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NUCLEAR REGULATORY COMMISSION

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33RD REGULATORY INFORMATION CONFERENCE (RIC)

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DAILY STAFF TALKS

OVERCOMING FEAR OF FAILURE

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TUESDAY,

MARCH 9, 2021

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The RIC session convened via Video Teleconference, at 2:45 p.m. EST, Alysia Bone, OEDO, presiding.

PRESENT:

ALYSIA BONE, Communications Lead, Futures Core Team, OEDO/NRC

DAVID NELSON, Chief Information Officer, OCIO/NRC

STEPHANIE COFFIN, Deputy Office Director, RES/NRC

SHAUN ANDERSON, Director, Embark Venture Studio, NRR/NRC

P R O C E E D I N G S

2:47 p.m.

MS. BONE: Hello, and welcome back to our Staff Talks for our first ever Virtual Regulatory Information Conference. I'm Alysia Bone, and I'm your host for these chats, which are really just an informal opportunity to sit down virtually with some of our NRC employees, talk a little bit about the day, but also dive into a topic of interest.

So, really quickly, just a quick housekeeping item. Some of you might still see that Q&A portal on the right hand side of your screen. That's actually not going to be monitored during this chat.

So today's topic is about overcoming the fear of failure, or, how things progress through trial and error. So I'd like to introduce our group of dynamic speakers for this chat. We have Dave Nelson, our Chief Information Officer. We have Stephanie Coffin, our Deputy Office Director of the Office of Nuclear Regulatory Research. And Shaun Anderson, who is the Division Director for Embark Venture Studio in the Office of Nuclear Reactor Regulation.

Shaun, Dave, Stephanie, thank you all for joining today.

MS. COFFIN: Good to be here.

MR. NELSON: Thanks, Alysia.

MS. BONE: So Dave, I want to start with you. But before we formally get into our topic, I'd like to get your thoughts, right. So you're our CIO, this RIC is so much impacted by technology obviously. How do you think it's going?

MR. NELSON: I really love it. I think this is a really interesting format. It's given me an opportunity to actually participate in more of the sessions than I have in past years. And it's kind of interesting. It's like you're right up, you know, face to face with the speakers.

And many times in the past you're in the back of the room, it's even hard at times to catch everything that's being said. So it's great in that way. I think there's some real benefits to this format, so I've liked it.

MS. BONE: Absolutely, me too. Definitely the gift of technology has given us the opportunity to check out the RIC in a different way. So diving into today's topic for our chat, again,

overcoming the fear of failure, how things sort of progress beyond what maybe was originally intended.

So we're actually going to do something a little bit differently with the three of you. We're going to kick off with a bit of a trivia question. It's a non-nuclear question. I'm going to show each of you three different products, and you tell me which one was actually a failure, quote failure, in its original intent or purpose, and then progressed to a success, okay?

So Dave, I'm going to start with you. So can we show --

MR. NELSON: Stump the CIO, right?

MS. BONE: Yes, stump the CIO, that's it. Don't be afraid to fail, Dave, it's all right. Okay, so slide number two, please. All right, Dave, here are your three products. You've got a sticky note, a Rubik's Cube, and an automobile. Which one was, quote, a failure at first?

MR. NELSON: I think that would be the sticky note.

MS. BONE: Oh, you -- ding, ding, ding, you got it. So here's the story you might already know, but this actually started with Dr. Spencer

Silver at the 3M Company. He was originally intending to create a very, very strong adhesive. He wound up creating a really weak one instead. Didn't really know what to do with this.

It went on the chopping block floor for many years at 3M. And then it was only several years later, in the 70s, when his colleague, Dr. Art Fry, was actually singing at church. He needed some bookmarks to help hold places in his hymnal, but they kept falling out.

He remembered this invention of his colleague years before -- these sticky notes, and they worked like a charm. And they're now part of my everyday life, I don't know about all of you.

MR. NELSON: Me, too.

MS. BONE: But they grew to a success. So, Dave, clearly though it's not just paper products and glue that really are enhanced by the iterative process. It's very much tied into technology and innovation, two of our transformation focus areas.

I want to hear from you, do you have a story personally, either that you've experienced or something you've seen at the agency, where failure -- quote, failure -- has been part of the process, and

what was the outcome.

MR. NELSON: Sure. There's actually, I could pick a number of examples directly from myself and from my organization. So won't need to pick on anybody else. You know, one very visible example was early in our digital transformation when we migrated from a telecom service to our voice-over IP platform.

