of two threads, is bin Laden in that compound? And the second thread is how do we support whatever the U.S. is going to do about that compound?

Cam Potts: So when you talk about those being read into this specific compartment, what does that mean?

Jon Darby: So I'll back up into what does it mean by a compartment? You know, that everybody that works at NSA has what we call a top secret special compartmented, TS/SCI clearance. That's kind of the baseline. But there are any number of additional clearances on top of that to include compartments for special projects, for example. So this was, you know, and then Natalie and I both had numerous compartments over the years in special operations. This one was different. And what I mean by that is ultra-compartmented. I mean, there was at one point I got a call from a very senior official at CIA who was telling me, you realize this is the most, you know, the top secret in the United States government right now. And I got it. You know, so it's super-secret. But really is just to kind of demonstrate how secret this is, think about NSA, how big NSA is. Tens of thousands of people. The day of the raid, there were no more than 50 people that knew what was going on.

Cam Potts: Fifty! Ok.



Jon Darby: We were very tight lipped and had to keep close tabs on who actually knew what was going on. Even updates, we handled that in hard copy. We weren't emailing anything around about it. So it was, as I say, Natalie and I have been involved with a lot of compartmented operations. I'll say this was the most compartmented that I've ever been a part of. And it makes sense because we've been trying to find him for 10 years. In a story this sensational, if it leaked, and we knew Al-Qaeda paid attention to the Western press, if it leaked, and he is in that compound, again, which we didn't know for sure, he could very well leave. And then it's going to take 10 years to find him again, I don't know. So it was really critical to keep a lid on what the US government was doing.

Christy Wicks: So partnership sounds like basically the epitome of everything that you guys were working on and working with and HUMINT, SIGINT, everybody just came together at the table to make sure this man was caught. That the people who lost loved ones, they deserve that justice. Let's pivot to you, Natalie. Talk to us about that processing of the SIGINT chain.

Natalie Laing: Sure. So we talked in the beginning about the production cycle, but I covered that pretty high level. As you can imagine, there's a lot of connective tissue in between all those steps. So one of the things you mentioned processing, I'll anchor on that for a minute. So one of the main things we need to do when we do that collection and processing is make this understandable for the folks that are going to be working this. So that's intelligence analysts, that's language analysts. And so you might be looking at a signal or a big grouping of signals that are very complicated, highly technical, or encrypted, or all three of those things. So it is our job to not only undo the complexity to get to the meat of the data so that the analysts can use that, but also we have to establish the right thresholds for how to go through that data. So there's a lot of discernment that goes on. So to use one very small but specific example, Jon was talking about the couriers as we were targeting UBL. If we were to go through all this collection and see anything that relates to that courier, obviously that's something we would discern is of foreign intelligence value. We will keep following up on that. If it was, for example, a signal that was right next to that one, of a local taxi driver near you, okay, that's not something we would discern we need to follow. So that's one way that we start to parse out this collection so it's usable and meaningful because the volume is pretty significant. It wasn't necessarily significant on UBL, but when they're working a bunch of other things, we need to make this discernible for them. We have to have thresholds built in throughout that process that say, is the foreignness still there? Is this, it's interesting, but is it part of a requirement for us to work from national security perspective? So all of that needs to be worked in the process for every piece of that production cycle. Pair that with constant new technologies coming up, new means of transmitting data coming up. We need to stay on top of that. I'm not going to ask an analyst to stay on top of that. It's our job to stay on top of that technical environment so the analyst can do what those brains are so cultivated to do, which is get after those hard target problems like the UBL and many, many others. So that's what processing really looks like at high level.

Cam Pots: Certainly, so if you thought you found something relevant to national security interests or let's say as a priority by the President, you dug a bit further into it, but it's nothing there. You stop?

Natalie Laing: That's correct. No need to pursue further.

Christy Wicks: Okay, so let's just say you have the right technology, you figured out the right signal complex. Talk about encryption and how that plays a role in signals intelligence.

Natalie Laing: So I'll say two things to start about encryption. One, at its most basic, it's our ability to secure communications and control access to sensitive data. That's the easy part. The hard part, it's very hard math that underlies this. So hard that I'm not qualified to explain to you the math, but what I can tell you is that there are very smart people that work this and they enable computers to do some of this because to do this in a reasonable amount of time to decrypt something, code break, we need a computer to do that or maybe we need to do computer work for the entire thing. So it's a simple thing to explain. It's a very hard and complex thing to unpack when you talk about encryption. And so you need very tailored, what we call STEM or technical skills, along with very powerful computers. And so it also needs to be a very wide team. So we talk about the crypto mathematicians, we talk about the computer scientists. It needs a very wide skillset that can actually come in and say, we know how to do this. Now that said, there are still codes we can't break. We try to do this every day, new codes. But NSA is the world leader in what we call cryptography. So it's everything that's wrapped around encryption. And so that is the ability to of course protect ourselves from adversaries who want to get past our encryption, to get to our sensitive national security data. But it also involves our world-class ability to break the codes of our adversaries or terrorist communications or malicious actors that we've seen. So that ability at NSA is really world-class and we're super proud of that talent.

Cam Pots: Breaking code, making code. Cryptanalysis sounds quite amazing, almost like mathematical magic.

Natalie Laing: It is mathematical magic.

Cam Pots: Yes, and it speaks to NSA being home to some of the nation's greatest and best mathematicians.

Natalie Laing: Correct, and we've been doing that magic honestly for 72 years now, even prior to World War II. I'm going to share a couple examples that are declassified now that predate World War II and go past World War II. So everyone's familiar with D-Day, of course, spring of 1944. The U.K. and the U.S. allies were planning a big invasion as we all knew. The Germans were tracking this, as were the Japanese for about a year. What they were not tracking is that we were reading their encrypted communications. We were reading exactly how all of their troops were set up on the beachheads there. We were reading what they shared with the Japanese as far as how strong or how not strong their defenses were there. So obviously D-Day still involved massive loss of life, but advantage: Allies, for our ability to read those encrypted communications and know what we were facing and it definitely gave the competitive edge to the Allies that day without question. And then if you fast forward a little bit to after the war and the Cold War era, we were able to decrypt, so break the code in your terms, Cam, of Soviet, both espionage communications and diplomatic communications from 1952 to 1980. Again, huge competitive advantage for our national security. And then as part of our role for a combat support agency, in Vietnam, we were able to prepare the troops based on decrypting and breaking some code for the 1968 Tet Offensive. So looking out for our troops in harm's way and again being able to encrypt plans and intentions and share that as part of our military support role.

Christy Wicks: And we still do that today.

Natalie Laing: We still do that today. We are at our core combat support agency.

Christy Wicks: So we talked about it: decryption. So once you get that intelligence, it's decrypted, it falls into the hands of cryptanalysts. What happens after that? Does it start that intelligence cycle over again?

Natalie Laing: -It does, but what really comes out is a very specific point here. When we talked about as part of the intelligence cycle, who's doing what? So that processing of what the language analysts are doing, what the intelligence analysts are doing. So this is a lot of work that we put on top of them. So from a language analyst perspective, again we want to get this into a readable form. But what then they have to do, it's not just the literal translation. This is of course foreign language, so we need to translate it. But we have to remember what we're asking the analysts to do. They can't ask any clarifying questions on this piece of information that came in. They just have to work with what they have. And so whether you're a language analyst or an intelligence analyst, we're saying take what's there. Yes, we have to do the literal translation. But then they have to apply all these years of analytic method training, knowledge of their target. And for language analysis, that sometimes, what's the sound of the voice? Have you ever heard this person talking to that person before? Why are they talking about it right now, do you think? So we need to report what's literal, we can't report things that aren't in those signals that we collect. But wrapping that expertise around is what's really critical. And so us of course providing technology that enables that processing and the intelligence analysis and the language analysis to happen is a key piece of that whole production cycle.

Christy Wicks: That's amazing, I'm sure you've helped mitigate many threats, just disseminating products.

Natalie Laing: Correct, there's big readership for NSA's SIGINT or NSA's products as we call them.

Cam Potts: All right, and now moving to, let's say, the last step in our SIGINT process, reporting. We can actually send directly to the president?

Natalie Laing: We can.

Cam Potts: Okay.

Natalie Laing: And we do.

Cam Potts: All right.

Natalie Laing: And to many, many other people. So hourly, probably every minute, frankly. There are these SIGINT products, these SIGINT reports going out. So certainly they go to the White House, they go to the National Security Council, they go to all of our national policy makers, senior military leaders, all

of our allies, our customers in the US government, our partners in the US government, very wide readership of reports. But what's behind the report might be a little bit- might be good to unpack here. And so what's behind that is, first of all, there's a lot of information to synthesize. And so getting it out the door to the right person at the right time needs to be very crisp. It also needs to be very timely, of course, but it needs to adhere to what we call analytic integrity standards, AIS. There are very specific standards that cover what we can report and the structure we need to report it in. That includes, of course, no embellishment or opinion, includes SIGINT fact, right, first of all. But it also includes not mentioning or naming any of the sources or methods of how we got this data. That is the most critical thing through all this to protect. We need to get that insight out there, but we don't need to share in every report the source of that. The other thing that's good to know behind that whole report production chain is there are multiple sets of eyes on every report. Natalie Laing does not sit down, write a report and pop it out the door. Multiple sets of eyes to make sure that I have been compliant in not naming sources, the integrity and the analytic standards are there, and it is the right formatting of the SIGINT data, which can be frankly very technical. So it needs to be the data and the reporting that most closely matches some of those national security requirements we talked about in the very beginning. And so reporting encompasses everything in between, as you can imagine, many, many targets that's going out. But I will tell you that this is our product, if you will. If we were a company, a private company, this is our product, and it is exquisite, and it is extremely impactful on the national security front.