In that launch, we didn't have the adequate support in place. We had some real issues, and services took much longer to restore than what we anticipated or expected. Certainly didn't meet my team's expectations and our customer's expectations.

So what I find interesting about failures is an organization's ability to learn from those types of mistakes. And from those failures, you know, those abilities are really important.

Some of the things that we did in response to that particular launch was we started actually applying some new tech -- or methodologies like human-centered design, customer experience thinking and recognizing the importance of looking at these launches as a full-service life cycle.

And a couple of things that came out of that as improvements, we began training and preparing

our help desk to support services. We looked to support those roll-outs with training and hands-on support when we did subsequent agency-wide sort of launches with services like Office 365 or our new laptops. You know, we did a lot more hands-on. We tried to go into the offices, into the floors and actually work with people and make sure they had the support they needed.

And then designing intuitive ways for the customers to order the service through service catalog and using data. So we could collect a lot of data from our incidents that were happening in a -- any given service, all of our services, across our services. And we now leverage that to really prioritize the resources that we use in support of those services.

So I think all of those mistakes, those types of failures are real opportunities to learn and improve the way that we do things.

MS. BONE: Absolutely, Dave. You talk so much about the learning process, and I have to say, we've talked about it time and time again, particularly this last year, all the work that you and your team have done have been so pivotal in

helping us meet our mission during the past year, during COVID-19. It's really been incredible everything that you and your team have done to keep us afloat, so we can't thank you enough.

So I do want to come back to you. I have some more technology questions for you. But I want to move over to Stephanie Coffin. Stephanie, you are not only the Deputy Office Director for Research, you're also the champion for innovation at the NRC. So I want to get your perspective on this topic, but we got to give you your trivia question.

Can we pull up slide 3 for Stephanie? There we go, all right. So your three products, which one was, quote, a failure at first; soda, soda pop; bubble wrap; or a gaming system?

MS. COFFIN: Am I supposed to be visually seeing something?

MS. BONE: So you, if you look in the left corner, there's the picture of the three products. But if you can visualize what the three products I'm telling you are. There's the soda, like think about soda pop. And bubble wrap. Or like a PlayStation game, gaming system. Which one was a failure at first?

MS. COFFIN: I'll say the bubble wrap.

MS. BONE: You got it. I don't know if that was a wild guess or you know the story.

MS. COFFIN: Wild guess.

MS. BONE: Well, you got it right. So the story here, this was also in the 50s, this was the product of two co-inventors, Alfred Fielding and Marc Chavannes, who was a Swiss chemist. They were actually looking to make textured wallpaper. They thought that was going to be in vogue at the time.

So they took two plastic shower curtains, put it through a heating device. They were very disappointed when it came out with little bubbles on the inside. They didn't know what to do with it. It went on the chopping block until around 1960 when IBM was starting to ship one of their very sensitive machinery. This is when Mr. Fielding and Dr. Chavannes decided to use their -- what they thought was a failure -- as packaging material. And it has been a success, not only used for packaging things, but of course been very helpful to keep my toddler busy, popping away for hours during this past year.

So on a more serious note, though, Stephanie, clearly our mission at the NRC is

incredibly serious and important, right. Protection of the public health and safety, promoting common defense and security.

In our line of work, quite frankly, where is it okay to try new things and know that it might not be perfect the first time? And when it is -- just there's less room or margin for error and when it's just not okay to fail, frankly?

MS. COFFIN: Yeah, so this is a great item for discussion. And like you said, we're a nuclear safety and security regulator. And when protecting people is your mission, failure's not an option, right. And we also know that you cannot have innovation with growth -- without failures, right. And so how do you hold that duality in your mind. And you can, and all of us here at NRC do it all the time.

The engineers and scientists and our IT professionals, I know Dave and his team know this very well, but how you go about doing both of those things is by being intentional and thinking about risk. And so when you have a risk kind of, you know, we have this be risk-smart framework.

When you have a framework like that, it

allows you as an engineer or a scientist or an IT specialist -- you deliberately build in failures to test, to test in a safe way, so that you can learn from those and then move on to your final product or your final program or your final IT system in a very deliberate and methodical way.

And so you build it into your approach to things. And so you can do both.

MS. BONE: Got you. So you sort of just know before you even start where it's okay to sort of try new things differently. So on that note, though, Stephanie, you know, it's kind of scary to fail, right. Like the notion of failure is not something that we kind of start out wanting to do necessarily.

Talk to me about that connotation with failure. Why can it feel so scary, and do you think we should try to sort of rebrand it?