Jon Darby: Can I foot stop something that about the reporting?

Christy Wicks: Absolutely, Jon.

Jon Darby: We talked about target development and follower leads and cryptanalysis and all that's really cool and difficult and hard to do. But none of it means anything without the reporting at the end. So that is, you know, some people kind of pooh-pooh and focus on the cool stuff. That reporting is absolutely essential. So saying this agency wouldn't live without the ability to turn all these leads into something that's usable for policymakers or military commanders in the light.

Christy Wicks: Absolutely, and Jon, let's talk about the operation. You've done it. What did it feel like the moment Osama bin Laden was taken down during that operation?

Jon Darby: Let me back up a little bit to the day of the raid. So it was a Sunday out here. And I was here at Fort Meade and walking, I still remember to this day, walking across the parking lot to come into the building that morning thinking this raid was going to take place and said, "I really, really think he's there, but I don't know that I'd bet my annual salary." You know, that kind of, but I mean, the stakes were really high because there was not certainty that he was there. And even as the raid took place and the first helicopter, you know, landed hard, you know, and was like, "Oh no, here's a situation, you know, it's going to go bad." So anyway, for the- Natalie mentioned earlier about NSA's role as a combat support agency. And NSA has sent folks out to Iraq and Afghanistan for a number of years to support military operations there. Our role, I mentioned that, you know, the kind of the two threads is Osama bin Laden there? And the other, how do we support whatever the US government decides to do? So the government had decided to carry out this special forces raid. So what's NSA's role at that point? Our job

is to make sure there are no threats to those choppers that are flying in and on the way out. So we had people poised, you know, ready to provide any indications and warning of threats to those helicopters. Anyway, came into work and NSA had a little command center set up and there were about six or seven folks in the command center. And we had the audio feed from Admiral McRaven, who was the leader of the operation and was out in Afghanistan, who was relaying things, you know, the audio about, you know, as the operation taking place, because the assault team lead was relaying it back to him. And then he would convey the audio link to many folks across the DC area and elsewhere about what was going on. So when he did say HVT number one, you know, was spotted, you know, high value target. And I remember thinking, oh my gosh, he really is there. And then shortly after, you know, EKIA, enemy killed in action and say, wow, it worked. And I just remember it felt very surreal as the operation was taking place and thinking this could be a really big deal. And then when it actually turned out it was him, I was just saying, it felt very surreal, but we knew it wasn't over because the team had to get out. That's where NSA's job still wasn't over. It was to make sure the choppers were going to get out of Pakistan in one piece.

Christy Wicks: You played a key role. You're able to talk about that now. You made history. What does that feel like?

Jon Darby: Well, it was, you know, I was just part of a bigger team, and there were, I mentioned not a lot of folks were cleared for the entire operation, but there were hundreds of folks across NSA that were playing a role in providing, you know, answering the question, you know, is he there providing the support during the operation itself? Many of those folks didn't know what the purpose was.

Cam Potts: Okay.

Jon Darby: Basically said you need to do X, Y, and Z. And they did it because we're used to living in a world of secrets and protecting things. So I just happened to be fortunate enough to be in the job at the time that you're liaised with the other agencies at the senior levels and was there, you know, hearing things as it played out. You know, it was an entire team that played that out. I will share a little personal story. The night of that raid, you know, the president made a statement, and I wound up staying at work all night, you know, putting together briefings and, you know, emails to folks telling what had happened. And that Monday night I got home and my wife had put two and two together because I'd been out all weekend. And I did call her up on Sunday night, woke her up, and said, "You may want to turn on the TV. You want to see the President's going to make a statement." But I came back in and then she goes, "Oh, wow, you know, you must have played a part in this. Do you want a steak dinner or anything?"

Cam Potts: Oh, steak dinner? Okay.