MS. COFFIN: Yeah, so I'm going to get all Brene Brown on you, okay? So I'm not a social scientist, but I'm going to play one here during the staff talks. But so first of all, I would have renamed our staff talks. I wouldn't have called it fear of failure, right. Because you've put these negative words together. It's beautiful

alliteration, but it's sending the wrong message, right.

So you get a rebranding of failure. And Dave used the word learnings, lessons learned, growth and discovery are much better words to use. And so we might call this session embracing discovery and growth instead of overcoming fear of failure. And so it's words, but words matter. Words matter in terms of how you think about things.

And so failure, you know, why it's such a triggering word for humans because we have these deep emotional reactions to vulnerability and to shame. And so failure a lot of times brings up those kind of emotions with people, and so it really makes them hesitate.

And so the more you talk about it and make it -- and normalize it and make it safe to fail, we'll do better and better at increasing, enhancing our mindset in how we go about approaching innovation and transformation at the NRC.

MS. BONE: Absolutely. So beautifully said, Stephanie. And I will adopt and try to use those words, opportunities to embrace growth and learning.

MS. COFFIN: Exactly.

MS. BONE: So on that, let's move to Shaun. Shaun, you are our Division Director for the Embark Venture Studio in NRR, which is all about helping staff grow, finding opportunities to be creative, and removing barriers to innovation to help us do our job more efficiently and better in a lot of ways.

So let's start off with your trivia question, and then I want to get into some examples from Embark. Okay, so Shaun, I'm going to try to use Stephanie's advice right here. Which one of these products had a premier example of an opportunity to learn? So is it the sort of a voice-activated product such as the Echo, a cellphone, or an embedded pacemaker?

MR. ANDERSON: I'm going to go with the embedded pacemaker.

MS. BONE: My goodness, you all are three for three. You know what, none of you saw these ahead of time. I just need to clarify that these were all spontaneous trivia questions.

You're absolutely right. So this was also in the 50s, Dr. Wilson Greatbatch. He had

always wanted to make a pacemaker. He had thought about this for years, didn't really know how to do it. He in fact was trying to make something else entirely. He wanted a device that would record a heartbeat.

So he was creating an oscillator, accidentally put in the wrong transistor, would you believe it, and when it came out, it was actually creating a product that mimicked the sound of a heart rhythm. And when he heard it, he paused and said wow, this is what I've been trying to do all along in a different way. So, huge opportunity to learn and change, using Stephanie's lingo here.

But Shaun, I want to talk to you about opportunities to grow that you've seen in Embark and transformation in general. Can you give an example that you've seen, either in your division or throughout the NRC transformation journey, where you thought we were going down, or we thought we were going down a different path and we wound up some place kind of better or more impactful?

MR. ANDERSON: Sure. I think the one example I'd like to bring up is the Mission Analytics Portal in the MAPX effort. It's part of our Next Gen

data activities to bring new analytical tools and business process automations to the nuclear reactor safety program.

We partner with OCIO with the approach of developing the dashboards and using the Agile approach for developing these tools. And part of that Agile approach is just, you know, making -- getting some products to the street that actually can be useful. And you're having some sprint cycles of where we can actually make an improvement upon the products that we develop with our dashboards so it can be useful to staff.

And we think that's been useful, and we've been getting feedback from staff, and you know, management teams to improve upon some of these tools. But, you know, what we really thought was more impactful is as we move forward and we're launching some of the new systems that we're developing, we want to use that same Agile approach.

So we're really thinking about what's the best way to, you know, having a new system to be leveraged by the staff. So and it also helps with some of the change management. So it's no longer a system where you start, you know, Sunday night and

you have a new system rolled out.

But you know, it is our way that we can be a little more agile in terms of, you know, having a system that works side by side until, you know, we're getting more staff comfortable. And as we can better sprint by sprint to improve the way that the assistance is being leveraged.

But I think that's one of the ways that we can be -- we're becoming more impactful in terms of how we move forward with new systems and just our -- just using business process automation to our advantage.

And then thinking about just leveraging data last year, you know, it was -- the work that didn't happen was, you know, focused a lot on data now. Thinking about data, we want to be able to really think a little more broader. You know, how can we get the data to the masses, not just the NRC staff, but giving it back to the staff -- not just staff, sorry, for the members of the public, industry stakeholders that are just not part of NRC.

And we're really trying to think of new and creative ways to take some of that data and leverage not just for NRC staff, but part of the MAPX

effort. It's also providing the analytical tools and capabilities to our external stakeholders whenever possible.

MS. BONE: Absolutely. What I love about what you just explained here is showing how our focus on innovation technology isn't just helping within internal NRC, but members of the public, with industry individuals, you know, throughout, how what we'll be doing internally is helping us meet our mission and be more transparent and communicative outside of the agency.

So thank you for that, Shaun. I want to go back to you, Dave, because a lot of what Shaun touched on I think really goes back to your court in terms of being agile in our technology. Looking at this past year, you know, I want to talk about this experience of helping transition almost an entire workforce to a telework space.

What are some of the things that, you know, what are areas where you had to maybe pivot or you had to be agile? Something, you know, maybe a, quote, opportunity to embrace learning, per Stephanie's lingo, that you could maybe highlight for us in this past year.

MR. NELSON: Yeah, well, thanks. You know, when I think back on a year ago in the preparation, some of it felt effortless, or looked effortless, but there'd been a lot of work that the agency had done towards IT modernization in years leading up to that. You know, fortunately, we already had in place laptops and new images and a strong network and access and all the types of things we needed to support sort of coop, in any case, whether it was a pandemic or any other type of something that might come up in our environment. But I think, as I look at opportunities to pivot and to be agile during that period of time, obviously we had to increase the bandwidth very, very quickly. Learn new ways to monitor it and make sure that we, you know, our engineers were watching it the whole time and trying to figure out well how do I move different types of network traffic around to optimize the way it's operating.

And we've continued to do that even today. You know, we have events like this. We have to be very careful and watch the way that we're managing our network assets, because, you know, they're a finite resource.

But there are some other things that come to mind, and you know, when we look at how we equipped our employees so that they could go out and immediately turn around and start working, a lot of the tools were there.

But some of the things that we didn't think about is, well, what's it like to work from a laptop day after day and directly look at it. You know, a small laptop screen. Yeah, sure it's mobile, but I think people made it clear very quickly that they were getting eyestrain. I've started wearing glasses in the last year.

But you know, what we did is we thought through and worked with our partners in the admin office and developed a program so that we could very quickly ship larger monitors to the employees. Figured out a way that they could order those through our service catalog. And really worked them into our whole service and had the support behind them at our help desk, much like I was explaining about some of our other services.

So you know, that's an area where we did have to move really, really, quickly in something we hadn't then considered.

MS. BONE: Absolutely. Thanks for that, Dave. It's definitely -- I know I'm learning every day. Still, as we're going through this I feel like -- I feel like I've learned so much in the past year in terms of how to use the technology that you and your team have given us and helped us learn how to use, but there's always room for improvement.

So Shaun, going back to you, you know, again, kudos to all of the great work that you and your team have done in Embark. Beautiful remark today during Commissioner Caputo's plenary talking about Embark and some of the things that you guys are doing.

Talk to me about sort of culturally how do you help your team combat this, and I will use the word intentionally, failure, this stigma against failure? How do you help sort of culturally kind of foster an innovative mindset and environment?

MR. ANDERSON: You know what's interesting, thinking about the Embark's position, you know, we're really just a small team of individuals. I think we have probably four staff members that are on board.

But we're really leveraging the staff,

you know, across the -- technically the reactor safety program and some aspects outside of that too. They really support some of the visions and ideas that individuals have across the organization.

If you think -- Embark's -- our icon is that paper airline, you know. We're not here for perfection. Everyone has different ideas, and it's typically that one paper airplane that you didn't think would fly is one of that best things ever.

And you know, we're really trying to leverage some of our pitch meetings that we have to encourage staff to come together and discuss current activities and, you know, asking for help and support.

And I think that's one of the biggest things is, you know, getting staff to come to the table, really talk about, hey, what are some of the ideas that they have? What are some of the challenges that they have looking to drive this forward? And trying to leverage, hey, different ideas of platforms, such as the IdeaScale that we have as part of our agency and just leveraging that for Innovate NRC 2.0.

Those are definitely different services

and products that we can do and leverage to help individual staff to really move things, move their ideas forward. But you know, the culture that we really try to instill is hey, it's okay to innovate, it's okay to fail.

The one thing that we want to do is at least get your idea out there and try to share and communicate, you know, if the idea's going to be possible or not or if we can actually move with the idea.

MS. BONE: Absolutely, Shaun. And you know, this really tees it up so nicely to come back to Stephanie, because again, Stephanie, you are the champion for the Innovate NRC 2.0 initiative at the NRC, which has really helped provide this cross-discipline, cross-breaking down hierarchical and geographical barriers platform to share innovation within the NRC.