Jon Darby: And I said, you know, all I wanted was a pizza. And then I sat down and I literally cried my eyes out, you know, shoulder shaking, you know, let it all out, just crying my guts out. And it was just such an emotional release. And even before that, the night of the, after the raid had taken place, I actually walked up to one of the analytic shops that had been working around the clock for a couple of weeks and told them what had happened. You know, this raid just took place. We got Osama bin Laden. And everybody in that office just started, you know, cheering and crying and hugging each other. And

that was a pretty emotional time just to see that reaction. And there were other parts of the NSA enterprise that heard what had happened. And they were like, "Okay, you know, check that box. Let's move on to the next thing." So very business-like and professional, let's keep moving forward. So you had the whole range of emotions about it. As you say, for me, it seemed very surreal from the outset that it actually happened all the way to that total emotional meltdown, you know, 24 hours later.

Cam Pots: Certainly. I was going to ask what was the reaction because I know that there were many that didn't necessarily know what they were actually working on. They just provided the intelligence that they needed to and just went from there. But to hear the reaction of someone that actually was a part of this mission success and even just being at this, you know, this table being able to talk about it is amazing.

Christy Wicks: That's why we come to work here every day for that impact. Natalie, over to you. What do you remember about that day when Osama bin Laden was taken down? And can you kind of reflect on what it means to you?

Natalie Laing: So I completely agree with Jon's assessment of it being a surreal experience. But it was also a very impactful experience, both personally, professionally, for our nation, for those that had loved ones that died on 9/11, impactful for so many reasons. But those impactful things stick with you. I also remember it's a Sunday, the day of the week doesn't matter, but I remember that as well. And just to underscore, a big piece of what made this a success was how compartmented it was. And so I was serving at the time as the chief of operations for all of our analysis and reporting parts of that cycle we talked about. And I didn't know about this raid until a couple days before. And I came in the day of to, of course, support from authorizations and operationally. But it just shows the intense collaboration and trying to keep this as tight as possible to protect the people and then protect the outcome happening, which of course did. So I do remember us having a sense of, this is kind of what it's like to live through a very important moment of history and a very impactful moment of history. And so I'd certainly say those are some of my biggest memories from that day.

Christy Wicks: Absolutely. SIGINT is our bread and butter. What does that look like today, in today's society?

Natalie Laing: Let me say this. Here's what's changed and here's what hasn't about SIGINT. Here's what hasn't changed. Our ability to impact in a positive way our nation's national security, to defend our nation, that has not changed. The tremendous talent from before World War II, before we existed, to when we started to exist in 1952, every day I am a little gobsmailed at the talent that we have at this agency and the things they are able to do. So that's that talent and tenacity produces things like supporting the UBL raid successfully and so many other intelligence outcomes for this nation and our allies. That absolutely has not changed. And what else hasn't changed is we can't tell people about it generally. So laboring at these really important things for our nation and our security and you can't talk about them, yet what you know is amazing. And so it's just an interesting spot to be. But what has changed is I'd say how we do all of this work and the environment around us. So if you look at how fast technology is developed and the pace that it changes today, the velocity and volume of information that has changed drastically, the way everything is interconnected outside of NSA, just from a digital

innovation- digital world, it's all interconnected. This has changed the way that we need to do compliance. And so we can't just say, hey, what worked for compliance 30 years ago when we had analog signals- that is not going to work for today. So we need to figure out to adapt our ability to maintain privacy and civil liberties along with all of these new interconnected technologies. So that has significantly changed over the course of our 72 year existence.

Jon Darby: Can I add on one thing more about the talent, which is one of the big reasons why I worked at NSA for so long was the skill and dedication and motivation of folks across NSA. And it can be reflected in the persistence of the analysts in the bin Laden operation. But as Natalie said, it applies across so many hundreds, if not thousands of other targets and operations ongoing every day. And I really, I reflect back on a comment that our former director, General Nakasone made at one point with a visitor and said, if you want the impossible, come to NSA. And NSA again and again does things that folks say, oh my gosh, I didn't think that was possible, but NSA has come through and it's the people that really, we've got all the computers and technology and all that, but all that is meaningless without the people underneath. And it's just, I felt really privileged to spend the time I did with the folks here at NSA.

Christy Wicks: Natalie, Jon, thank you so much for joining us. Thank you for sharing your stories.

Natalie Laing: Thanks for having us.

Jon Darby: Thank you.

Christy Wicks: This has been an amazing, amazing podcast episode. Again, I am Christy Wicks, one of your hosts. And this is again.

Cam Potts: Cam Potts.

Christy Wicks: Thank you for joining us for No Such Podcast.

John Parker: Thanks for watching this episode of No Such Podcast from the National Security Agency. If you enjoyed the show, please leave us a review and make sure you're subscribed so you don't miss our next episode. For show transcripts and other information, please visit [nsa.gov](https://nsa.gov) forward slash podcast.

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