So a little bit the same question for you. Within both your job as the champion for innovation, but also as the Deputy Office Director for Research, how can you encourage this culture, this mindset of trying new things, not being afraid to not get it perfect the first time? How can you

promote innovation more within the NRC?

MS. COFFIN: Yeah, so I'll just say I'm not the champion for innovation. Honestly, I'm here to support the staff. They're innovating all the time, and actually -- and they are, and they always have been. It's just really in the forefront of all of our minds right now.

Kind of like personal tips, what I find sometimes people do here, and it comes from a good place, is that a lot of times when we're looking for perfection, and you don't need to wait for perfection to make progress. And Shaun mentioned the IdeaScale platform.

And so many times people put in an idea and it -- and you crowd source it and you build upon it. So it maybe doesn't look exactly -- what comes out at the end may not look exactly what went it. But it only got better for having that, you know, many people supporting the change that someone is seeking.

And also kind of knowing we have, again, it's kind of our culture here is this sense of permanence. And there is nothing, hardly anything, that can't be undone, improved, or changed. And so

feeling comfortable with that, and again, and moving forward, look for progress not perfection I think is a really great way to approach innovation.

MS. BONE: Love it. I'm going to write that mantra on a sticky note and put it in my office. Dave, coming to you, what's your favorite innovation, something you've seen at the NRC that just really tickles you?

MR. NELSON: That's a really tough one. You know, each day we outdo ourselves. And I think it's like Stephanie was mentioning, it's really the people that are innovating. I'm amazed. I love IdeaScale.

MS. COFFIN: It's so cool.

MR. NELSON: Great platform, and there's a lot of things that it's allowing us to innovate the way that we do challenges on it. You know, it's not like you have to put it in this way and it will only work this way. There's -- it's open to all kinds of different ways that people want to run challenges.

We're running two step challenges now in a couple of areas which we think are really interesting and allows, you know, us to look at things office by office and then bring them together, and

then, you know, look at them across the entire agency in how they impact us.

So there's so many different exciting innovations going on right now. But thanks for the question, I wish I had just one .

MS. BONE: No, that was a great -- that was a great response. So on that, I want to, you know, talk about excitement. What I want to hear from all three of you, we're closing up here for a second, but I want to hear what are you looking forward to, either tomorrow or on Thursday's session.

Shaun, let's start with you. Anything in particular you want to check out at the RIC?

MR. ANDERSON: So, we have a session on Thursday, "Using Data for Regulatory Decision-making." I think Thursday afternoon. So that's the one I'm looking forward to.

MS. BONE: Perfect. Stephanie, what are you looking forward to?

MS. COFFIN: Well, you got to hear Commissioner Wright tomorrow for sure. Microreactors is tomorrow, and they have a really clever title, so I have a special place in my heart for the microreactor session there. And the

analytics artificial intelligence session, that's got to be a really good one. That's where I see this agency going, down that path.

MS. BONE: Perfect. Dave, any one in particular?

(Simultaneous speaking.)

MR. NELSON: I've been picking the ones, anything that says anything about transformation, innovation, new technology, which has been pretty hard to choose from because there's a lot on the agenda. But I can't leave out Staff Talks.

(Laughter.)

MS. BONE: Yay.

MS. COFFIN: Well done.

MS. BONE: Perfect. Well, thank you so much, all three of you. I think we are out of time here, but I do want to put in a plug for tomorrow's Staff Talk. As Dave mentioned, if we can show that, thank you. So tomorrow's final Staff Talk will be about our workforce's commitment to the mission.

So we will have three guest speakers who will talk about critical times in their experience, not only for the NRC, but in the history of the world. So we have Vonna Ordaz, who will be talking about her

experience post-911. Kirk Foggie, who will be talking about his experience after the accident at Fukushima Daiichi. And Jasmine Gilliam, who will talk about her experience currently now as a Physical Security Inspector during the COVID-19 pandemic.

So please do join for that, including a full, full day of technical sessions and exhibit watching for the RIC. Thank you so much, you three, for coming, not being afraid to join in on this Staff Talk. And thank you all for listening and being part of another fun day at the RIC. Have a wonderful afternoon, evening, or rest of your day.

MS. COFFIN: Thank you, Alysia, you're a great hostess.

MR. ANDERSON: Thank you, Alysia.

MR. NELSON: Thanks, Alysia.

(Whereupon, the above-entitled matter went off the record at 3:17 p.m.)